The impacts of talent management and organizational justice on turnover intention in the public sector. Regional differences in Vietnam

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ABSTRACT

Talent management, organizational justice and employee retention have attracted increasing interest from both academic and practitioners worldwide, yet the dominant research is in the context of private sector organizations. In Vietnam, talent management in the public sector has been recognized as a pivotal strategic priority in national development, but it has remained problematic; there is a recent, alarming increase in talent turnover in many public organizations throughout the nation and a limited degree of organizational justice. The challenges vary from the North to the Middle and the South regions due to differences in regional history, culture, institutions, and socio-economic development. Drawn from both academic and practical needs, this research is conducted to investigate the impacts of talent management (TM) and organizational justice (OJ) on turnover intention (TI) in the public sector in Vietnam, and the geographic differences among the three regions from a comparative perspective.

Based on a literature review, social exchange theory, and equity theory, this paper a conceptualized framework with TI as the dependent variable and the following independent variables: (1) two components of TM, specifically, hard (TMH) and soft TM practices (TMS); (2) four components of organizational justice, specifically, organizational distributive (OD), organizational procedural (OP), organizational interpersonal (OJ), and organizational informative (OIf). The research design is a mix of quantitative and qualitative methodologies. Quantitative results include survey data from 597 people in three regions of Vietnam, who hold overseas master's or doctorate degree and currently work in or have already withdrawn from the public sector. Quantitative results stem from 18 follow-up interviews with six people from each of the three regions.

The quantitative and qualitative findings of this research are consistent. On a national basis, TMS, OP, and OIf have negative influences on TI, while TMH has a positive impact on the intention to leave; OD and OI have no direct effects on TI. Additionally, it has been shown that OD and OI are mediators in the relationship between TMS and TI. However, none of the organizational justice components mediate the relationship between TMH and TI. At the regional level, OD has a negative impact on TI in the North; TMH, TMS, OI and OD have an impact on TI in the Middle; and TMH, TMS, and OI have an impact on TI in the South. The total impacts of TMS and TMH and the mediating impact of OJ on TI varies in each region. In the North, TMS has the strongest total impacts, while in the South, the total impacts of TMH are the largest. All types of practices and justice have medium-sized impacts in the middle region compared with the North and South regions. Similarly to TMS, OJ has the strongest mediating impact on TI in the North and weakest in the South. Quantitative findings also highlight the variations among the three locations in terms of the degree of turnover intention; the South accounts for the biggest degree of intention to leave, and people in the North region are the least likely to consider quitting. The interpretations made from the qualitative data are in line with the conclusions from the quantitative data and supply further justification for those conclusions in the context of Vietnam, including political structures, institutions, traditions, history, and socio-economy.

This paper contributes to academic and practices by suggesting implications for both the central and local governments in all three regions of Vietnam to help them create and implement effective policies and practices that can reduce turnover intention in the public sector. However, there are some limitations to this study due to the constraints of time and resources; therefore, it offers several potential further avenues of research for authors interested in the topic.

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"And, when you want something, all the Universe conspires in helping you to achieve it."
(*The Alchemist, *Paulo Coelho)

LIST OF ABBREVIATIONS

HRM	Human resource management
TM	Talent management
TMH	Hard talent management
TMS	Soft talent management
OJ	Organizational justice
OD	Distributive justice
OP	Procedure justice
OI	Interpersonal justice
OIf	Informational justice
TI	Turnover intention
SET	Social exchange theory
CFA	Confirmatory factor analysis
EFA	Explanatory factor analysis
SEM	Structural equation modeling

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1.INTRODUCTION

This chapter presents the background and the importance of this study. First, the crucial roles of talent management, organizational justice and talent retention are highlighted. Many public organizations are struggling with challenges related to turnover decision and turnover intention, and there is little academic literature on this topic in developing countries; in this context, the significance of this research is discussed. The recent, alarming turnover issue in the public sector in Vietnam is introduced, and the research aims and objectives, scope, and contribution are identified. An overview of the research method is given, and the dissertation structure is outlined.

1.1 Background of the study

Since the publication of the article "The War of Talent" in the late 1990s, "talent management" (TM) has been a topic of increasing interest to academics. This term has stemmed from the private sector, but it has captured growing attention in the public sector because it is considered a pivotal tool for creating competitive advantage and organizational performance enhancement (Ashton and Morton, 2005; Mahjoub et al., 2018; Kravariti and Johnston, 2020). Furthermore, TM has shown significant value at individual, organizational and societal levels, both in and outside of economics (Thunissen et al., 2013). However, TM has seen a growing global issue in which many organizations are struggling to address the need to retain talented employees in a tight labor market (Hiltrop, 1999; Ashton et al., 2010). Under the recent Industry 4.0 evolution, the workplace environment has transformed dramatically, and the high involvement of technology is creating the critical need to adapt talent management activities to tackle challenges (Whysall, 2019). Since there are talented employees and they can be difficult to replace, their turnover can be both time and money consuming for organizations (Boonbumroongsuk and Rungruang, 2021). The issue has been specifically challenging in the public sector, where job security is always at a higher level, but salary and benefits are relatively lower than the private sector (Hyman, 2010; Poocharoen and Lee, 2013; Thunnissen and Buttiens, 2017). Therefore, many public organizations worldwide have experienced difficulties with turnover in talented employees.

Despite being universally recognized as a major source of competitive advantage, most research on the management of talented employees originates from and specifically considers private sector practices, while research on TM in the non-profit sector remains scarce (Poocharoen and Lee, 2013; Thunnissen and Buttiens, 2017; Kravarity and Johnston, 2020). There has been a lack of TM textbooks that concentrate on the public sector (Lee and Rezaei, 2019), and textbooks on human resource management in the public sector do not thoroughly cover TM or related issues (Lee and Rezaei, 2019). Although it is still limited, research has begun to examine the concepts of developing talent and talent management, but the body of literature regarding how TM is conceptualized in the public sector based on its distinctive feature of serving society remains fragmented (Hartmann, 2010; Thunnissen and Buttiens, 2017; Sparrow, 2019; Kravarity and Johnston, 2020).

Recent research about TM has placed considerable focus on the effects of narrow sets of TM practices on turnover intention, such as recruitment, selection, planning, pay, rewards, training, and development (CIPD, 2006; Thuissen et al., 2013). However, there has been little research regarding classifying general TM practices into two types, hard and soft practices. Hard TM practices focus on the "resource" side of TM to enhance organizational competitive advantage, while soft TM practices prioritize the "human" side of TM to enhance talent commitment and engagement towards organizations. There is limited empirical evidence regarding the different impacts that these TM practices have on the turnover intention of talented employees (Truss et al., 1997; Sadangharn 2010; Bui and Chang, 2018). In fact, hard TM practices have been preferable in many organizations as they are typical features of HRM practices; recently, however, both hard and soft TM have been considered priorities for many human resource managers, enabling them to enhance both competitive advantages and employee engagement (Truss et al., 1997; Bui and Chang, 2018).

Since Adams Smith (1965) proposed equity theory, the concept of organizational justice has also been significant in terms of workplace management. Organizational justice normally refer to perceptions of talented employees towards organizational fairness and equality (Greenberg, 1990; Boonbumroongsuk and Rungruang, 2021). A lack of organizational justice might lead to negative attitudes and behaviors from employees in organizations (Moliner et al, 2017). Therefore, when making any decisions regarding individuals in the workplace, the question

"was it fair?" has become a primary concern (Colquitt, 2001). Organizational justice has therefore become a topic of interest in talent management literature. However, the direct effects and mediating effects of organizational justice in the relationship between TM and turnover intention has received little attention (Boonbumroongsuk and Rungruang, 2021). Furthermore, although four elements of organizational justice, namely distributive, procedural, interpersonal, and informational justice, have been developed over the past 50 years (Colquitt, 2001), most research on organizational justice has emphasized distributive and procedural justice and neglected the significance of interpersonal and informational justice.

In the past 30 years, talent management has been most geographically examined in the United States and Europe because the concept of talent management originated in the US (Lee and Rezaei, 2019). As the global economic and political role of the Asian region has been increasing, there has been a growing interest in the effectiveness of TM in the public agencies in the area (Tymon et al. 2010; Ross, 2011; Cooke et al. 2014; Farndale et al. 2022; Sadanharn, 2010; Poocharoen and Lee, 2013; Boonbumroongsuk and Rungruang, 2021; Bui and Chang, 2018). Since it is argued that TM is highly contextualized (Thunnissen and Buttiens, 2017a; Thunnissen and Gallardo-Gallardo, 2019), it is essential for researchers to examine TM in the contexts of Asian countries. The number of studies in this area have been increasing over recent years, but remain limited in comparison; however, some research has been done in India, China (Tymon et al. 2010; Ross, 2011; Cooke et al. 2014; Farndale et al. 2022), Singapore, Malaysia, Thailand (Sadanharn, 2010; Poocharoen and Lee, 2013; Boonbumroongsuk and Rungruang, 2021; Govindaraju, 2019) and Vietnam (Bui and Chang, 2018). Regarding the Vietnamese context, Bui and Chang (2018) only examined the TM issue in the local government of one city; they had a moderate number of samples and used qualitative analysis in their research.

In addition, most studies on turnover intention have focused on a national perspective without examining cross-regional comparisons in turnover intention within a country. Le et al. (2016) argue that even seemingly homogeneous nations may differ in their attitudes toward various issues depending on their geography. A country's diversity and regional economic disparities may be overlooked when it is analyzed as a whole. Therefore, it would be beneficial to study regional differences within a nation as talent retention initiatives might be more successful when tailored to the demands of each region.

Like many public organizations worldwide, Vietnam has experienced an alarming wave of turnover in the public sector in the aftermath of the COVID-19 pandemic. This is occurring throughout the country, from the North to the South regions and from the central to local governments, creating enormous challenges for many public organizations. As of June 2022, 39,552 public officials had withdrawn from the public sector, which accounted for approximately 2% of the total national public civil servants (Vo Linh, 2022). While there has been no official, national turnover reports that provide the turnover rates of each local government, the Department of Home Affairs in Ho Chi Minh city (2022) has published a report on the alarming number of public officials who resigned their positions between January 1, 2020 and June 30, 2022. All told, 6,177 people resigned; this is nearly 7% of the total number of public civil servants in Ho Chi Minh city and 15.6% of the total number of public civil servants who resigned during that time period (Department of Home Affairs in Ho Chi Minh city, 2022). The education sector saw the highest number of resignations (2,436 people), followed by the health sector (2,145 people). Along with Ho Chi Minh City, the large cities of Hanoi, Dong Nai, Binh Duong, Da Nang, and Can Tho saw a high number of officials withdrawn from their jobs. The wave of layoffs and resignations in the public sector has caused concerns, not only about the local shortage of cadres but also about the quality of public services provided to the Vietnamese people (Vo Linh, 2022). Employment studies show that competent people tend to have more job opportunities with better incomes offered by the private sector, leading to higher levels of willingness to change jobs.

Although employees who resigned offered vague explanations for their turnover decisions, such as family chores and personal issues, the direct reasons behind their resignation can be explained by the fundamental issues of hard and soft TM practices and a lack of organizational justice (Vu, 2022). Wages, remuneration policies, promotion opportunities, and work pressures are believed to be the main causes of absenteeism. Other systematic causes, such as factors relating to work environment and job satisfaction, also contributed to the decision to leave (Viet and Linh, 2022). In many public agencies and organizations, a discouraging working environment and inequality at work causes dissatisfaction and loss of motivation. A career in the public sector has become less preferable for highly qualified employees, but many visionary leaders and managers are able to consistently attract and retain them. However, the private

sector be more appealing to workers given the higher salaries, less stressful work environments, and more opportunities for recruitment and promotion (Viet and Linh, 2022).

In response to the wave of turnovers in the public sector, the Ministry of Home Affairs sent out Official Letter No. 4536/BNV-TCBC in September 2022, which requested that ministries, branches, and localities pay serious attention to building a contingent of cadres, civil servants, and public employees. The letter asked agencies to capture the thoughts and aspirations of their staffs, particularly their grassroots staff, improve the professionalism of the working environments, and ensure fair competition. While these were the right directions to give, each organization had the ability to determine what specific solutions to implement and how. In an attempt to tackle the raised issues, several initiatives are being introduced in various local governments, such salary increases, reforms of the working environments, and changes to working style. However, the lack of a systematic approach with synchronous solutions has led to moderate results in different local governments throughout Vietnam. To truly address public sector absenteeism, it is necessary to carefully examine the deep-rooted structural and institutional causes behind resignations.

1.2. The context of the public sector in Vietnam

1.2.1. The political system, institutions, and ideology

Vietnam is a socialist state with only one political party, known as the Communist party, who are the representatives of the entire working class. The state and the party are separate in terms of functions (Painter, 2003). According to the 11th Party Congress Doctrine (2011), the party leads the state while the state directly manages the country. In practice, however, the party could interfere in the management of the state if it is necessary. The political system is based on consensus and collective decision-making. The domination of the party and the principles of the socialist state have widespread impacts on HRM. For example, HRM tends to adhere to rules, common norms and values, collectivism, coordination, and harmony (Zhu, 2002).

Like many Eastern countries, such as China, the legitimacy of Confucian ideology is deeply rooted in the Vietnamese culture (Meyer et al., 2006). As a typical feature of Confucianism, the concept of "face" is of considerable significance and implies a person's status and place in the

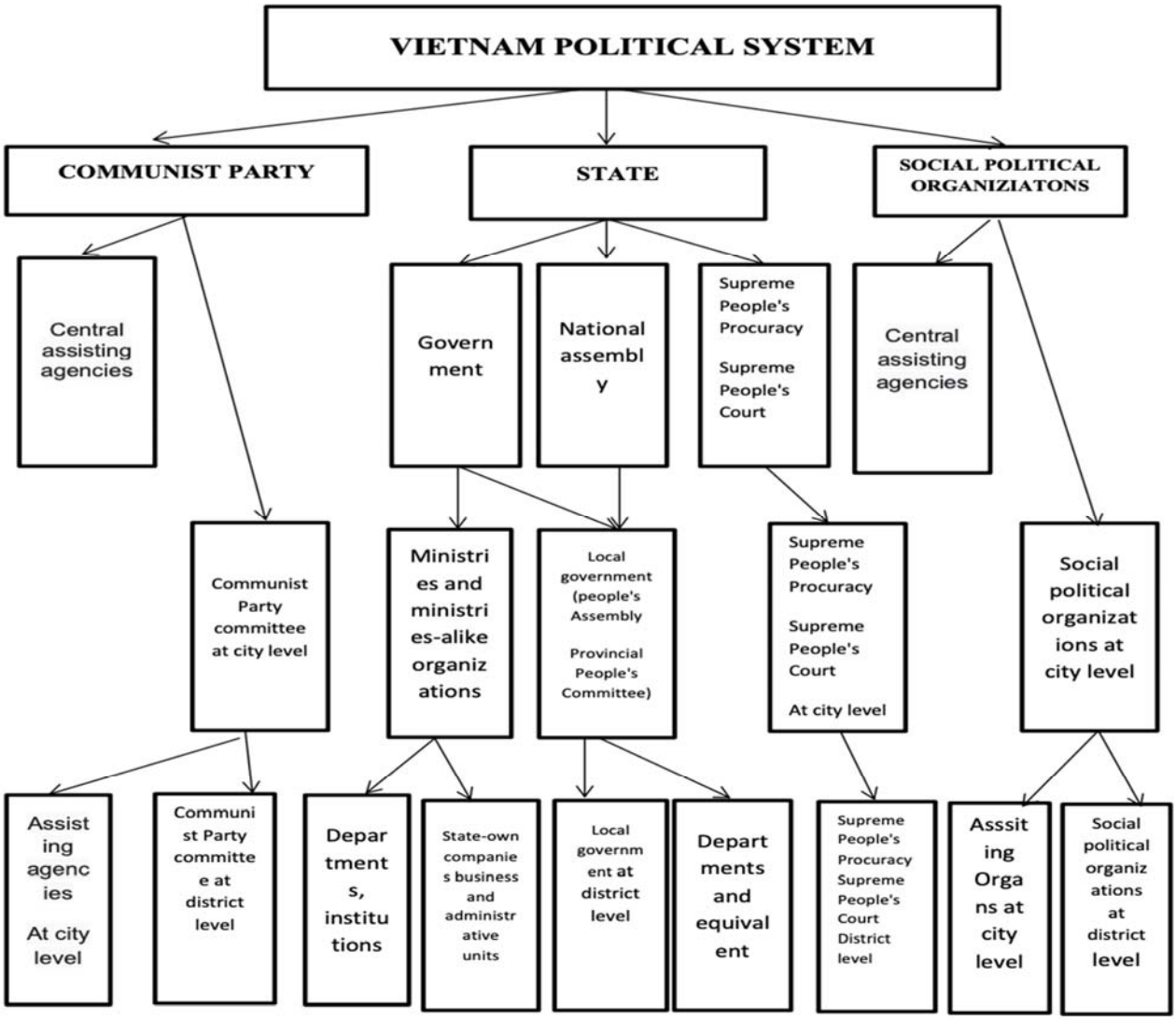
community (Kamoche, 2001). Consequently, people do not like to be criticized directly, especially in front of their colleagues. They would prefer to live in harmony, so they rarely give negative feedback to their peers. Performance management practices, such as 360-degree feedback, therefore, do not work well in the Vietnamese culture. Regarding "corporate face," a company is more likely to accept a drop in profits if it experiences a downturn in business than it is to reduce wages or lay off employees (Kamoche, 2001).

In addition, according to Hofstede's four dimensions of culture (1997), Eastern countries tend to have high power distance (i.e., people accept a hierarchy of unequal power distribution), low individualism (i.e., people view themselves as members of a group), high uncertainty avoidance (i.e., people feel threatened by ambiguous situations), and high masculinity (i.e., traditional masculine characteristics such as aggressiveness are valued) (Kauanui et al., 2006). Yet a study by Ralston et al., (2006) reveals that Vietnam tends to be rated as even more collectivist than other cultures due to its extended period of wars. Furthermore, in research by Ronen and Shenkar (1985) that examined country clustering, Vietnam falls into the East Asia group; countries in this group are characterized by high power distance and collectivism. Such typical cultural features influence how HRM operates in the public sector (Zhu, 2002). Due to high collectivism, Vietnamese employers tend to be more paternalistic, have secure employee interests, and employees are less likely to be laid off during a downturn. Pay and rewards are also less individual-focused, and teamwork is valued. Because of high uncertainty avoidance, a fixed salary is preferable to a bonus or commissions (Zhu, 2002).

Unlike other countries, the structure of the political system in Vietnam is enormous and complicated; there are three types of political organizations: communist party organizations, state organizations, and social–political organizations (see Figure 1.1). The bulky system is synchronized in three levels, namely the national, provincial and district levels. For the period 2022–2026, the Politburo decided that the total payroll ("bien che" in Vietnamese) for the entire political system would be 2,234 million people, accounting for 2.25% of the population (Politburo, 2022). When discussing the quality and ethics of civil servants in various forums, Vietnamese experts agree that, currently, about 45% of Vietnamese civil servants work with high efficiency, about 30% have a decent degree of working efficiency, and the rest are ineffective (VOV, 2018). There have been frequent discussions regarding administration

reform, downsizing, and reducing the number of public civil servants receiving salaries from the state budget; however, after four reforms, the number of public servants has not only decreased, but has expanded. The entire system remains bulky and ineffective (VOV, 2018).

Figure 1.1: Structure of political system in Vietnam



Source: Government (2013)

1.2.2. Talent management in the public sector in Vietnam

In Vietnam, the concept of TM is relatively modern and has rarely been employed in personnel management in the public sector. Features of typical personnel management from prior to the 1986 Public Reform, such as lifetime employment, equal treatment, and promotion based on

length of service, continue to play a crucial role in management practices for government officials. While developed countries have a wide range of models used to attract and retain talented employees through recruitment, selection, performance appraisal, and reward management, these models are inapplicable in Vietnam due to its specific laws, regulations, institutional aspects, and culture. However, recently, the management and development of highly qualified human resources (talent) has been considered to be one of three strategic breakthroughs of political reform on a national level, along with synchronous institution completion and modern infrastructure system construction. The XI Congress (2011) stated: "High-quality human resources are the most elite part of the country's human resources, including those who represent political, moral and lifestyle qualities; have a high level of education and expertise; have good health; always taking the lead in labor, scientific creation, making active and effective contributions to the cause of national construction and defense" (11th Party Congress doctrine, 2011, p111). The significance of talented human resources in the public sector was also emphasized: "Developing and improving the quality of human resources, especially high-quality human resources, is a strategic breakthrough, a decisive factor in promoting the development of human resources. and applying science and technology, restructuring the economy, transforming the growth model, and becoming the most important competitive advantage, ensuring fast, effective, and sustainable development" (11th Party Congress doctrine, 2011, p130).

Many TM schemes are being carried out at the national level and provincial levels. The national TM program (*namely Project 165*) was implemented at the national level from 2008 to 2021 in many public organizations within the central government and local governments using government funds. According to the Final Report of Central Organizing Committee (2022) on the implementation of Project 165, 20,376 officials participated during the 15-year period. During this time, 1,165 officials received master's and doctorate degrees (5.7%), 13,877 turns of officials received short-term training (68.1%), and 286 officials received medium-term training abroad (1.4%). A total of 5,048 officials received training in foreign language skills (24.8%) (The Central Party Committee, 2022). The program's implementation occurred in two important phases.

(1) Phase 2008–2014:

During this period, the Politburo's Notice No. 165-TB/TW (2008) was implemented. This included the scheme that organized training and retraining for 11,690 officials (57.4% of the total). The targets for training and retraining were leaders and managers (including officers in the armed forces and the judiciary) and some young cadres who had completed practical work.

Types of training and retraining include: (1) overseas master's and doctoral programs and domestic associate master's programs (158 staff involved in doctoral programs, 444 staff participating in master's programs abroad; 339 staff completing master's programs in association with the country); (2) short-term and medium-term training (6452 staff); (3) foreign language training (domestic training in English, Chinese, and French for 2529 turns of officials, and overseas training in English, Chinese, French, German, Russian, Japanese, Korean, Lao, and Khmer for 1746 officials; (4) organized 02 international seminars.

In general, in the initial stage of implementation, the Project achieved its intended results and requirements, closely followed its objectives, objects, and contents, organized several types of training and retraining; created several practical experiences for the training and retraining of cadres abroad; and established partnerships with a few foreign training institutions and several experts. However, the content of short-term training is still more theoretical and less practical and is not up-to-date. Some training facilities are not highly effective; some officials are not exemplary or are not seriously interested in participating.

(2) Phase 2014–2021:

In this phase, training and retraining were carried out according to the Politburo's Concluding Notice No. 157-TB/TW, which focused on renovating the organization and improving its quality, focusing on medium and short-term training and foreign language training. The task of training master's and doctoral candidates for government projects was also part of the notice. The specific results were as follows: short-term training on in-depth topics was completed for 7425 officials, including 3354 officials at the central level (45.2%) and 4071 officials at the local level (54.8%); medium-term training that focused on the knowledge and skills of modern leadership and management; a total of 282 officials learned independent and professional working methods in Japan, the United States, the UK, France, Australia, and New Zealand; foreign language training was conducted for 798 officials, with priority given to learning Chinese, Laotian, and Khmer as officials were needed in significant numbers in the border provinces, as well as officials working in national defense and security, judicial, or foreign affairs. A total of five conferences were organized, inviting foreign experts to give presentations to 4,350 leaders and managers at the departmental level and above.

To date, the 165 Steering Committee has established cooperative relationships with many domestic and foreign organizations and training institutions, including 80 prestigious training institutions in 25 countries, and it has signed framework agreements with many partners. By the end of March 2022, the total budget for the project was VND 3.1 trillion (reaching 41% of

the plan). The project's operating budget was checked and audited by functional agencies annually. Through five audits of the entire operation (2009–2012, 2013–2015, 2016–2017, 2018, and 2019), the management and use of funds of Project 165 were carefully evaluated to ensure that they were being used as intended within the project regimes and ensuring that the operation was complying with regulations.

In provincial levels, there are 63 cities and provinces; a few implement both national and provincial TM programs as they have limited provincial budgets and human resources, making it difficult for them to meet standard requirements for oversea training and education. Examples of these provinces include Hai Phong city (from 2007 to 2015); Da Nang city (from 2011 to 2020); and Ho Chi Minh city (from 2006 to 2015). Table 1.1 shows participants of further overseas education at master's and doctorate levels in the three largest cities in Vietnam that implement both national TM programs and their own provincial TM programs:

Table 1.1: Participants in further overseas education in Hai Phong, Da Nang, and Ho Chi Minh

Level	Hai Phong city	Da Nang city	Ho Chi Minh
I. National TM program	12	11	25
Period of data	2009–2021		
II. Provincial TM program	83	394	582
Period of data	2007–2015	2011–2020	2006–2015

Source: (Report on Participants of the National Talent Management Program, 2021a; Report on Participants of the National Talent Management Program, 2021b; Report on Participants of the National Talent Management Program, 2021c; The Party Committee of Hai Phong city, 2018; The Party Committee of Ho Chi Minh city, 2016; The Party Committee of Da Nang city, 2020)

In these cities, talented employees are selected for overseas training and education either under the central government's national Project 165 or their own provincial TM Projects. Among these programs, the national TM program has the same mechanism, organization, finance, and scholarship conditions for all individuals in all localities across the country. Local TM programs have similar selection conditions as the national TM program, but there are slight differences

in the scholarship and other benefits that allow talented officials to study overseas as well as in the fields of study, which are intended to fit the context of the specific provinces. Both national and provincial TM programs offer long-term education for further studies at the master's and doctorate levels and short-term training (ranging from two weeks to one month, three months, or six months) for languages, finances, administration, and other fields so that officials can enrich their skills, knowledge, and expertise for globalization and industrialization. However, only individuals who participated in long-term overseas education were examined in this research because the selection requirements for these programs have far stricter and more comprehensive than ordinary overseas training programs to ensure that talented employees are participating. General requirements for the participants from both national and provincial programs include (1) below 40-years-old, to ensure many years of service once education is completed. (2) meeting the language requirements of foreign universities (for example, IELTS 6.5 or TOEFL 600); (3) party members or meet the conditions necessary to be party members; (4) excellent academic record and working experience; (5) expertise and potential to be future leaders; (6) other requirements related to moral, ideological, ethical, and personal commitment to work in public organizations after oversea education is complete.

1.2.3. An overview of highly qualified public employees with master's and doctoral degree

According to the General Statistics Office of Vietnam (2022), there are a total of 259,700 people individuals with master's and doctoral degrees working in the public sector, which is 5.2% of the total number of state sector employees and 73.81% of total master's and doctorates working in Vietnam in 2021. Compared to 2019, the total number of employees with master's and doctoral degrees working in the public sector decreased by about 18,300 people, on average, each year, which is a decrease of 3.36%/year. Table 1.2 below illustrates the number of public officials with a master's or doctorate degree between 2019 and 2021.

Table 1.2: Number of public officials with a master's or doctoral degree (Unit: persons)

	2019			2020			2021		
	masters	doctors	general	masters	doctors	general	masters	doctors	general
General	248,839	29,299	278,139	240,811	30,045	270,855	234,720	25,033	259,753

Gender									
Male	145,661	19,756	165,417	131,580	20,646	152,226	129,523	17,182	146,705
Female	103,179	9,543	112,722	109,231	9,398	118,629	105,197	7,851	113,048
Age									
Below 30	36,012	802	36,814	25,639	511	26,150	17,882	299	18,182
From 31 to 40	122,782	11,433	134,215	120,319	8,046	128,365	105,417	7,117	112,534
Above 40	90,046	17,064	107,110	94,853	21,487	116,341	111,421	17,616	129,037
Areas									
Urban	208,857	26,071	234,928	196,957	27,229	224,186	200,282	23,458	223,740
Rural	39,983	3,228	43,211	43,853	2,816	46,669	34,438	1,574	36,013
Regions									
North	142,581	17,404	159,985	130,157	18,819	148,976	140,753	17,460	158,213
Middle	44,383	5,655	50,038	48,163	3,626	51,789	48,943	3,953	52,896
South	61,876	6,240	68,116	62,490	7,600	70,090	45,024	3,620	48,644
Sectors									
Agriculture	1,131	164	1,296	1,587	0	1,587	472	0	472
Industry and construction	11,571	187	11,758	10,263	505	10,768	7,229	100	7,330
Service	236,137	28,948	265,085	228,961	29,539	258,500	227,018	24,932	251,951
Occupations									
Managers	26,730	2,945	29,675	27,224	3,629	30,853	25,376	3,698	29,074
Advanced technical expert	210,317	26,201	236,518	199,121	24,925	224,046	175,727	20,101	195,828
Intermediate technical expert	3,061	89	3,150	3,780	504	4,284	9,605	199	9,804
Others	8,731	64	8,795	10,685	987	11,672	24,012	1,034	25,047

(Source: General Statistics Office of Vietnam, 2022)

In 2021, compared with the individuals with doctoral degrees, the proportion of employees with master's degrees who were working in the state sector accounts for a substantial proportion of those with master's degrees in the general Vietnamese workforce; increased slightly from 2019 to 2021, accounting for 89.47% in 2019 and increasing to 90.36% in 2021.

By gender, in 2021, the number of individuals with master's and doctoral degrees working in the state sector was 146,700 people, with 113,050 women, accounting for 43.5% of the total. However, the gender divide between those who have master's and doctoral degrees in the state

sector between 2019 and 2021 tended to decrease the number of master's degree holders and increase the proportion of doctoral degree holders. State sector employees who work in urban areas made up 86.14% of the state employees who hold master's or doctoral degrees in 2021; this was an increase of about 2% from 2019.

In 2021, out the 259,700 public employees with master's and doctoral degrees who worked in a state-owned sector, 7% were under 30 years old; those who were between 31 and 40 years old accounted for 43.3%, and those over 40 years old accounted for 49.7%. Between 2019 and 2021, the distribution of master's and doctoral degree holders tended to decrease in those who were under 30 and between 30 and 40 years old, and tended to increase in the 40-years-old and older group.

In 2021, by region, most individuals with master's and doctoral degrees who worked in the state sector were in the North (60.9% in 2021, up 3.4 percentage points compared to 2019), followed by the Central region (20.4% in 2021), with the lowest percentage in the South region (accounting for 18.7% in 2021).

By industry, in 2021, 97% of those with master's and doctoral degrees working in the state sector worked in the service industry (an increase of 1.7% compared to 2019) followed by industry–construction (2.8%), and finally agriculture, forestry and fishery (0.2%).

By occupation, most individuals with master's and doctoral degrees working in the public sector were in high-level professional and technical occupations (75.4% in 2021), and about 11.2% were managers.

1.2.4. Wages and incomes in the public sector

In general, there are significant differences between the public and private sector concerning remuneration. Employees in the private sector receive a pay package consisting of two parts: a basic wage that makes up a small proportion of their total income and bonus and benefits, which makes up most of their actual income. The basic wage must not be below the minimum wage set by the MOLISA for the private sector; as of July 2022 in Decree 38/2022/NĐ-CP, the minimum wage currently ranges from VND 3.3 million VND to VND 4.7 million (from JPY 18,000 to JPY 26,000) (Central Government, 2022). By contrast, the total income of civil

servants includes basic wage, which is equal to the minimum wage, multiplied salary grading (MOHA and MOF, 2012). The minimum wage set by the MOLISA for the state sector is currently VND 1.5 million VND (approximately JPY 8,000), and salary grading depends on the position, length of service, and work requirements (Library of Law, 2022). Civil servants also receive several types of allowances, including executive allowance and seniority allowance (Central government, 2022). Although both minimum wages and allowances have increased gradually, pay in the public sector is still far lower than pay in the private sector, and it generally cannot meet an acceptable standard of living for civil servants (Vo Linh, 2022). It is believed that the government's attempt to manage its budget in 2023 could result in a minimum wage in the state sector that would be equal to that in the private sector.

The average income for public officials with a master's or doctorate degree in the public sector is higher than for public officials with a bachelor's degree. However, it remains a big gap compared to those working in the private sector. Table 1.3 shows the national average income of public officials who hold a master's or doctoral degree in 2019, 2020, and 2021 (General Statistics Office of Vietnam, 2022).

Table 1.3: Average income of public officials with a master's or doctoral degree

Unit: VND Million/month

	2019			2020			2021		
	masters	doctors	general	masters	doctors	general	masters	doctors	general
General	10,607	13,409	10,902	9,802	13,495	10,206	10,931	15,359	11,357
Gender									
Male	11,287	13,482	11,549	10,391	14,566	10,944	11,875	14,698	12,204
Female	9,646	13,258	9,952	9,090	11,211	9,259	9,762	16,794	10,253
Age									
Below 30	8,579	10,874	8,629	7,489	10,380	7,546	9,096	8,674	9,089
From 31 to 40	10,266	11,937	10,408	9,172	12,917	9,404	9,955	14,903	10,267
Above 40	11,880	14,514	12,300	11,226	13,788	11,693	12,145	15,658	12,622
Areas									
Urban	11,019	13,538	11,299	10,127	14,050	10,596	11,140	15,616	11,608
Rural	8,458	12,367	8,750	8,352	8,239	8,346	9,704	11,539	9,785

Regions									
North	10,830	13,228	11,091	9,720	13,066	10,138	11,126	16,107	11,674
Middle	9,186	11,977	9,503	9,157	9,749	9,198	9,655	12,481	9,867
South	11,110	15,210	11,485	10,469	16,377	11,094	11,699	14,915	11,938
Sectors									
Agriculture	7,012	7,200	7,036	7,734		7,734	7,384		7,384
Industry–construction	8,000	15,139	15,025	11,569	12,575	11,616	16,068	24,750	16,190
Service	10,402	13,479	10,738	9,738	13,511	10,163	10,779	15,321	11,227
Occupations									
Managers	12,402	14,858	12,646	11,924	16,154	12,422	12,271	14,744	12,586
Advanced technical expert	10,343	13,251	10,665	9,587	13,369	10,000	10,669	15,755	11,189
Intermediate technical expert	10,109	13,000	10,191	8,027	5,379	7,715	11,185	7,000	11,098
Others	11,654	12,000	11,657	9,022	10,959	9,187	11,329	11,515	11,336

(Source: General Statistics Office of Vietnam, 2022)

As can be seen in the Table 1.3 above, in the period from 2019–2021, the average monthly income of highly qualified public employees with master's and doctoral degrees working in the state sector increased at an average rate, from VND 10.9 million/month in 2019 to VND 11.4 million/month. In 2021, the average annual increase was about 2.06%, so the average income of someone who held a doctoral degree increased by about 7.02%/year, reaching VND 15.4 million per person per month, and the average monthly income of master's degree holders increased by 1.52%/year to reach VND 10.9 million per person per month.

By region, the average income of public sector employees with master's and doctoral degrees who are working in urban areas is always higher than in rural areas, and the average income gap between urban and rural areas is always higher. Average income in rural areas tended to decrease from 1.29 times lower in 2019 to 1.19 times lower in 2021.

By gender, the average monthly income of women with master's and doctoral degrees in the public sector is always lower than that of men. In 2021, the average monthly income of female employees was VND 10.3 million/month, but for male employees, it was VND 12.2 million/month. However, the gender gap index in terms of income among individuals with

master's and doctoral degrees who work in the public sector is on a downward trend, dropping from 0.86 in 2021 to 0.84 in 2019.

By region, the average income of human resources with master's and doctoral degrees working in the state sector is the highest in the South, with an average of VND 11.9 million per person per month; in the North region, this was VND 11.7 million in 2021, and the average income per person per month in 2021 was the lowest in the Central region, at VND 9.8 million.

1.2.5. Regional differences in Vietnam

The issue of fragmentation between the central and regional governments in Vietnam has been examined by foreign researchers (Diez, 1999; Thomsen, 2007; Thomsen, 2009: Thomsen, 2011; Painter, 2005; Pincus, 2015; Stocking, 2007: Koslowski, 2020; Gainsborough, 2018). These studies offer several explanations for Vietnam's fragmented nature.

First, institutional differences between the North and the South heavily influence people's mindsets and behaviors. According to Thomsen (2007, 2009, 2011), different geographic institutions between the North and the South heavily influence the way in which private companies shape and operate their businesses. In particular, the North tends to have more connections and network with the state because all central government organizations and departments are in the capital, Ha Noi city. Therefore, both North and North-originated corporations located in the South region of Vietnam take advantage of these connections to conduct business and access land and capital loans. Furthermore, leaders in the South are known to be more realistic and less involved in the economy while the Northern leaders tend to be more conservative and controlling (Gainsborough, 2018). Therefore, companies carefully consider which part of the company they will be located in and where their targeted customers live when doing business in Vietnam.

Secondly, deep-rooted culture and history related to institution features play crucial roles in shaping people's awareness and thinking (Gainsborough, 2018). Vietnam has a long history of war which led to the separation of the North and South. Before 1975, the North was governed by Ho Chi Minh under the Socialist Democratic Republic of Vietnam while the South was invaded by the United States under the state-capitalist Republic of Vietnam. In addition, the North has more than a thousand years of history, and the capital of Vietnam has always been

located in the North, which has led to a region rich with rituals and education (Koslowski, 2020). Meanwhile, the South and Middle regions of Vietnam have shorter histories of 400 years and 300 years, respectively. People in these two regions tend to hold more modern perspectives and may be less concerned about social status or qualified education (Stocking, 2007; Gainsborough, 2018). Northerners are often thought to be more serious and formal, less easy-going, and more afraid of taking risks.

Thirdly, socio–economic aspects play a crucial role in differentiating the degree to which public officials tend to leave their jobs in the different regions. In Vietnam, there are three triangles of economic development: Hanoi–Hai Phong–Quang Ninh (the North), Ho Chi Minh–Bien Hoa–Vung Tau (the South), and Quang Nam–Da Nang–Quang Ngau–Hue (the Middle) (Diez, 1999). The South experienced an extended period of invasion by France and the United States; since that time, it has been the leading developing region of the three, but it has a weaker connection with the state, particularly when the state implemented economic reforms with neo-liberalism instruments that aimed to transform the state-led economy to a free-market economy (Painter, 2005). Gainsborough (2018) also confirms the distinctiveness of Ho Chi Minh city, the largest and richest city with the best infrastructure, as "the center on its political economy" (p27). There are three main reasons that the South region has the most developed economy of the three regions (Diez, 1999). First, private companies in the South region received generous support from local governments, unlike the North. Second, even state-owned enterprises run more effectively in the South due to the free market economy and the competition with private companies. Lastly, Ho Chi Minh city developed light industry that does not depend heavily on foreign trade and investment for market and imports. Meanwhile, the economic development of the Middle region has been far behind both the North and the South regions (Diez, 1999). The Middle region of Vietnam is the area most often damaged by extreme weather events, such as typhoons and floods. Citizens here have suffered the most challenging lives due to these unexpected but frequent natural disasters.

1.3. Research aims and research questions

To gain better insight into talent management practices, organizational justice, and the turnover intention for civil servants in the public sector, the key research aims and research questions are highlighted below.

Research aims

This study aims are to investigate the impacts of TM practices and organizational justice on the turnover intention of public employees at the national and regional levels in Vietnam. It also attempts to provide a comparative perspective on turnover intention of talented public employees and how the impacts of TM practices and organizational justice on turnover intention differ based on geography in Vietnam.

Research questions

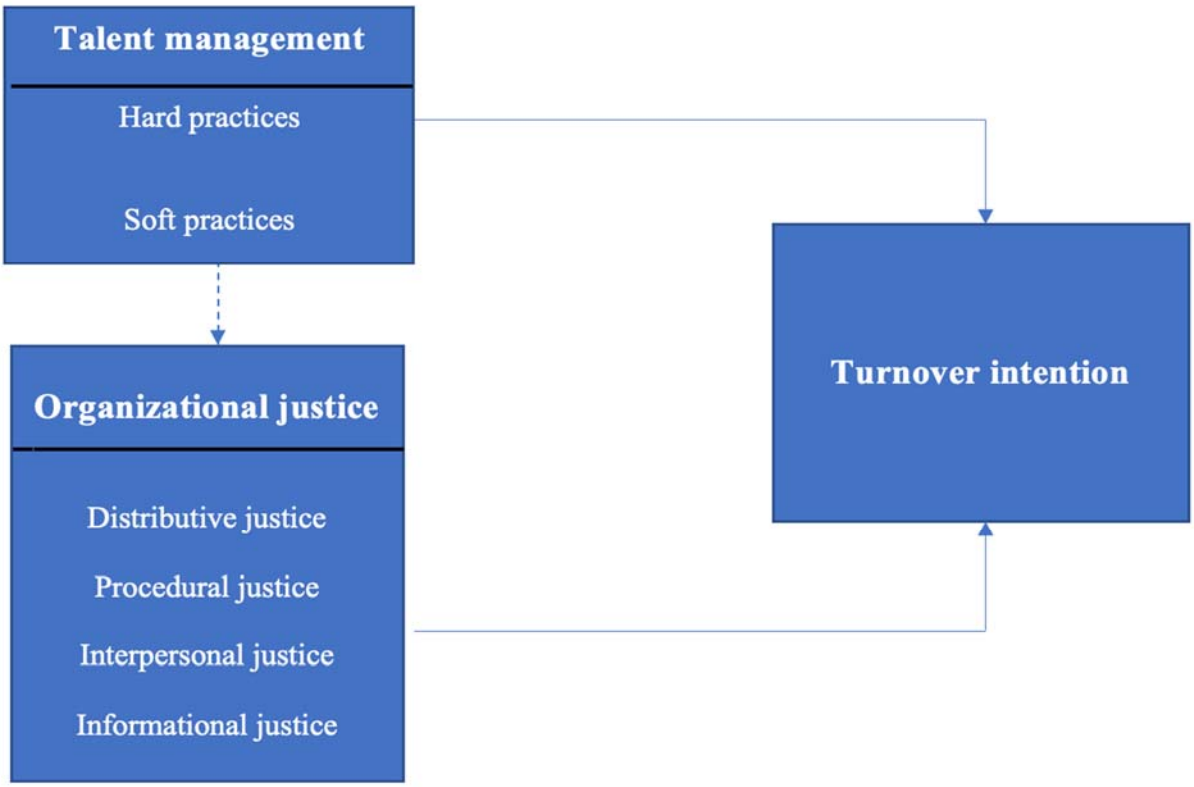
To achieve the aims, this paper attempts to answer the following questions:

1. Do TM practices impact employee turnover intention in the public sector in Vietnam?
2. Does perceived organizational justice impact employee turnover intention in the public sector in Vietnam?
3. Does organizational justice mediate the relationship between TM practices and employee turnover intention?
4. Are there regional differences in the impacts of TM practices and organizational justice in turnover intention and the degree of turnover intention in Vietnam?

1.4. Conceptual framework

The study proposes the conceptual framework shown in Figure 1.2. This framework includes one dependent variable (turnover intention), two sets of independent variables (TM practices and organizational justice), and one mediating variable (organizational justice). The TM variable has two sub-variables, namely hard TM practices and soft TM practices. Organizational justice variable has four sub-variables, including distributive justice, procedural justice, interpersonal justice, and informational justice.

Figure 1.2: The research's conceptual framework



Source: Author (2022)

1.5. Significance of the study

There are some gaps in the literature of turnover intention of talented public officials. The impact of talent management and organizational justice on turnover intention in the public sector, particularly in developing nations in Asia, has been a subject of limited empirical research. Few studies using empirical research methods have been carried out that examined both the national and provincial levels of government and considered regional differences. Furthermore, no research framework has given equal consideration to all four elements of organizational justice (distributive, procedural, interpersonal, and informational justice) in practice, either as independent variables that affect quitting intention or as separated mediators of the relationship between TM and employee turnover intention.

Based on the above academic and practical challenges in the world in general and in Vietnam in particular, combined with research gaps in this field, this study offers a broad overview of how talent management and organizational justice impact talent turnover intention in the public

sector in Vietnam. The findings provide valuable insights for tackling high turnover rates. The study attempts to make some academic and practical contributions. It offers a conceptual framework based on the theoretical foundations of social exchange theory and equity theory. This study theoretically enriches literature on TM and turnover intention in the public sector in an Asian developing country. In addition, it contributes empirical results about how TM practices and organizational justice affect turnover intention while considering regional differences and using both qualitative and quantitative methodologies. The research results can be used to formulate policies and implement them, which can promote the retention of talented employees at both the national and the provincial levels in developing countries. This study suggests that policy makers take several steps, including finding feasible solutions to improve governance capacity, enforcing the effectiveness of hard and soft TM practices and organizational justice, and generating working motivation, job satisfaction, and organizational commitment that can align individuals' performance and engage them with the strategic goals of public organizations for societal contribution and the common good. By doing so, turnover intention can be reduced and turnover decisions can be minimized in the public sector.

1.6. Overview of the research methods

A combination of qualitative method and quantitative methods are employed to obtain a profound understanding of the impacts of TM and organizational justice on talent turnover intention. There are two main instruments. First, questionnaires that used a 5-point Likert scale were given to talented employees in all three regions of Vietnam to explore their feelings about how TM practices and organizational justice affected their turnover intentions. Second, semi-structured interviews were conducted with selected talented employees in three regions for further confirmation and explanation of quantitative findings. To select good indicators with high reliability, convergent validity, and discriminant validity, investigate the relationship among variables, mediation impacts and test the hypotheses, confirmatory factor analysis (CFA) and structural equation modeling (SEM) were applied, and analyses were conducted using Statistical Package for Social Science (SPSS) version 22 and SPSS AMOS version 20 software.

1.7. Research scopes

This study investigates turnover intention of highly qualified civil servants in the public sector in Vietnam. According to the document from the 11th Party Congress Doctrine (2011), highly qualified civil servants are those who obtain a high level of education and expertise. The scope of this research, therefore, is limited to civil servants who obtained a master's or doctorate degree. The research population targets people who either left their organizations or currently work in public sector organizations in the North, Middle and South regions of Vietnam.

1.8. Structure of the dissertation

The dissertation is divided into five chapters:

Chapter 1—Introduction: The chapter presents the background of talent management, organizational justice, and turnover intention in the public sector, highlighting the significance of conducting the research and providing an overview of talent turnover issues in Vietnam as well as the research aims, objectives, and research method. Academic and practical contributions, research limitations, and structure of the research paper are introduced.

Chapter 2—Literature review: The chapter represents concepts, theoretical foundations, and reviews relevant to prior research about TM, turnover intention, and organizational justice from a wide range of sources, such as books, journal articles and reports, in which the topic of talent management is widely discussed in the context of the public sector. After evaluating research gaps, the relationships between TM practices, organizational justice and turnover intention are established in a conceptual framework, and the research hypotheses are introduced.

Chapter 3—Methodology: The chapter provides detailed information about the research methodologies. This study uses a mix of quantitative and qualitative methods to find answers to the research questions. The quantitative method is used to test the determinants of TM practices and organizational justice affecting turnover intention at both the national and regional levels while the qualitative method is use to confirm and elaborate on the research results.

Chapter 4—Findings and discussions: The chapter starts with an overview of the Vietnam public sector context, then presents research results derived from analyses of both the

quantitative and qualitative data, followed up by a discussion of findings in connection with the literature review, theoretical foundations, and the context of Vietnam.

Chapter 5—Conclusions and implications: This chapter summarizes the research findings and suggests several ways that public organizations can minimize employees' turnover intention and increase the effectiveness of TM practices and the level of organizational justice. Research contributions, limitations, and further avenues for study are also suggested in this chapter.

2. LITERATURE REVIEW

Chapter 2 provides a common understanding of the research topics, including various concepts related to variables in the research framework introduced in Chapter 1, including two independent variables (hard talent management [TMH] and soft talent management [TMS]), four mediating variables, (organizational distributive justice [OD], organizational procedural justice [OP], organizational interpersonal justice [OI], and organizational informational justice [OIf]), and one dependent variable (turnover intention [TI]. This chapter also introduces fundamental theories, including social exchange theory and equity theory, to construct the research framework and explain relationships among talent management, organizational justice, and turnover intention.

In addition, the author conducted a global literature review on the relationship among talent management, organizational justice, and turnover intention to examine research gaps in this topic. From the study of the actual context, combined with the theoretical gaps and foundation theories, the author proposes nine hypotheses. There are 42 items in the measuring scales chosen from earlier empirical research that have high Cronbach alpha values. The results of the research model analysis are presented in Chapter 4's findings.

2.1. Essential concepts and theories

2.1.1 Essential concepts

Talent and talent management in the public sector

Because the context of the research is talent management in the public sector, it is essential to understand and distinguish talent management in this sector with the same concepts applied in the private sector organizations.

Public sector organizations are conceptualized as being owned, funded, and authorized by states (Knies et al., 2017). They work for the public benefit and supply goods and services to achieve common values for citizens. Due to the natural distinctions in the public sector as well as the features of HRM itself, HRM practices applied in the private sector do not work well in the public sector context (Knies et al., 2017). As the public sector serves society as its primary

function, profit is not its main aim, as is the case with the private sector. Therefore, HRM need to use fewer financial motivations to achieve the organization's ultimate goals. The extent to which managers and leaders can influence the performances of employees, as well as how to do so, remains questionable without the practices used in the private sector.

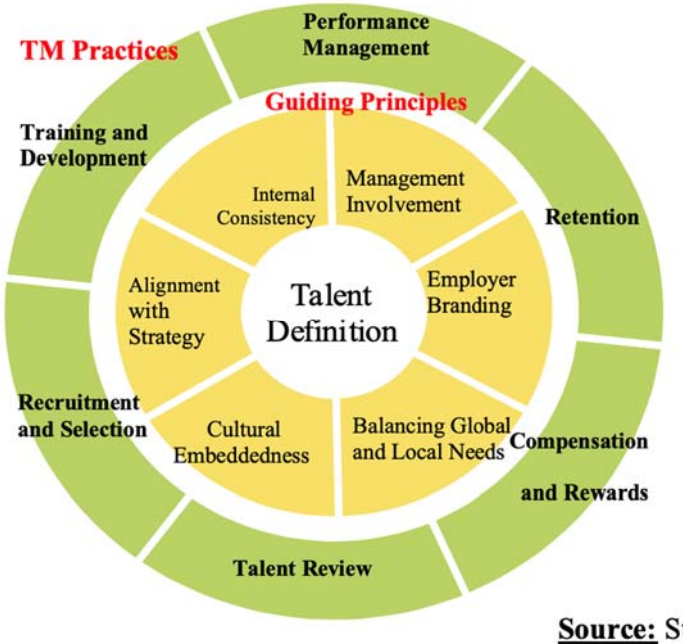
Continuously changing workforce environments result in more competition among organizations that can attract competent workers and enhance organizational performance (Hiltrop, 1999); hence, talent management skills among employers have begun to play a vital role in both the public and the private sectors (Mensah, 2019). While there are many different definitions of "talent" in academic literature, the concept remains ambiguous in the public sector (Kravariti and Johnston, 2020; Poocharoen and Lee, 2013). The is because most research papers on TM focus on private sector enterprises. Scholars have argued that distinctive differences between the two sectors in terms of long-term goals heavily influence the way talent is conceptualized in each sector (Kravariti and Johnston, 2020; Thunnissen and Buttiens, 2017). On the one hand, talent in the private sector is described as a set of personal intrinsic abilities, including "skills, knowledge, experience, intelligence, judgment, attitude, character … and ability to learn and grow" (p.xii, Michaels et al, 2001). According to Lewis and Heckman, (2006), talents can be intrinsic or can be reached via experience, training, and education. Talent also refers to the core workforce, including employees and managers with high performance and/or high potential, who are key drivers of the business (CIPD, 2006; Devine and Powell, 2008). A survey of Ulrich Dave (2007) shows a simple formula for talent: Talent = Competence * Commitment * Contribution. It is, therefore, strongly argued that capacity itself is not enough to identify talented people, and that commitment and contribution to organizations must also be emphasized.

On the other hand, the non-profit public sector makes a significant contribution to public service and common social goals. Talent in the public sector is therefore intricately linked with its primary objective of serving society, and talented employees are considered to be individuals with various significance interests towards the public sector's central philosophies, but both their competencies and their abilities remain imprecise (Kravariti and Johnston, 2020). To sum up, public sector talent includes a limited number of high-quality employees who have the outstanding values, professionalism, and morals necessary to serve organizational goals for the good of their society. In the context of Vietnam, the 11th Party Congress strongly determined

that rapid development of human resources, especially high-quality human resources, is "one of the decisive factors for the country's rapid and sustainable development" (Communist Party of Vietnam, 2011, p.130). When it comes to the concept of talent or high-quality human resources, these categories refers to people who, in addition to moral qualities, good health, and solid political awareness, must also have expertise, potential, and the ability to obtain a master's or doctorate degree. This study uses this concept for its research.

Like talent definitions, TMs are conceptualized and determined in several ways by well-known periodicals that are not research-based or peer-reviewed, but tackle issues of current human resource management due to demographic shifts (Lewis and Heckman, 2006a). Although there are many definitions of TM, the topic is fundamentally concerned with an integrational set of organizational HR activities and processes designed to attract, identify, recruit, develop, promote, motivate, and retain talent for both current and future needs (Stahl et al., 2012) (*Figure 2.1*). In the TM wheel, talent retention is considered as one of six important components, along with recruitment and selection, training and development, performance management, compensation and rewards, and talent review.

Figure 2.1: The talent management wheel



Source: Stahl et al., 2012

Based on the concept above, the definition of TM in the public sector has five categories: (1) a procedure to recruit, develop, deploy, retain, and engage talented employees in both short-term and long-term goals in an organized way (Rana et al., 2013; Thunnissen and Buttiens, 2017); (2) a strategic approach for the sector to cope with current situations of leadership and service upgrading (Rana et. al., 2013); (3) a strategy to enhance knowledge and skills as well as to deal with leadership drawbacks, including family preference and corruption (Reilly, 2008); (4) a process to achieve strategic goals aligned with organizational principles, environment, and institutions (Thunnissen and Buttiens, 2017); and (5) the application of vital processes to allow talented employees to utilize their proficiencies, expertise, and significant values to cope with current difficulties and achieve common objectives for society (Kravariti and Johnston, 2020). To sum up, TM in the public sector is a strategic process of recruiting, developing, and retaining talented employees to make effective use of how their distinctive values align with organizational missions to ultimately benefit society.

Blass (2007) argues that there are six strategic aspects that shape, identify, and define TM in the workplace: process, cultural, competitive, and developmental aspects, along with HR planning and change management. The perspectives shape organizational core beliefs in TM as well as how HR methods for recruitment, selection, retention, and development are implemented within organizations (Table 2.1). In regards to retention specifically, organizations with different perspectives may generate different results using various TM practices. For example, process-organizations tend to promote work-life balance practices and intrinsic motivators, cultural organizations help ensure that everyone can express their talents, competitive organizations select only talented people to work together, developmental organizations emphasize promising career development to keep talented employees, planning organizations accept the risks of turnover and monitor and plan solutions in advance, and change management organizations focus on changing tasks; however, turnover is still expected.

Table 2.1. Differences in operationalization of talent management

Perspective	**Core belief**	**Recruitment and Selection**	**Retention**	**Development approach**
Process	Include all processes to optimize people.	Competence based, consistent approach.	Good on processes such as work-life balance and intrinsic factors make people feel they belong.	PDPs and development reviews as part of performance management. May be some individual interventions.

Cultural	Belief that talent is needed for success	Look for raw talent. Allow introductions from in-house.	Allow people the freedom to demonstrate their talent, and to succeed and fail.	Individuals negotiate their own development paths. Coaching and mentoring are standard.
Competitive	Keep talent away from the competition	Pay the best to attract the best. Poach the best from the competition.	Good people like to work with good people. Aim to be employer of choice	Both planned and opportunistic approaches adopted. Mentors used to build loyalty.
Developmental	Accelerate the development of high potential.	Ideally only recruit at entry point and then develop.	Clear development paths and schemes to lock high potentials.	Both planned and opportunistic.
Planning	Right people in the right jobs at the right time.	Target areas of shortage across the company. Numbers and quotas approach.	Turnover expected, monitored, and accounted for in plans.	Planned in cycles according to business needs.
Change management	Use TM to instigate change in the organization	Seek out mavericks and change agents to join the organization.	Projects and assignments keep change agents, but turnover can occur.	Change agents develop others who align with them and become the next generation of talent.

Source: Blass (2007)

Another important perspective worth mentioning in the TM literature is a theoretical framework for the strategic management of talented employees (Collings and Mellahi, 2009) which shaped how later academic research was conducted. According to Collings and Mellahi (2009), strategic talent management refers to practices and procedures used to identify major positions that could make a significant contribution to supporting sustainable competitive advantages for organizations. The STM framework includes three steps: showing key positions; finding and developing talented individuals to fill these places; and implementing HR practices to support the process of filling pivotal positions and ensuring long-term organizational commitment. There have been many research papers working on developing the idea of STM based on Collings and Mellahi's work. Some scholars focus on how to identify A, B, and C ranking performers; others highlight the pivotal needs of the combination between talent and talent

management with strategy and the connections between STM and project success or leadership development as well as how to make TM strategic (Lai and Ishizaka, 2020; Lewis and Heckman, 2006; Mahjoub et al., 2018; Smith et al., 2019).

Hard Talent management and soft talent management

Hard and soft talent management practices are two main independent variables in this research model. Therefore, it is essential to distinguish between these two significant concepts.

Two spectrums of hard and soft HRM originated in the United States in 1980s and attracted academic attention (Gill, 2011). The dichotomy originated with the University of Michigan and Harvard University. The University of Michigan conceptualized hard HRM, in which the strategic emphasis is put on the perspective of management in a unitarian way. Harvard University, on the other hand, was credited with coining the term soft HRM because its priorities are to work in a team, to communicate, and to use talented individuals (Poole and Mansfield, 1994 cited in Gill, 2011). Another explanation for the difference between the two spectrums is that the soft–hard dimensions of HRM and TM depend on whether the emphasis is placed on human or resource (Bui and Chang, 2018; Truss et al., 1997). While soft practices focus on the human part to develop talented employees by enhancing commitment and engagement, the core of hard practices lies in resource and aims to achieve organizational competitive advantages through strict performance management.

McGregor, (1960) introduced two theories that concerned two different perspectives about human resources. In Theory X, employees are assumed to hate working, which leads to hard HRM practices to control their performance, such as pay and rewards. On the other hand, Theory Y believes that employees are willing to work in organizations they are committed to. Therefore, soft HRM practices tend to be used to develop the workers' potential to serve their organizations, such as training and coaching practices.

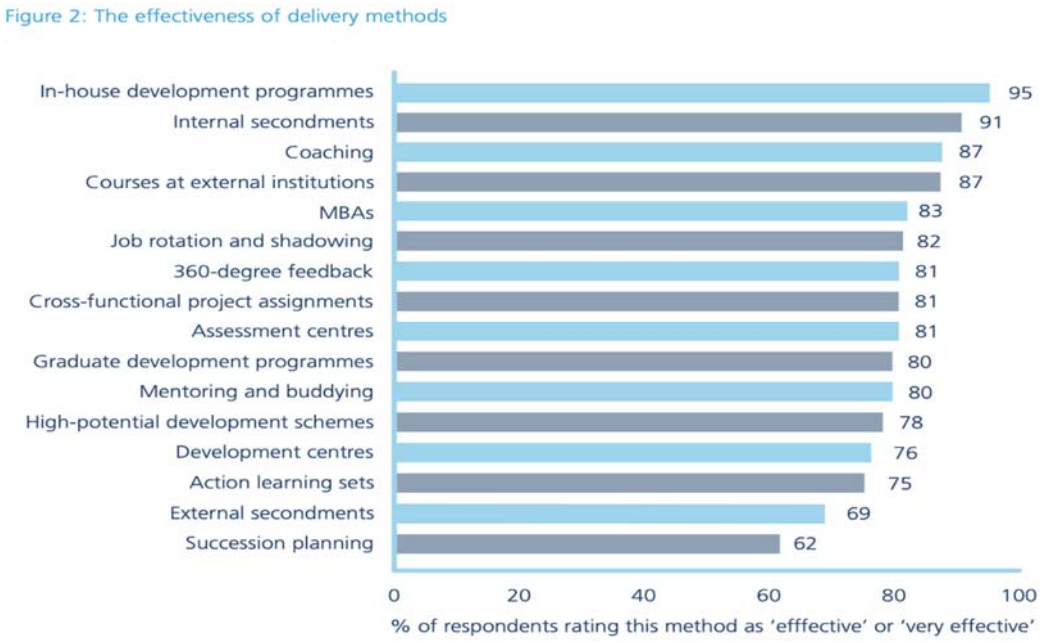
Similarly, Carol Gill and Denny Meyer (2008) identified two kinds of business strategies, the high road and the low road. The high road focuses on the idea of using innovation and high quality to distinguish products, while the low road uses price and cost management as a competitive advantage. Soft HRM policies and practices are more likely to be found in high road organizations, and hard HRM policies and practices are more commonly present in low road organizations.

Drawing from broad case studies of eight organizations in the UK, Truss et al., (1997) determined the distance between theory and practice when it comes to applying hard and soft models of HRM. Organizational initiatives appear to be soft, but, upon closer examination, they are rather hard. HR practices of empowerment, involvement, communication, and training often

only focus on increasing revenues. In short, organizations tend to practice soft HRM in theory, but often end up with hard HRM in practice.

There are many practices to attract and retain talented people, which are considered to be the most crucial goals of TM. CIPD (2006) introduced 16 TM practices together with a survey taken by employees in more than 1,500 organizations to examine the effectiveness of these practices; the results are shown in Figure 2.2. The responses showed that in-house development programs were the most effective (95%) and succession planning was the least effective (62%).

Figure 2.2. The effectiveness of delivery methods



Source: CIPD, 2006

In discussions about TM practices in the Thai public sector as a national talent scheme (High Performance and Potential System, HIPPS), Sadangharn (2010) classified TM practices can be classified into two spectrums, utilitarian instrumentalism and developmental humanism, that included 18 TM practices (Table 2.2 below).

Table 2.2: List of TM practices in HIPPS schemes in the Thai public sector

UTILITARIAN INSTRUMENTALISM	DEVELOPMENTAL HUMANISM
1. Recruitment and selection process	10. Individual career development plan
2. Flexible positioning based on performance	11. Experience Accumulated Framework: EAF
3. Workforce planning for future leadership	12. Individual Development Plan: IDP
4. Competency-based management	13. Challenging assignments
5. Need analysis for competency assessment	14. Coaching and mentoring
6. Performance agreement with KPI	15. Job Rotation
7. Result oriented approach	16. Government scholarships
8. Special promotion quota for salary increase	17. Network and connection building
9. Performance appraisal	18. Recognized as high performers

Source: Sadangharn (2010)

Building off Sadangharn (2010), Bui and Chang (2018) introduced hard and soft TM practices in the public sector in the Da Nang local government in Vietnam, each containing eight individual TM practices[1]. Perceived soft TM practices include: coaching that supports development; the opportunity to earn scholarships for higher education; the opportunity to attend trainings, courses, and workshops; job rotation; support in planning future development; opportunity to present opinions; challenging assignments; and work that gives the opportunity for self-expression. Perceived hard TM practices include: critical selection of new employees; advantages in hiring selections as official civil servants; flexible job assignment; payment performance appraisal; employment contract requiring a commitment to work for a public organization; attractive benefits packages including housing and financial support; and the possibility of promotion within the organization through succession planning.

[1] A total of 16 items of soft and hard TM practices originated from Bui and Chang (2018). The first author worked in the Human Resource Department of the local government in Da Nang city, Vietnam; the names of the items were chosen to fit the context of the public sector in Vietnam, so they remained unchanged in the dissertation.

Organizational Justice

Organizational justice is an important variable in this research model which serves as both an independent and a moderating variable. It is essential to understand this major concept and its four components, distributive, procedural, interpersonal, and informative justice.

Along with talent management practices, organizational justice has been increasingly significant in the management of organizations because it is theoretically and empirical proven to impact employee emotions and effectiveness at work. One of the primary scholars discussing the issue of equity and fairness in organizations was Adam Smith (1963, 1965). The theory on equity has been further studied and developed by many researchers, such as Greenberg (1986, 1987, 1990, 1993, 2004); Lind et al., (1990); Folger and Konovsky (1989), Narayanan et al., (2019).

There are many definitions of organizational justice, but they primarily use two approaches: (i) organizational behaviors that treat employees fairly at work, including fair treatment and fair performance, and (ii) employees' perception of organizational justice. To grasp the first concept, Moorman (1991) adopted a high-leverage strategy. He observed and developed the idea of organizational justice as connected to how employees descriptions of their fair treatment at work and how those determinants affect other work-related factors. Similar ideas have been put forth by other scholars; for example, organizational fairness is defined by Greenberg (1990) as equity and how the organization practices fairness with their personnel. According to Cropanzano (2001), organizational justice can be regarded as fair work. These methods are based on the researcher's observation and evaluation of the organization's practices, and they consider whether the method or conduct is actually fair to employees.

Regarding the second approach, according to Greenberg (1990) and Greenberg and Colquitt (2005), organizational justice is defined as whether employees feel that their employer treats them equally. Campbell and Finch (2004) contend that organizational equity might be defined as workers' opinion of how an organization treats them equitably, which is a similar viewpoint. Organizational justice was systematized by Thorn (2010), who defined it as workers' perceptions of fairness in their workplace in terms of remuneration distribution, procedures, and interactions. This method is based on the viewpoint of employees, who are the affected parties within the organization. If employees are treated with respect and dignity, they can share

information and explain and exchange information related to their jobs. They will also be aware of issues in the organization, such as how results are distributed to them and whether processes and regulations in the organization that affect them are fair and consider employees' opinions when being developed. Employees express their individual opinions on whether or not these concerns are fair after the fact. The second approach for OJ starts with the employee's views of fairness in the workplace; this perspective will be used consistently throughout this thesis.

Regarding the components of organizational justice, scholars agree that it is a multi-part structure. In the past, organizational justice typically referred to the extent to which salary and rewards were distributed within organizations. Many current studies emphasize the significance of other factors, such as positions, working conditions, and working environment. Most of the research conducted in the field of organization justice over the last 20 years has used distributive justice as its foundation. Researchers have also studied other components, including procedural justice, which is related to the organization's formal processes and procedures (Thibaut and Walker, 1975), and interpersonal justice, which refers to the behavior of organizations towards individuals (Bies and Moag, 1986).

Colquitt (2012) proposed a four-factor equity model framework using high-order variables, namely distributive justice, procedural justice, interpersonal justice, and informative justice (Figure 2.3). The four factors of organizational justice are supported by Narayanan et al. (2019); their theoretical framework placed all four factors as mediators between TM and turnover intention. In this thesis, all four components will be analyzed in the research model to support Colquitt (2012) and Narayanan et al., (2019).

Figure 2.3: Four-factor equity model framework

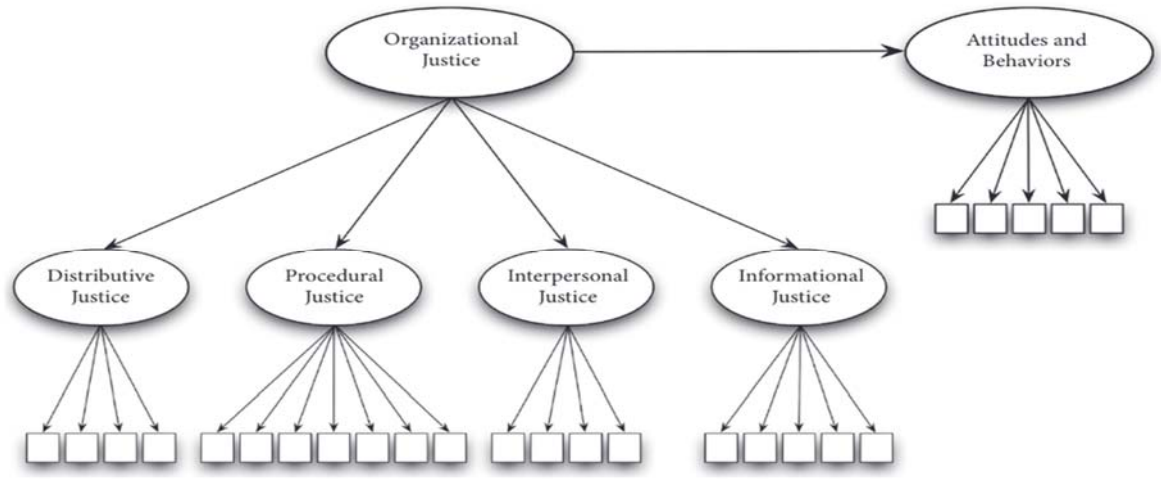


Figure 16.1 Aggregating Justice Using a Higher-Order Latent Variable.

Source: Colquitt (2012)

According to Colquitt (2001) and Greenberg (1990a), the four components of organizational justice are conceptualized as follows. Distributive justice refers to the concerns expressed by employees about the results and allocation of the organization's resources. Procedural justice is the perception of employees about methods and processes used in the distribution of results between the organization and its employees. Interpersonal justice is an individual's perception of fairness based on interpersonal communications with the organization. Informative justice involves sharing information and thoroughly interpreting it within organizations. In some studies, interpersonal justice and informative justice are combined as interpersonal justice (Bies and Moag, 1986). The three- and four-factor models of OJ are, therefore, not contradictory. However, this study applies the second model to fully examine the effects of individual components of OJ towards turnover intention of employees.

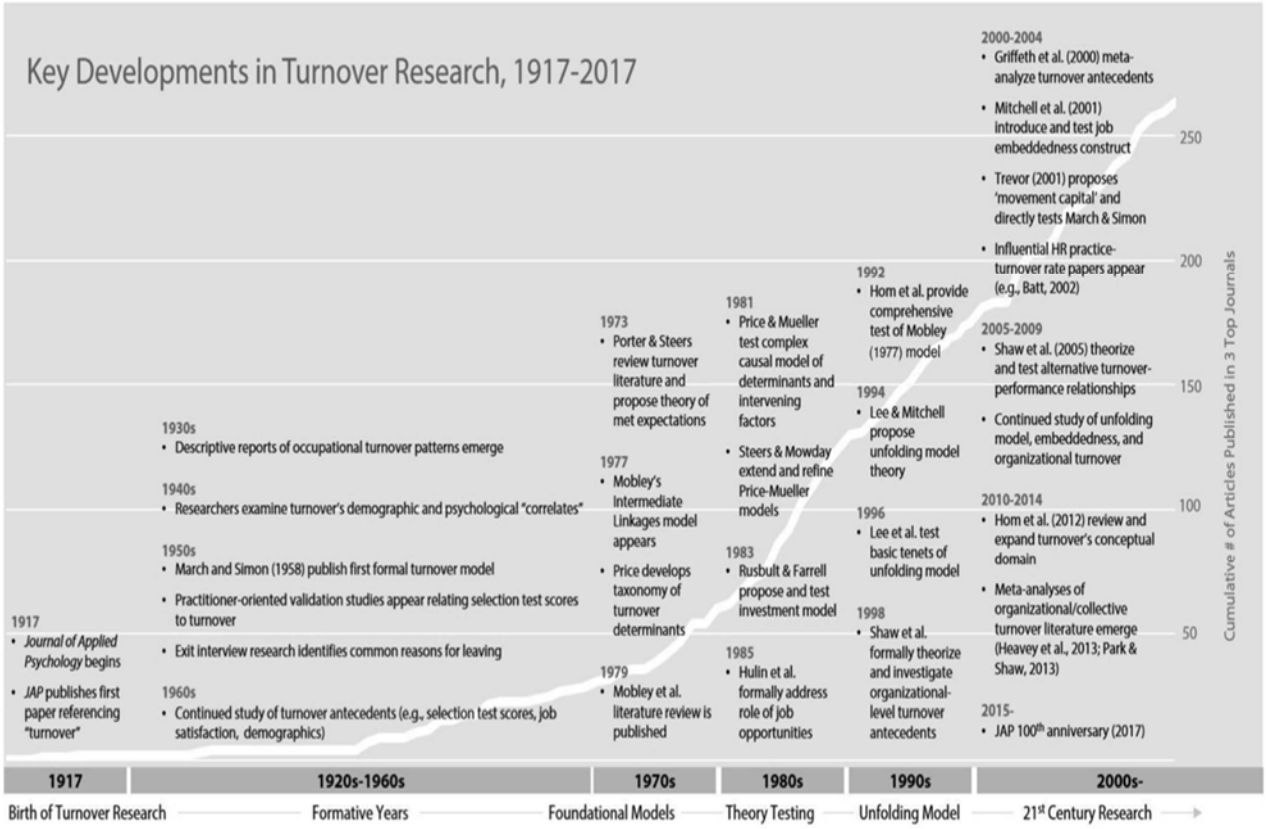
Turnover intention

Turnover intention is the subject of this research as well as an important dependent variable. Therefore, it is essential to understand this major concept in the context of the public sector.

Harris and Foster (2010) point out that many organizations cannot depend on an external workforce to cope with the shortage of talented employees. Indeed, it becoming more important for the public sector to use strategies that can help them find, develop, and retain internal high-potential employees who could become leaders in the future and minimize turnover intention of talented employees.

Turnover has been studied for around 100 years; the term was first noted in the *Journal of Applied Psychology* in 1917 and has been regularly updated over the subsequent years (Hom et al., 2017) (Figure 2.4), with six crucial periods. After its introduction in 1917, the term underwent formative periods from 1930s to 1960s, when reports and research emphasized turnover patterns and demographic and psychological characteristics. The first models for turnover were built, testing scores were developed, and why employees decided to leave organizations was examined. During the 1970s, foundational models were built and turnover determinants were developed. In the 1980s, researchers focused on testing models. Afterwards, in the 1990s, researchers proposed unfolding models. Recently, 21st century research has continued testing models from earlier research, meta-analyzing turnover antecedents, and exploring relationships among these factors.

Figure 2.4: Turnover research timeline (1917-2017)



Source: Hom et al. (2017)

Turnover is defined as the movement of individuals from one organization to another organization (Price and Mueller, 1986). Turnover is classified as voluntary turnover and non-voluntary turnover (McPherson, 1976). Voluntary turnover is the process of employees

deciding to stay or leave organizations of their own volition, while non-voluntary turnover occurs when employers make decisions regarding whether employees will stay with the company or not. Voluntary turnover may cause significant loss if the people who leave are beneficial for organizations (Robbins et. al., 2008). Therefore, studies generally put an emphasis on voluntary turnover (Mobley, 1982). A prominent level of voluntary turnover has high costs in terms of time and financial investment for organizations as recruiting and training new people, then acclimating them to the organizational culture, is expensive and time-consuming. Organizations also may lose their competitive advantages when employees withdraw. When employees leave, it may negatively affect current staff members' working motivation, increase workload, and create challenges in work planning. Consequently, organizational performance will be heavily effected (Kaya and Abdioğlu, 2010)

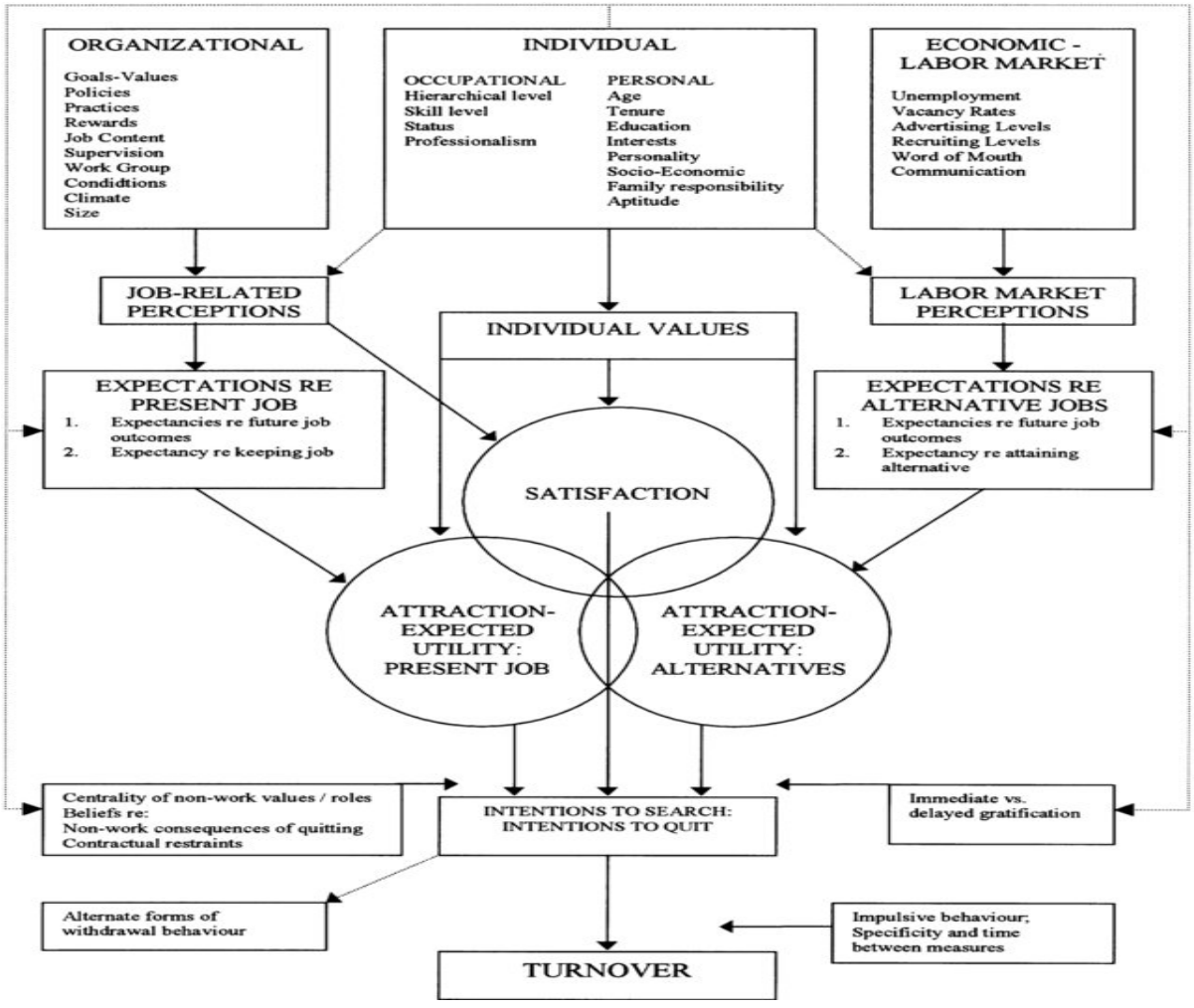
Conducting research on turnover behavior is challenging because individuals have already left their organizations. In addition, turnover behavior may not reveal issues inside organizations. Therefore, turnover intention has generally been a frequent research target as turnover intention is considered as a clear and crucial predictor of turnover behavior (Hellman, 1997; Kim and Park, 1999). Researching turnover intention can therefore be beneficial in terms of understanding actual turnover decisions by employees (Price and Mueller, 1986). By doing this, organizations could actively lesson potential turnover in the future.

Turnover intention could be both an independent and dependent variable. However, dominant research sees turnover as a dependent behavior that is accounted for through several factors (Ronald J. B. et al., 2013). The most common method to measure turnover is through surveys with employee responses on their perceptions of the "intention to leave." The phrase indicates a level of job dissatisfaction. Mobley (1982) offers the concept of turnover intention as the employee's intention to terminate work in the near future. The higher the level of turnover intention, the sooner employees will leave the organization (Mowday et al., 1982). Price (2001) defines turnover intention as an individual's plan to terminate their membership in an organization. According to Bui and Chang (2018), intention to leave is "individuals' behavioral intentions, especially employees' conscious, deliberate desire to leave organizations in the near future". In short, turnover intention is the deliberate plan of employees to stop working in an organization in the future. However, the plan may or may not become reality.

The most notable scholar in this field, W. H. Mobley, initiated the research on factors that affect turnover intention of employees in 1977 when he asserted that turnover intention was an important precursor that reflected actual quit behavior (Mobley, 1977). Next, Mobley et al. (1979) developed a theoretical framework for employee turnover intention (Figure 2.5) that

classified these factors into three categories: organizational factors, such as goals, policies, and HR practices; individual factors, such as hierarchical level, skill level, age, and education; and economic–labor market factors, such as unemployment, advertising, and communication. Individual values and the perceptions of job-related issues result in different degrees of satisfaction levels, which are combined with an expectation of present job and alternative jobs to ultimately generate intention to quit and may become actual turnover.

Figure 2.5: A theoretical framework for employee turnover intention



Source: Mobley et al. (1979)

As Figure 2.5 shows, quitting behavior has turnover intention as a direct antecedent. The factors affecting the turnover intention can be classified into three categories, including organizational factors (such as goals, policies, and HR practices), individual factors (such as hierarchical level,

skill level, age, and education), and economic-labor market factors (such as unemployment, advertising, and communication). The labor market and economic climate affect employees' perceptions of the job market, influencing expectations about employment availability and outcomes, creating attraction and expectations about new job prospects that people could seek to replace their current jobs. Organizational and personal factors have an impact on turnover intention via the attractiveness of the current job and job satisfaction. Employees' turnover intention is a process that creates a dilemma because of the conflicting considerations of their job satisfaction, current job attractiveness and expectation of keeping their current job, and the attractiveness and anticipation of new job opportunities, roadblocks, and restrictions on quitting current jobs. Therefore, because the ultimate "intention" is still a latent and personal aspect, it is frequently challenging to describe clearly and completely how the turnover intention of employees is formed. Problems with "alternative work options" are frequently found in individuals' difficult-to-articulate personal projections. Experimental research on turnover intention frequently takes advantage of various organizational and individual factor-related elements.

In the context of the public sector, tackling turnover is more challenging than in the private sector due to restricted sources of additional benefits (Bradbury et al., 2013). Turnover in the public sector has both direct costs and indirect costs. The direct costs of recruiting and training new people for vacancies are estimated to be between 33% and 250% of the annual salary of the vacancy. The indirect costs are also worth mentioning; they include time resources for other staff to handle the duties of employees who have quit while organizations are attempting to hire new staff and for organizations to train inexperienced staff in the new working environment so they can reach full productivity. These issues may also take a toll on the motivation and productivity of other staff in the long term. Brabbrury et al. (2013) studied the quit rate of 43 US federal agencies in 2009 and 2010 as provided by the US Office of Personnel Management; their findings showed that quit rates in the US public sector link to gender, age, and minority status. To be more specific, female employees tend to have higher quit rates. Similarly, a workforce that includes more young employees has higher turnover. When the number of minority employees in a workforce rise, turnover decreases. These findings support the individual variables in Mobley et al. (1979).

2.1.2. Theoretical foundation

Talent management, organizational justice, and turnover intention are popular research topics. The study applies two theoretical foundations to explain concepts and construct central arguments and research framework.

(1) Social exchange theory

The social exchange theory (SET) is based on research by sociologists and social psychologists (Blau, 1964; Homans, 1958; Thibaut and Kelley, 1959). Social exchange theory is the foundation of most theories used to explain justice, organization, support, and trust. (Blau, 1964) defined social exchange as the voluntary behaviors of people who are motivated by the advantages they are anticipated receiving and frequently do receive from others. By distinguishing between economic and social exchange, Blau (1964) expanded the idea of distributive justice by Homans (1958) and made an important addition to equity theory. In contrast to economic trade, where employees are paid a set amount to execute a job, social exchange entails undefined duties. Economic trade and social exchange are distinct from one another because social interaction entails a higher level of trust and obligation and goes beyond the commitments made in an employment contract (Gouldner, 1960). According to SET, there is always a trade-off between the effort and loyalty of employees and organizational rewards, benefits, respect, and well-being (Dawley et al., 2010; Narayanan et al., 2019). Therefore, in the context of public organizations, unsatisfactory organizational commitment or support will negatively impact talented employees' attitudes and behaviors (Bui and Chang, 2018).

Researchers use social exchange theory to illuminate how an employee's interactions with the organization as a whole impact their behavior and their managers (Settoon et al., 1996). These scholars argue that the fairness of information disclosure is the aspect of an employee's activities that will be impacted by their relationship with the organization. According to Organ (1988), knowledge of information disclosure can change employees' connections with firms from economic exchange connections to social exchange connections between individuals. Relationships based on economic exchange are transactional in nature and are based on brief contacts and reciprocal exchange transactions. Contrarily, words like shared identity among coworkers, loyalty, affective ties, affiliation, and mutual support are most often used to characterize social exchange interactions. Employees will therefore exhibit more productive work habits when there are social exchanges as opposed to economic trade ties.

(2) Equity theory

According to Adams (1965), people will always desire to be treated fairly. Employees typically measure fairness by comparing their efforts to the compensation they receive, as well as by comparing their ratio of efforts to compensation to that of their coworkers. If the comparison results in equality, they will continue to work hard and perform well. If their compensation surpasses their expectations, they are more likely to increase their effort in their job, but if their compensation falls short of their contribution, they are more likely to decrease their work effort or seek alternative means of establishing fresh equity, such as absence during work hours, requesting a raise, or severance. Thus, employees should compare their input and output to those of other employees before comparing their input–output ratio to that of other employees. An equilibrium is considered to exist if their rate is the same as that of others. Employees state that it is unfair if this ratio is not equal, and when unfair working conditions exist, employees will attempt to improve them.

In his theory of distributive justice, Adams (1965) included the following equation: O1/I1=O2/I2. This equation states that a worker can determine whether they are being treated fairly by examining the connection between their output (O1) and their contribution input (I1). The outputs (O2) and input contributions (I2) of other reference individuals within or outside the organization are then compared to this ratio. Inequity between the proportions of the various workers that are found during comparison results in uneasy workers. In this situation, the employee seeks to alter the terms to balance the advantages. For instance, employees may try to ensure equality in the equation by lowering input contributions if they feel they receive little financial gain from the company by engaging in attitudes and actions that lower their productivity, such as labor, effort, and skills (Cropanzano et al., 2007). Because they diminish input contributions to the fulfillment of their jobs and reduce product quality, perceptions of unequal distribution might result in low employee performance. Because distributive justice focuses on outcomes, it triggers cognitive, emotional, and behavioral responses and evaluations by employees to outcomes (Cohen-Charash and Spector, 2001). Therefore, if any employee's assessment of organizational justice determines that the situation is unfair, there can be effects on their emotions (experiencing anger, unhappiness, or guilt), perceptions (distorting input and perceived outcomes), and behaviors (reducing input and turnover intention) (Cohen-Charash and Spector, 2001).

2.2. An overview of prior research and research gaps

This section attempts to review prior research on the effects of hard TM practices, soft TM practices, and organizational justice on turnover intention. Based on the revision, several research gaps are investigated.

2.2.1. Prior research on turnover intention

Turnover intention has been a recent topic of increasing interest to researchers and practitioners worldwide. There are distinct reasons why employees intend to quit their organizations. Numerous prior empirical investigations and theoretical research tried to pinpoint bivariate determinants and correlates of voluntary turnover. The extent and mechanism of impact of these factors on employees' turnover intention in both the private and public sector are considered and analyzed in specific contexts, which show both similarities and differences in different studies.

There are several studies that empirically demonstrate the significance of HR practices. Ronald et al. (2013) emphasized that lack of training, procedural justice, compensation, management, person–organization fit, advancement, motivation, and burnout as relevant factors. People intend to leave their organizations because of insufficient "tangibles (pay and benefits), and intangibles (supervisor relationship, work/life balance, work content, career path, trust in senior management)" (Oladago, 2014, p22). Therefore, they may seek better opportunities in other organizations to fulfill these aspects. Cheng and Waldenberger (2013) empirically showed the effects of training from employee expectations in training contents, training organizations, and outcomes in the context of China. Paul Sparrow (2014) introduced a retention-based system that had four crucial factors, including individualized career paths, flexible work arrangements, performance-based rewards, and compensation, coaching, and feedback.

The significance of individual factors is also mentioned in the literature. Burke (1988) found a link between work–family conflict and turnover intention. Good et al. (1988) also confirmed the direct impact of work–life balance on the intention to leave organizations. In research comparing turnover intention of 60 male and 60 female employees in the retail industry in Mumbai, India, Thakre Nilesh (2015) found that female employees have higher turnover intention than male ones. Later, three pivotal psychological factors that make an employee

commit deeply to their organization were introduced by Robert (2020): autonomy, competence, and relatedness.

Furthermore, some researchers empirically showed the crucial role of organizational factors. Peterson (2007) conducted research on the turnover intention of 500 managers in the United States and found that organizational factors, such as organizational goals, missions, commitment, and culture, play more crucial roles in turnover intention than personal characteristics, such as gender and skills. In addition, leadership styles have been empirically shown to be a key factor in turnover intention. According to Deconinck and Beth (2013), transformational leadership has a positive impact on employee's trust in managers, meaning that their working efficiency and results can increase, which leads to a decrease in their turnover intention. Koesmono (2017) showed that transactional leadership was significant because it negatively affected turnover intention via mediators of work motivation and work participation after researching turnover intention in 369 American employees. Jia et al., (2017) also suggested an indirect effect of transformational leadership on turnover intention with two mediators, namely organizational commitment and job satisfaction, by conducting research in the Finance Shared Service center of a company with 100 employees. Razzaq and Haroon (2019) investigated the relationship between leadership style and turnover intention in public employees in Lahore, Pakistan and suggested that transformational leadership negatively affected turnover intention, while transactional leadership positively effects turnover intention, and that emotion commitment is the mediator of these relationships. Recently, Abdalla et al. (2021) investigated the extent to which the COVID-19 pandemic influenced unpaid turnover in hostility departments and found that the positive impact of organizational distrust on employee turnover intention within the psychological contract plays no role in the intention to quit a job.

Beyond these studies, some theoretical frameworks have been proposed to explain turnover intention. Maertz and Griffeth (2004) identified eight motivational forces that trigger either attachment or withdrawal of employees in an organization, including affective, calculative, contractual, behavioral, alternative, normative, moral/ethical, and constituent forces (Table 2.3).

Table 2.3: Forces and motivational mechanism

Type of force	Motivational mechanism for attachment and withdrawal
Affective forces	Hedonistic approach–avoidance mechanism. Positive/negative emotional responses toward the organization cause psychological comfort or discomfort with membership. Emotional comfort motivates approach or staying; discomfort motivates avoidance or quitting.
Calculative forces	Rational calculation of the probability of attaining important values and goals in the future through continued membership. Favorable calculation of future value/goal attainment at the current organization motivates staying. Unfavorable calculation of future value/goal attainment motivates quitting.
Contractual forces	Perceived obligations to stay with the organization under the psychological contract or withdrawal response to organizational breaches of the psychological contract. These depend on a norm of reciprocity.
Behavioral forces	Desire to avoid the explicit and psychological costs of quitting brought on by investments in membership or by past behaviors that favor/oppose membership. Higher costs motivate staying, while lower costs or behaviors opposing membership motivate quitting.
Alternative forces	Magnitude and strength of self-efficacy beliefs about obtaining alternative jobs/roles: the level of valued outcomes that may be provided by alternatives and the certainty of obtaining these alternatives. Lower S-E → staying; higher S-E→ quitting.
Normative forces	Meeting the perceived expectations of salient others outside the organization that include or imply either staying or quitting, assuming some motivation to comply with these expectations.
Moral/ethical forces	Maintaining consistency between behavior and values regarding turnover. These values range from "quitting is bad/persistence is a virtue" to "changing jobs regularly is good/staying long causes stagnation".
Constituent forces	Motivation to remain or quit depends on the employee's attachment to individual coworkers or groups within the organization. Attachment to the constituent means attachment to the organization, unless the constituent shows signs of leaving.

Source: Maertz and Griffeth (2004)

During April 2021 and April 2022, Mc Kinsey and Company (2022) surveyed 13,382 employees in six countries, including Australia, Canada, India, Singapore, the UK, and the US. Figure 2.6 illustrates the most frequent reasons people gave for leaving their previous organizations, with the most common reason being a lack of career advancement (41%).

Figure 2.6: Most common reasons why people quit their prior jobs

Source: McKinsey and Company (2022)

Turnover and turnover intention have been frequently explored in the context of the private sector. It has been under-investigated in the public sector however; this is critical because the public sector always faces a higher turnover rate due to stricter institutions, rules, and regulations in the public sector. In addition, there have been quite a few empirical studies on the factors affecting the employee's intention to leave organizations in the context of public sector (Bui and Chang, 2018; Sadangharn, 2010; Thunnissen and Buttiens, 2017). The antecedents that promote turnover intention vary between the public and private sector due to the nature of public sector jobs. Sadangharn (2010) studied 218 participants in Thailand's national talent management program HiPPS in 52 public organizations and concluded that the national scheme had limited effects on talent retention. She also explained that HR practices do not have strong impacts in terms of retaining talented people, but that organizational engagement and job engagement do have close effects. After Sadangharn's findings, Chang and Bui (2018) conducted similar research on a local government talent management program in Da Nang, Vietnam, with 336 officials and suggested that hard HR practices negatively impact

turnover intention while soft HR practices have no impact on turnover intention. In terms of education, Li and Yao (2022) used a large sample size of teachers (39,508 participants) in China and explained that the three most crucial factors supporting their turnover intention were stress, workload, and burnout. Among these factors, burnout is the most pivotal reason that teachers quit their jobs. The three most significant factors for retaining teachers are trust, professional identification, and organizational commitment. Ma et al. (2022) had similar findings; they conducted a study in 56 hospitals with a total of 522 nurses and found that stress and burnout were the two most influential factors of turnover intention, and that perceived organizational support had a mediating role. In research that included 492 police participants in India, Anand et al. (2022) showed that organization-related and community-related stress heavily impacts police turnover intention via burnout as a mediator.

2.2.2. Prior research on effects of hard and soft talent management on turnover intention

There has been abundant research on the relationship between TM practices and turnover intention. Isfahani and Boustani (2014) examined the effects of six TM practices (job experience, coaching, mentoring, training, succession planning, and career management) on retention with a mediating factor of organizational trust. The study participants included 280 staff members at Isfahan University in Iran. The findings prove showed relationships between these TM practices and retention, which is also generally considered the reverse of turnover. Al-Kilani (2010) considered 250 staff members in the hotel sector in Jordan and showed that, among eight HR practices (job analysis, job description, opportunities for promotion, selection procedures, payment and salary enhancement, rewards, performance appraisal system, and job security), only job analysis had a significant direct effect on turnover intention. Mensah (2019) conducted research on the relationship between TM practices and employee outcomes in two sample sets in Ghana; one included 232 staff members in 15 parastatal departments and the other included 145 staff members in 23 commercial banks. Her research applied 10 of the 16 TM practices introduced by CIPD (2006), which was also adopted in Sonnenberg et al. (2014) and found out that these practices both directly and indirectly impact employee outcomes via psychological contract fulfillment. Another empirical research by Boonbumroongsuk and Rungruang (2021) with used a sample of 552 people divided into two groups, talented and typical, 40 organizations in industrial sector in Bangkok. Their results support the negative effects of perceived TM practices on turnover intention. This study applies the 18 TM practices

introduced by CIPD (2006) and adopted in (Sonnenberg et al., 2014). The findings also highlight the advancement of TM literature regarding geography, particularly in developing nations.

Inspired by amount of research on the effects of individual TM practices on turnover intention, the collective impacts of hard and soft TM practices are subject to little empirical research. Moreover, research results about these relationships seem to be inconsistent. At the national level, Sadangharn's (2010) examination of talent retention in a TM program at national level of the Thai government showed that neither hard nor soft TM practices had any relation to talent retention. At the provincial level, Chang and Bui (2018) studied a TM program in Danang city, Vietnam, and found that hard HM practices have negative relations with turnover intention, but soft HM practices have no relation with turnover intention. At the organizational level, the findings of Macfarlane et al. (2012) examined the transfer from soft TM practices to hard TM practices in the attempt by the UK's National Health Service to retain talented leaders. Another empirical study at the organizational level was conducted by Ogbeibu et al. (2022), who collected data from 49 manufacturing companies in Nigeria and concluded that hard TM has a positive relationship on turnover intention while soft TM has negative relationship on it. In short, due to the inconsistent findings of previous research about the relationship between hard and soft TM practices and turnover intention, it is crucial to strengthen empirical research in different contexts to academically confirm the results.

2.2.3 Prior research on effects of organizational justice on turnover intention in the public sector and its mediating roles between the relationship of talent management and turnover intention

In the literature, many factors contributing to turnover intention have been broadly researched, such as organizational commitment, leadership, talent management practices, organization-personal fit, job satisfaction, occupation, gender, and work–life balance. However, there are only a few studies that show the significance of perceived organizational justice in predicting employee turnover intention (Colquitt, 2001; Narayanan et al., 2019). Among them, distributive justice and procedural justice are the dominant subjects of research (Colquitt, 2001). Nadiri and Tanova (2010) conducted a study with 248 hotel managers and employees in North Cyprus. Their findings demonstrated that distributive justice and fair personal outcomes had a more crucial role than procedural justice on turnover intention. The role of organizational

characteristics, including trusting managers, information sharing, distributive justice, and job security were found to effect turnover intention via emotional exhaustion in Arshadi and Shahbazi (2013), which sampled 309 employees in an industrial company in Iran. Luo et al., (2013) conducted a study in the hotel industry in China with 585 participants and found that justice perception (which includes the three components of distributive, interpersonal, and procedural) directly and indirectly impacts turnover intention via the satisfaction of justice. The negative relationship between perceived justice and turnover intention is also supported in the study of Çelik et al. (2016) in Turkey which had 904 private sector employees as its sample. Zagladi et al. (2015) conducted a study in Indonesia using 100 lectures and found that organizational justice had an impact on turnover intention, with job satisfaction acting as the mediator. A study by Bayarçelik and Findikli (2016) also supported job satisfaction as the mediator between perceived procedural and distributive organizational justice and intention to quit for 294 bank employees in Istanbul. Yang et al., (2021) conducted a study with 718 public hospital doctors and staff members in China to investigate whether distributive justice had an impact on turnover intention. Their findings supported both direct and indirect effects of this element of justice on the intention to employees to quit in a public hospital with regional role as the mediator.

Recent literature has found many mediators of the relationships between TM practices and turnover intention, including organizational commitment, job satisfaction, organizational trust, psychological contract, and leadership (Isfahani and Boustani, 2014; Lim et al., 2017; Mensah, 2019; Ogbeibu et al., 2022; Sonnenberg et al., 2014). However, organizational justice as a mediator between TM practices and retention has been under-researched. Specifically, the mediating role of organization justice in the TM field has been hypothesized relatively recently (Gelens et al., 2014; Narayanan et al., 2019; Stephen Swailes, 2013), and the limited number of empirical studies emphasized the two most common components, distributive and procedural justice. Gelens et al. (2014) examined the influences of distributive justice and procedural justice on TM based on the equity theory. In their study, perceived distributive justice was found to be a complete mediator of the link between a worker's identity and job satisfaction, while procedural justice views influenced the association between perceived distributive justice and work performance. Boonbumroongsuk and Rungruang (2021) empirically showed the mediating role of organization in the relationship between TM practices and turnover intention.

However, their research utilizes organization justice as a whole mediator instead of analyzing the roles of its four components individually. Farndale et al. (2022) empirically found that, among organization justice components, only perceived distributive justice is a moderator of the relationship between talent identification and turnover intention. Bujold et al. (2022) showed that distributive justice mediates the impact of algorithmic surveillance towards turnover intention, and procedural justice mediates the impact of management transparency regarding algorithmic performance with a sample size of 110 truck drivers in North America.

In short, organizational justice perceptions have been proven to be an important independent variable that contributes to the intention to leave jobs. It could also mediate the relationship between TM practices and the turnover intention of employees. However, previous investigation is heavily weighted toward distributive and procedural justice. Therefore, it is crucial to strengthen empirical research on the role of all four organization justice components and enrich related literature in this field.

2.2.4. Research gaps

This literature review has shown that the relationships between TM practices and turnover intention in the public sector and the roles of organizational justice have become an increasingly popular topic of theoretical and empirical research, and that many significant findings have been generated for academic researchers, practitioners, and political bodies. However, there are a few research gaps that this study attempts to address.

First, in terms of research context, there are limited empirical studies on TM practices, organizational justice, and turnover intention in the public sector, particularly in developing nations in Asia. Most related studies are conducted in the context of the private sector in different developed countries. The study, therefore, offers more empirical evidence on the impacts of TM practices and organizational justices on turnover intention in the context of Vietnam, a nation in the region that has only recently begun to develop.

Second, regarding samples, there is a lack of empirical research at either the national or the provincial level on turnover intention in the public sector. This study collects samples at both levels to thoroughly examine the extent to which TM practices and organizational justice impact

turnover intention for talented employees. The results will be used to recommend well-tailored policies that consider geographical differences.

Third, most previous research was conducted using either qualitative or quantitative methods. Few studies on TM have implemented both methods to supplement each other and increase insights on their findings. The study, therefore, employs qualitative research after quantitative steps to support and provide better understandings and confirmations, and show the reasons behind the results.

Finally, no research framework has equally estimated all four elements of organizational justice (distributive, procedural, interpersonal, and informational justice) in practice both as independent variables that affect quitting intention and as separate mediators of the relationship between TM and employee turnover intention.

2.3. Research scales and hypothesis

2.3.1. Research scales

This study's questionnaires included 16 items regarding hard and soft TM practices that were applied by Bui and Chang (2008), five items of perceived distributive justice and six items of perceived procedural justice from work by Niehoff and Hoffman (1993), four items of perceived interpersonal justice from Leventhal (1976), a total of five items about perceived informational justice, with two drawn from Bies and Moag (1986) and three from Shapiro et al. (1994), and a total of five items regarding turnover intention; three were from Mobley (1982) and the last two were developed by the author. The measure items are shown in Table 2.4.

Table 2.4. Measure items and origins

No.	Variables	Measure Items	Origin
I-TM practices			
1	Soft TM practices	1. Coaching that supports development 2. The opportunity to earn scholarships for higher education 3. Opportunities to complete training, courses, and workshops 4. Job rotation 5. Support in planning future development 6. Opportunities to present opinions on matters	Sadangharn, 2010; Bui and Chang, 2018

		7. Challenging assignments 8. Work that gives the opportunity for self-expression	
2	Hard TM practices	1. Critical selection of new employee 2. Advantages in selection to be an official civil servant 3. Flexible job assignment 4. Payment 5. Performance appraisal 6. An employment contract that requires a commitment to work for a public organization 7. An attractive benefit package that includes items such as housing and financial support 8. The possibility of occupying a higher position within the organization through succession planning	
II-Perceived organizational justice (OJ)			
1	*Perceived Distributive justice*	1. My work schedule is fair 2. I think that my level of pay is fair 3. I consider my workload to be quite fair 4. Overall, the rewards I receive here are quite fair 5. I feel that my job responsibilities are fair.	Niehoff and Hoffman, 1993
2	*Perceived Procedural justice*	1. Job decisions are made by general manager in an unbiased manner 2. My general manager makes sure that all employee concerns are heard before job decisions are made. 3. To make job decisions, my general manager collects accurate and complete information 4. My general manager clarifies decisions and provides additional information when requested by employees 5. All job decisions are applied consistently across all affected employees. 6. Employees are allowed to challenge or appeal job decisions made by the general manager	Niehoff and Hoffman, 1993
3	*Perceived interpersonal justice*	1. The general manager treats me with kindness and consideration 2. The general manager treats me with respect and dignity 3. The general manager is sensitive to my personal needs 4. The general manager deals with me in a truthful manner	Leventhal, 1976
4	*Perceived informational justice*	1. My general manager candid in their communication with me 2. They explained the procedures thoroughly	Bies and Moag (1986)
		3. Their explanations regarding the procedures are reasonable 4. They communicated details in a timely manner.	Shapiro et al. (1994)

		5. They seem to tailor their communications to individuals' specific needs	
III-Turnover intention			
		1. I am always searching for an opportunity to work anywhere else 2. I thought I would leave this organization 3. I plan to work at this organization for a certain amount of time and will leave after that	Mobley, 1982
		4. I always prefer working in the private sector (local firms or multinational companies) 5. I consider paying fines if I break my contract with the government.	Author (2022) based on preliminary interviews

Source: Author (2022)

2.3.2. Hypothesis

2.3.2.1 Social exchange theory, hard and soft talent management, turnover intention

This study employs social exchange theory (SET) to build the conceptual framework for the impacts of TM practices on turnover intention of talented employees in the public sector. As explained above, SET suggests that the exchange of efforts put into organizations is equal to what employees get from their organizations. Therefore, the more they receive from their organizations, the less likely it is that they will consider quitting their jobs. On the other hand, when employees perceive insufficient organizational support and benefits, they will put less efforts into their organization and actively search for more promising jobs in other sectors.

Although there has been abundant research on the relationship between individual TM practices and turnover intention, the separate impacts of hard and soft TM practices collectively have not been empirically studied with frequency (Bui and Chang, 2018). Moreover, research results about these relationships seem to be inconsistent. Therefore, it is crucial to strengthen empirical research to academically confirm the results in different contexts.

This study, based on the roots of SET, proposes the following hypotheses:

Hypothesis 1: Hard TM practices negatively impact turnover intention

Hypothesis 2: Soft TM practices negatively impact turnover intention

2.3.2.2. Equity theory, Organizational justice, and turnover intention

To conceptualize the theoretical framework, this study adopts equity theory to examine the impact of organizational justice on turnover intention. According to Adams (1965), people will always desire to be treated in an equal way. Several studies have shown the significance of perceived organizational justice in predicting employee turnover intention (Colquitt et al., 2001; Narayanann, 2019; Saad, 2020). The more perceived organizational justice talented employees receive, the more job satisfaction and organizational commitment they experience. In that way, they produce positive emotions towards their work and their intention to leave their organizations is be reduced. Based on equity theory and the establishment of relationships between organizational justice and turnover intention in earlier research, the following hypotheses are proposed:

Hypothesis 3: Distributive justice negatively impacts turnover intention

Hypothesis 4: Procedural justice negatively impacts turnover intention

Hypothesis 5: Interpersonal justice negatively impacts turnover intention

Hypothesis 6: Informational justice negatively impacts turnover intention

2.3.2.3. Organizational justice as the mediator between talent management and turnover intention

Organizational justice has been assumed to interfere with the relationship between TM and employee turnover intention (Narayanann, 2019) because TM practices have been shown to directly affect turnover intention in many contexts, while TM outcomes generate different degrees of fairness perceptions, while organizational justice directly impacts turnover intention. In other words, good TM practices help increase organizational justice perceptions, and in this way, may indirectly reduce turnover intention (Narayanann, 2019).

The mediating role of organization justice in the TM field has been examined recently (Gelens et. al, 2013; Swailes, 2013, Narayanann, 2019). However, the majority of empirical research emphasizes only the two most crucial components of organizational justice, distributive and procedural justice. Therefore, it is crucial to strengthen empirical research on the role of all four organization justice components individually in the relationship between TM practices and retention and determine which components are the most influential mediators. Given the

findings supporting organization justice as a mediator above, the study offers the following hypothesis:

Hypothesis 7: Organizational justice mediates the relationship between TM and turnover intention

There are 8 sub-hypotheses in the section to test individual components.

Hypothesis 7a: Distributive justice mediates the relationship between soft TM and turnover intention

Hypothesis 7b: Distributive justice mediates the relationship between hard TM and turnover intention

Hypothesis 7c: Interpersonal justice mediates the relationship between soft TM and turnover intention

Hypothesis 7d: Interpersonal justice mediates the relationship between hard TM and turnover intention

Hypothesis 7e: Procedural justice mediates the relationship between soft TM and turnover intention

Hypothesis 7f: Procedural justice mediates the relationship between hard TM and turnover intention

Hypothesis 7g: Informational justice mediates the relationship between soft TM and turnover intention

Hypothesis 7h: Informational justice mediates the relationship between hard TM and turnover intention

2.3.2.4. Regional differences in turnover intention

A country's richness and diversity in its constituent sections may be overlooked when analyzing its national statistics. Even countries that appear to have a uniform culture might vary regionally in their attitudes toward various issues (Le et al., 2016). Given the differences between provinces and regions, it makes sense that various talent retention initiatives might be more successful if they were tailored to the requirements of each region.

Vietnam has three regions, the North, the Middle and the South. Socio-economic, cultural, institutional differences are claimed to heavily shape the way in which people think and behave in each region of Vietnam, and many studies support these regional differences. In the garment and clothing industry, Thomsen completed three continuous research projects in 2007, 2009, and 2011 to determine which factors influence how private businesses behave and access capital and land in the North and the South of Vietnam (Thomsen, 2007, 2009, 2011), such as ethnicity and business origin. One of her main arguments is that the geographic differences in institutions between the North and the South heavily influence the way that private companies shape and operate their businesses. In particular, the North tends to have more connections and network with the state because all central government organizations and departments are in the capital, Ha Noi city. Therefore, corporations that are in the North, as well as companies from the North

that are operating in the South, take advantage of these connections to conduct business and access land and capital loans. Another study by Le et al., (2016) showed that the regional differences in the North, the South and the Middle regions of Vietnam influence how entrepreneurs think, behave, and motivate their organizations. In line with these statements in support of regional differences, this study proposes the following hypotheses:

Hypothesis 8: There are differences in the effects of TM and organizational justice on turnover intention among regions

Hypothesis 9: There are differences in the degree of turnover intention among regions

3. METHODOLOGY

This chapter presents a synthesis of quantitative and qualitative research methods, which is the most effective study design to answer the posed hypotheses. Specifically, this chapter describes the research process, including preliminary qualitative research, pilot quantitative research, official quantitative research, and follow-up qualitative research, along with research methods. The process of constructing scales is presented.

Preliminary qualitative research was carried out to verify the suitability of the model and reliability of the scale. Once this was complete, the official survey questionnaire was formulated. Compared to the original questionnaire, the official survey questionnaire was adjusted for semantics, and two more questions were added that belonged to the intention to quit scale. Afterwards, a pilot quantitative research was conducted to ensure the reliability of the scales. Next, in official quantitative research, five-point Likert-scale-based questionnaires were provided in three cities to gather empirical data and test the hypotheses. After examining the results of the quantitative research, the qualitative method was employed to confirm findings and provide more insight into them. In the next chapters, quantitative and qualitative outcomes are described in detail.

3.1. An overview of the research design and process

3.1.1. Mixed method research design

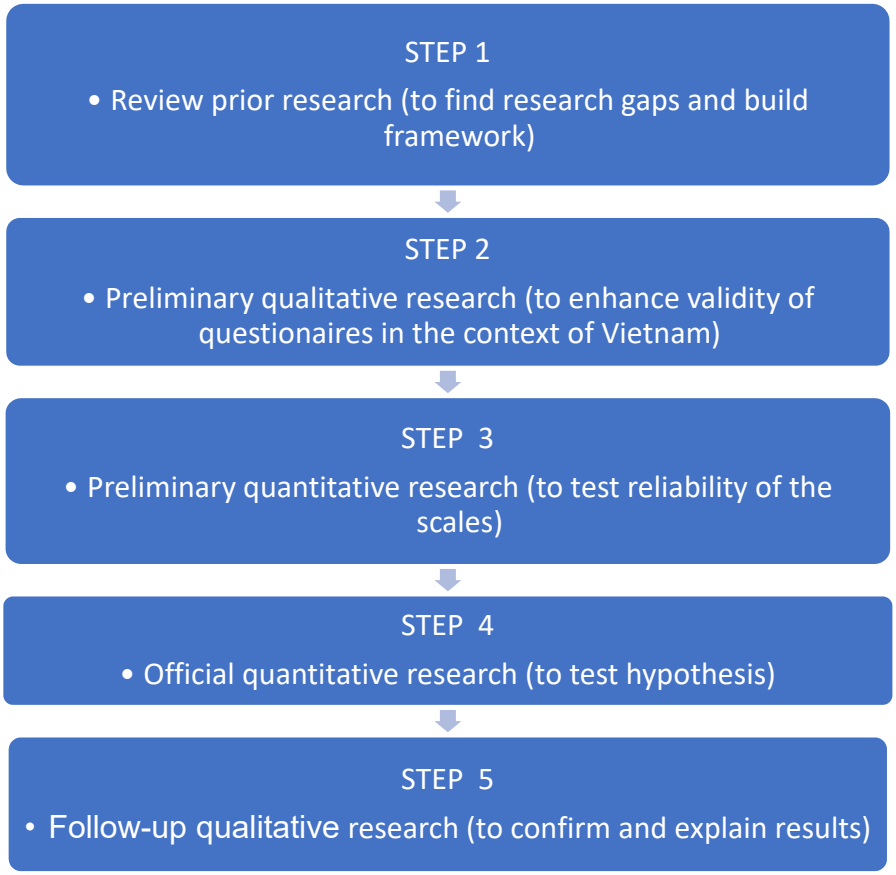
Each qualitative or quantitative approach to research has different strengths and weaknesses (Nguyen Van Thang, 2019). While the strength of quantitative research is that it can be conducted on a large sample, improving the confidence in the quantification of factor relationships, its weakness is that it has an elevated level of abstraction, making it difficult to connect with in a specific context. It is difficult to provide deep explanations of the meanings behind factors or events. Qualitative research, on the other hand, can help researchers understand meanings or occurrences in each specific context, but the degree of generalization is limited. Therefore, combining two approaches in one study helps to improve the research results. In fact, mixed studies which combine quantitative and qualitative methods have been increasing in popularity (Creswell and Clark, 2007). In this study, the qualitative and

quantitative methods are combined to obtain a profound understanding of the relationships among TM practices, organizational justice, and talent turnover intention. A sequential explanatory design, which is popular in social science research, was applied when quantitative data collection and analysis were conducted, followed-up by qualitative data collection and analysis. Afterwards, the whole analysis was interpreted and discussed (Creswell and Clark, 2007). For this study, comparative research was conducted to compare turnover intention across regions in Vietnam as well as the extent to which TM practices and organizational justice impacts turnover intentions, both at the national level as a whole and in each region.

3.1.2. Research process

The research process of this thesis combines quantitative and qualitative research. The above procedure was developed by Creswell and Clark (2007). Figure 3.1 below shows the research process in this study.

Figure 3.1: Research process



(Source: Author, 2022)

The research is carried out following five main steps. First, the author reviews prior studies that examined the relationship among talent management, organizational justice, and turnover intention with a focus on the public sector context to investigate research gaps, create research questions, form theoretical framework, hypotheses, and measurable scales.

Second, preliminary qualitative research is conducted by interviewing seven HR experts at national and local levels. In this step, research scales were translated into Vietnamese, then sent to participants before conducting 30-minute interviews designed to consult on the appropriate bureaucratic translation style and the validity of the theoretical content in practice. According to Sadangharn (2010), expert consultation is an effective method for establishing questionnaire validity. The chosen experts in this research included two officials who are HR experts working for the central government, one of whom is directly in charge of the national talent management project (Project 165), three HR experts working for local governments, one each from Hai

Phong city, Da Nang city, and Ho Chi Minh city, and two professors who majored in social sciences at universities in Ha Noi, one at the National Economics University and one at the Vietnam Academy of Social Sciences. The experts were selected to provide feedback on various aspects, from the central to local governments, from academics to practitioners, thereby ensuring the scales taken from the literature review fit the context of Vietnam's public sector, considering regional differences. Based on these interviews, participants mostly agreed with the first draft of questionnaires, but did offer some amendments. More details related to participants' demographic characteristics were added, such as organizations before and after overseas education and working regions before and after overseas education. A few sentences were paraphrased to avoid confusion or misunderstandings in Vietnamese; for example, apart from national and provincial scholarships, self-funding could include non-governmental scholarships that an individual applied for themselves or self-funded education. Finally, two more items were added to the turnover intention scale: "I always prefer working in the private sector (local firms or multinational companies)" and "I consider paying fines if I break my contract with the government." These were added because of the characteristics of talent management projects funded by the central and local governments in Vietnam. After two weeks of revising, all experts agreed on the chosen items in the scales. The official questionnaires were then fixed and ready to dispatch.

In the third step, preliminary quantitative research was conducted with a small sample of 30 participants, comprising ten employees that were non-randomly selected from each of the cities in the research to ensure that they represented diverse types of participants. The purpose of the pilot study is to investigate measurement instrument reliability before officially dispatching the questionnaire on a large scale.

In the fourth step, official quantitative research was carried out in the North, the Middle and the South regions of Vietnam. The finalized questionnaires included 55 items. They were sent both online and offline 660 participants (220 employees in each city) from July 2022 to April 2023. The data were collected using snowball techniques. In the North, the author handled questionnaires both in paper individually and online; because she works in the Organizational Board of Party Committee of Hai Phong city in the North, she has many contacts that can be used to facilitate communication. In Middle and South regions, author relied mostly on the HR

managers of Da Nang city and Ho Chi Minh city who are responsible for talent management schemes in the local governments as the communicators. This is done because, when the communicator has all participant contacts, the participants can be effectively contacted and it is easy to ask them to complete the forms. During the two-month period, 597 questionnaires were collected, 135 on paper, providing a high response rate of 90.45%. The fourth step is discussed in detail below.

In the final step, after analyzing data collected from the quantitative research, follow-up qualitative research was conducted using in-depth interviews to reaffirm relationships among variables, specifically to explain and support the findings about the relationship between the variables (hard TM practices, soft TM practices, organizational justice, and turnover intention). This will help explain sensitive and difficult-to-measure issues, such as culture, institution, and geography, strengthening the comprehensiveness, reliability, and depth of the conclusions drawn from the study. The chosen sample size in this step was 18 people, comprising six official in each city, three officials who continued to work in the public sector, and three who quit their positions.

3.2. Quantitative research

3.2.1. Sampling and data collection

Sampling size is generally selected based on sample-to-item ratio, with a minimum ratio of 1:5 (Gorsuch, 1983). This study includes 42 items, so 210 respondents could be considered the minimum sample size. In addition, according to Krejcie and Morgan (1970), the “magic” number of 384 respondents is adequate for social science, and this measure has been applied to many studies. Therefore, the author considered the 597 questionnaires to represent an acceptable sample size for this study.

The author used snowball sampling, which is a convenient method of collecting samples by allowing researchers to collect some respondents based on the use of social networks (Matthew and Douglas, 2004). The overall number of people in the public sector in Vietnam who have obtained doctorate or master’s degrees is enormous; in 2021, this number was 260,000 out of the 2.8 million civil servants in the public sector (Ministry of Home Affairs, 2021). Therefore, the snowball sampling method ensures that the research sample is representative of the

population when resources and time are limited. Another advantage of snowball techniques is the ability to target hard-to-reach populations (Matthew and Douglas, 2004). In this study, it was challenging to access employees who had already quit their positions in the public sector because they may not be willing to take part in surveys or they may physically work and live outside Vietnam. Therefore, they are easier to contact when recommended by other respondents. In addition, the research data collection depicts convenience sampling with a cross-sectional survey study, which has been deployed to save time and effort while remaining effective (Lim et al., 2017).

Data collection was divided into two periods. During July and August 2022, 486 responses were collected among the 600 questionnaires that were dispatched via both online and offline methods in the three cities in Vietnam, representing a high response rate of 81%. Among the 486 responses, 135 responses were paper and 351 were digital. During March and April 2023, online questionnaires were continued to be sent out, and a total response rate of 697 was reached, representing a high response rate of 90.45%. All collected questionnaires contain adequate and valid information with full answers to every question, so no responses were eliminated from the data. The questionnaire includes two parts. The first is general information about respondents as well as their overseas education programs. The second part is the 5-point Likert-scale questionnaires, where 1 = strongly disagree and 5 = strongly agree, examining the perceived satisfaction level of talented officials towards TM practices, organizational justice, and their own turnover intention. Data in each city were collected separately. Demographic characteristics were classified according to gender, age, working experience, level of education, sources of scholarships, location of education, majors of education, work position before education, organizations before education, regions before education, current job positions, current organizations, and current working regions (Table 3.1).

Table 3.1: Descriptions of quantitative samples

No.	Characteristics	Groups	Number	Percentage (%)
1	Gender	Women	275	46.1
		Men	322	53.9
		Below 30	107	17.9

2	Age	Above 40	162	27.1
		From 31 to 40	328	54.9
3	Work experience	5–10 years	157	26.3
		Less than 5 years	97	16.2
		More than 10 years	343	57.5
4	Positions	Officials	442	74.0
		Department manager	23	3.9
		Unit manager	132	22.1
5	Organizations	Party committee	76	12.7
		State companies	29	4.9
		Public non-business unit	233	39.0
		Governmental departments	207	34.7
		Others	52	8.7
6	Level of education	Master's	435	72.9
		Doctorate	162	27.1
7	Regions	North	200	33.5
		South	196	32.8
		Middle	201	33.7

Source: Author (2023)

Table 3.1 shows that the survey sample was evenly spread in all three regions due to the intentional division through the snowball technique. There were 200 participants located in the North, accounting for 33.5% of the sample; the Central region was 201, accounting for 33.7%; and the South was 196, accounting for 32.8%. Most survey respondents were men (53.9%), which is consistent with the fact that most graduate school students are men. Most survey respondents were between the ages of 31 and 40 years old, accounting for 54.9% of the sample; only 17.9% of the participants were under 30 years old, and 27.1% of the participants were over

40 years old. In terms of work experience, most respondents had more than 10 years working in the public sector (accounting, 57.5%). Regarding employment position, 74.0% of survey respondents were working as regular officials when the survey was conducted, 22.1% were departmental managers, and 3.9% were unit managers. In terms of workplace, most survey respondents worked in the public service sector (39.0%) or the government sector (34.7%). Of these, 435 people (72.9%) of the respondents studied for a master's degree, and 27.1% pursued a doctorate.

3.2.2. Data instruments and analysis

3.2.2.1. Measurement scale development

The following steps were used to construct the scales. First, the model's measure variables were selected based on the theoretical concept of variables and published studies. Second, the scales were translated from English to Vietnamese with a careful consideration of the language used. Third, small-size qualitative research was performed to preliminarily verify the suitability of the theoretical model and adjust the scales to the context of the public sector in Vietnam. Fourth, preliminary quantitative research was carried out to verify the reliability of the scales and complete them so they would be ready for official quantitative research.

Reliability testing of the scales on the test samples (30 observations) gave good results, with Cronbach's alpha ranging from 0.735 to 0.915 (Table 3.2). However, two items had corrected Item-Total Correlation of less than 0.3 and were therefore excluded from the scale (OI4 0.105 and TMS2 -0.175). After eliminating these two items, Cronbach's alpha shows good results, with 0.886 and 0.888, respectively.

Table 3.2: Item-Total Statistics of preliminary quantitative research

Measure Items Cronbach's Alpha	Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Soft TM practices: 0.796	**TMS**				
1. Coaching that supports development	tms1	23.77	16.599	.543	.767
2. The opportunity to earn scholarships for higher education	tms2	23.73	21.789	-.175*	.866*
3. The opportunity to complete training, courses	tms3	23.53	19.016	.259	.804
4. Job rotation	tms4	24.00	14.483	.682	.741
5. Support for planning future development	tms5	24.20	13.476	.850	.706

6. Opportunities to present opinions	tms6	23.67	15.678	.737	.739
7. Challenging assignments	tms7	23.67	16.782	.638	.757
8. Opportunity for self-expression	tms8	23.83	15.385	.637	.750
Hard TM practices: 0.915	**TMH**				
1. Critical selection of new employee	tmh1	25.03	20.378	.794	.897
2. Advantages in selection	tmh2	24.83	22.075	.757	.902
3. Flexible job assignment	tmh3	25.23	20.530	.807	.896
4. Payment	tmh4	24.73	22.271	.609	.913
5. Performance appraisal	tmh5	25.03	22.171	.583	.916
6. Employment contract requires commitment	tmh6	24.93	20.685	.753	.901
7. An attractive benefit package	tmh7	24.87	21.430	.794	.898
8. The possibility to occupy a higher position	tmh8	24.83	21.799	.693	.906
Perceived Distributive justice: 0.868	**OD**				
1. My work schedule is fair	od1	11.30	12.010	.488	.884
2. I think that my level of pay is fair	od2	12.23	10.185	.648	.852
3. I consider my workload to be quite fair	od3	11.63	9.551	.748	.826
4. The rewards I receive here are quite fair	od4	11.60	9.421	.789	.815
5. I feel that my job responsibilities are fair.	od5	11.50	10.052	.803	.815
Perceived Procedural justice: 0.886					
1. Be able to express your views and feelings during those procedures	op1	24.20	12.993	.537	.888
2. Have influence over the (outcome) arrived at by those procedures?	op2	24.13	12.602	.860	.851
3. Those procedures been applied consistently	op3	24.20	12.648	.754	.860
4. Those procedures been free of bias.	op4	24.27	13.306	.734	.865
5. Those procedures been based on accurate information	op5	24.30	12.355	.559	.890
6. Able to appeal the (outcome) arrived at by those procedures?	op6	24.23	12.530	.811	.854
7. Those procedures upheld ethical and moral standards	op7	24.47	12.533	.635	.875
Perceived interpersonal justice: 0.735	**OI**				
1. The general manager treats me with kindness and consideration	oi1	10.20	3.062	.688	.592
2. The general manager treats me with respect and dignity	oi2	10.27	2.685	.675	.580
3. The general manager is sensitive to my personal needs	oi3	10.20	2.648	.759	.529
4. The general manager deals with me in a truthful manner	oi4	10.53	4.257	.105*	.888*
Perceived informational justice: 0.893	**OIf**				
1. My general manger is candid in their communication with me	oif1	14.53	3.499	.766	.863
2. They explained the procedures thoroughly.	oif2	14.50	3.293	.788	.858
3. Their explanations regarding the procedures reasonable	oif3	14.53	3.775	.727	.873
4. They communicated details in a timely manner.	oif4	14.47	3.913	.679	.883
5. They seem to tailor their communications to individuals' specific needs	oif5	14.50	3.362	.749	.868

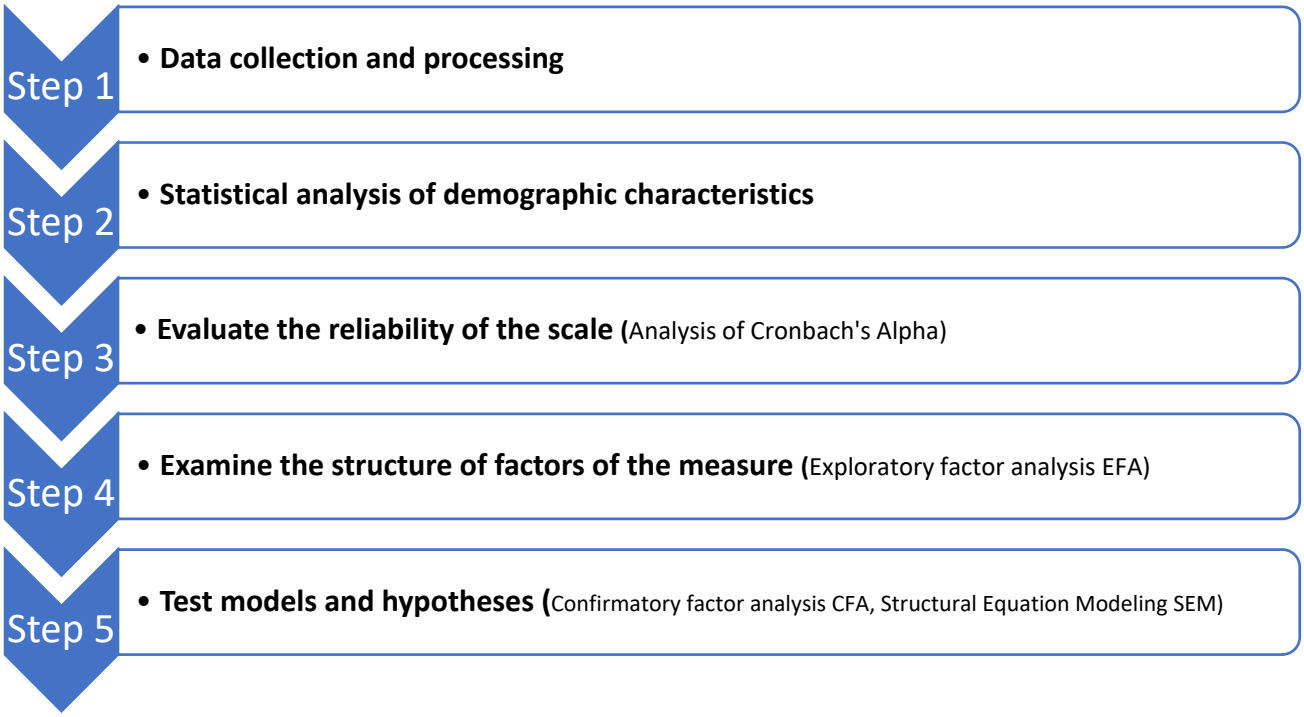
Turnover intention: 0.852	**TI**				
1. I am always searching for an opportunity to work anywhere else	ti1	13.40	8.938	.700	.813
2. I thought I would leave this organization	ti2	13.57	8.323	.809	.783
3. I plan to work at this organization for a certain period of time and will leave after that	ti3	13.57	8.461	.735	.802
4. I always prefer working in the private sector (local firms or multinational companies)	ti4	13.63	9.068	.654	.824
5. I consider paying fines if I break my contract with the government.	ti5	13.57	10.047	.443	.877

Source: Author, 2023

3.2.2.2. Data instruments and analysis

Full data analysis was performed using IBM SPSS 22 and SPSS AMOS 20 software with a 5-step sequence as follows: (1) data collection and processing, (2) statistical analysis, (3) evaluation of validity and reliability of the scale, (4) exploratory factor analysis, (5) testing of models and hypotheses. The data analysis process is shown in Figure 3.2.

Figure 3.2: Data analysis process



(Source: Author, 2022)

After they were collected, data were analyzed by two programs: SPSS 22 to examine validity and model fits and SPSS AMOS 20 to perform structural equation modeling (SEM), which shows relationships among variables in the model.

After the analysis of Cronbach's alpha, EFA was used to examine the structure of the factors and adjust the original measure scale if the observed variables were not correlated with the extracted factors. A crucial part of this step is to check correlations between the observed variables and latent factors, which are represented by factor loadings. The higher the factor loading coefficients, the stronger the relationship. Afterwards, CFA is used to examine the model fit before presenting the research results in SEM. The SEM results could be interpretated via standardized coefficients (Hoyle, 1995). These coefficients are used to assess the impacts of exogenous variables on endogenous variables and the impact of endogenous variables on endogenous variables; the larger the results, the stronger the impacts. All proposed causal relationships in social science studies have a 95% confidence level (p=0.05). On the model, arrows represent the causal connections between the variables. The arrow's direction indicates the direction in which one variable will have an impact on another (Hoyle, 1995). As stated earlier regarding the research model (Chapter 1) and hypotheses (Chapter 2), every relationship in the research model has a corresponding hypothesis. Techniques of data analysis are explained in detail in Appendix 1.

3.3. Qualitative research

3.3.1. Sampling and data collection

The chosen sample size in this step is 18 people in total. In each region, the author chose six officials with whom to conduct in-depth interviews, including three officials who continue to work in the public sector and three who resigned their positions and currently work either overseas or in the private sector in Vietnam (Table 3.2).

Table 3.3: Descriptions of qualitative samples

(*Source: Author, 2023)*

No.	City, age, gender	Level of education, country	Current working status, region	Interview methods, lengths

1	Hai Phong, 48 years old, man	Doctor Russia	Head-teacher, a vocational school	Face-to-face, 39 mins
2	Hai Phong, 42 years old, man	Master America	Vice manager, a local government department	Face-to-face, 54 mins
3	Hai Phong, 33 years old, man	Master Australia	Official, a local party committee unit	Face-to-face, 48 mins
4	Hai Phong, 29 years old, woman	Master England	Resigned, self-employed in Ha Noi city	Face-to-face, 34 mins
5	Hai Phong, 37 years old, woman	Master Japan	Resigned, works in a multinational company in technology in Hai Phong	Online, 32 mins
6	Hai Phong, 39 years old, man	Doctor Japan	Resigned, works in a multinational company in Ho Chi Minh city	Face-to-face, 35 mins
7	Da Nang, 36 years old, woman	Master England	Manager, a unit of a local government department	Online, 34 mins
8	Da Nang, 43 years old, man	Master Australia	Vice-manager, a unit of a local government department	Online, 45 mins
9	Da Nang, 29 years old, man	Master France	Official, a local government unit	Online, 29 mins
10	Da Nang, 37 years old, woman	Master England	Resigned, married a British citizen and now works in England	Online, 37 mins
11	Da Nang, 28 years old, woman	Master Japan	Resigned, now completing PhD program in Australia	Online, 85 mins
12	Da Nang, 35 years old, woman	Master England	Resigned, now conducting businesses in Da Nang	Online, 32 mins
13	Ho Chi Minh, 47 years old, man	Doctor England	Manager, a unit of a local government department	Online, 34 mins
14	Ho Chi Minh, 28 years old, woman	Master Japan	Official, a local government unit	Online, 41 mins
15	Ho Chi Minh, 33 years old, woman	Master Vietnam	Official, a local government unit	Online, 33 mins
16	Ho Chi Minh, 35 years old, man	Master Singapore	Resigned, works in a foreign company in HCM city	Online, 35 mins

17	Ho Chi Minh, 38 years old, man	Master Japan	Resigned, completing a PhD program in Japan	Online, 38 mins
18	Ho Chi Minh, 29 years old, woman	Master Australia	Resigned, works in a foreign company in HCM city	Online, 39 mins

3.3.2. Data instruments and analysis

The instrument of the qualitative part of this research is a semi-structured interview used to follow up on research quantitative results. This semi-structured interview was conducted with officials in each region. This method supplies a thorough perspective on talent retention in the public sector. The group helps explain the issues based on their own perspectives and contexts.

The qualitative data in this study are primary data collected using the in-depth interview method. Each interview lasted between 28 and 85 minutes and was conducted through a combination of direct observation and either a face-to-face interview or an online interview using Microsoft Zoom. The time and place of the face-to-face interview was chosen by the interviewees, either at work or another location that ensured the comfort, openness, and privacy of the interview. The interview content was recorded with a phone, then stored in a computer. Based on the data obtained from removing the interview tape, the author arranged the collected information using a nodes tree to form a data profile using Excel, then encoded the data in each cell corresponding to each interview object, using phrases or keywords to express the implications of the whole piece of information in each cell. Qualitative research results were analyzed to examine the research model, explaining the relationships among variables in the model as well as complementing the interpretation of quantitative results.

This study used thematic analysis to analyze the collected qualitative data. According to Braun and Clarke (2006), thematic analysis is a method for identifying and analyzing meaningful patterns in a dataset. The study applies six stages of reflexive thematic analysis: getting acquainted with the data, creating codes, developing themes, evaluating prospective themes, identifying and labelling themes, and generating the report (Braun and Clarke, 2006).

4. FINDINGS AND DISCUSSIONS

This chapter introduces the context of the public sector in Vietnam and presents the quantitative and qualitative results. Before conducting the analysis, the quantitative data were tested for validity, reliability, and other rigorous requirements related to model fit. The analysis process strictly followed the stated steps and analytical procedures. The results of the quantitative analysis support most of the hypotheses posed in the research model (refer to Abbreviation list, p.iii). At the national level, TMS, OP and OIf have negative influences while TMH has positive influences on the intention to leave. In addition, TMS is shown to positively influence OD and OI, which decrease turnover intention. Meanwhile, there is no evidence of organizational justice elements as mediators between the relationship of TMH and TI. At the regional level, intention to leave in the North is negatively impacted by OD; the intention to leave in the Middle is impacted by TMH, TMS, OD, and OI; and the intention to leave in the South is impacted by TMS, TMH, and OI. The total impact of TMS on TI in the North are the strongest while total impacts of TMH on TI in the South are the weakest; the impact remained average in the Middle region. A similar pattern is seen for the mediating impacts of OJ on IT, where the strongest impact is in the North. Furthermore, quantitative results show the differences in the three regions regarding the degree of turnover intention, where public employees in the South region hold the highest IT, and those in the North hold the lowest IT. The quantitative findings clearly answer the research questions related to the influence of TM practices in organizational justice on turnover intention in the public sector, both in Vietnam in general and in the three separate regions. The results drawn from qualitative data are quite consistent with the quantitative results and further explain them based on the context of the public sector in Vietnam, including politics, socio-economics, culture, customs, and history.

4.1. Quantitative results

4.1.1. Quantitative results at the national level

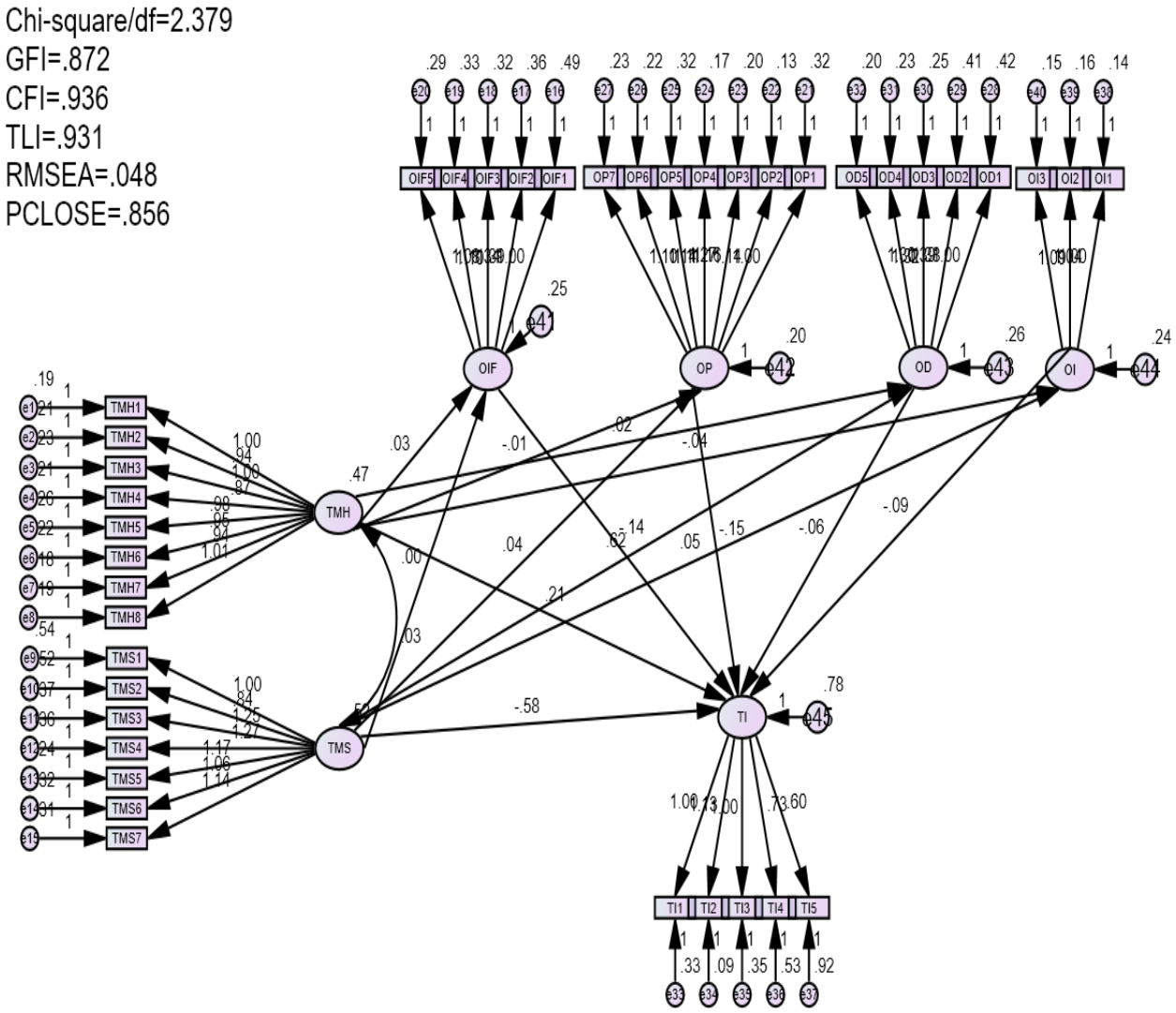
4.1.1.1 Direct effects of talent management and organizational justice on turnover intention

The results of Cronbach's alpha, indicator analysis, and model fit were tested by EFA and CFA; the results are presented in detail in Appendix 1. After testing, to explore the relationships

among the variables and examine the hypotheses, the research performed SEM using SPSS AMOS 20.

All indicators meet model-fit requirements (Figure 4.1), specifically, chi-square/df is 2.379 (more than 1 and less than 3) with p = 0.000. The coefficients in the model are consistent with the actual data (CFI = 0.936>0.9; TLI = 0.931>0.9; GFI = 0.872; RMSEA = 0.048 < 0.08). The model shows the impact of factors on the public employees' intention to leave, which is illustrated Figure 4.1.

Figure 4.1. Structural equation model results in national level



SEM results show that TMS, TMH, OP, and OI have effects on IT. Table 4.2 shows the relationships of factors in SEM.

Table 4.1: Relationships among factors in SEM analysis

			Unstandardized Coefficients	Standardized Coefficients	S.E.	C.R.	P
TI	<---	TMH	-.214	.145	-.145	-3.722	***
TI	<---	TMS	-.575	-.414	-.414	-7.107	***
TI	<---	OIF	-.143	-.071	-.071	-1.711	*
TI	<---	OP	-.149	-.066	-.066	-1.656	*
TI	<---	OD	-.058	-.039	-.039	-.720	.472
TI	<---	OI	-.091	-.045	-.045	-1.089	.276

(*p <0.1 ** p <0.05 *** p <0.01)

The findings show that TMH has positive impacts on IT (β = 0.145, p <0.01) (hypothesis 1 rejected); TMS has negative impacts on IT (β = -0.414, p <0.01) (hypothesis 2 accepted); OD has no negative impacts on IT (β = -0.058, p =0.472>0.05) (hypothesis 3 rejected); OP has negative impacts on IT (β = -0.149, p <0.1) (hypothesis 4 accepted); OI has no negative impacts on IT (β = -0.91, p >0.05) (hypothesis 5 rejected); OIf has negative impacts on IT (β = -0.143, p <0.1) (hypothesis 6 accepted).

4.1.1.2. Indirect effects of talent management on turnover intention via organizational justice

Direct and indirect analysis are applied to test hypothesis 7 (7a–7h) about indirect impacts of TM practices, including TMS and TMH, on turnover intention, IT, via the four components of organizational justice separately. Total impacts of an independent variable on the dependent variable are the sum of direct impacts and indirect impacts. The results are shown in the Table 4.3.

Table 4.2: Indirect effects of talent management on turnover intention via organizational justice

	Effects	**OD**	**OP**	**OI**	**OIf**
TMS	Direct	-0.414	-0.436	-0.414	-0.436
	Indirect	-0.026	Statistically insignificant	-0.004	Statistically insignificant
	Total	-0.440	-0.436	-0.418	-0.436
TMH	Direct	0.145	0.145	0.145	0.145
	Indirect	Statistically insignificant	Statistically insignificant	Statistically insignificant	Statistically insignificant
	Total	0.145	0.145	0.145	0.145

According to the results above, the indirect effect of TMH on IT via OD, OP, OI, and OIf is statistically insignificant; therefore OD, OP, OI, and OIf do not mediate the relationship between TMH and TI, and hypotheses 7b, 7d, 7f, and 7h are rejected. TMS impacts TI in both direct (β = -0.414) and indirect ways (β = -0.026) via OD, with same direction and total effect (β = -0.44), supporting hypothesis 7a. TMS impacts TI only directly, while the indirect effect via OP is statistically insignificant, rejecting hypothesis 7c. TMS impacts TI in both direct (β = -0.414) and indirect ways (β = -0.004) via OI with same direction, supporting hypothesis 7e. TMS impacts TI in a direct way (β = -0.436), but the indirect way is statistically insignificant via OIf, rejecting hypothesis 7g. The total effects of TMS on TI via OD (β = -0.44) are larger than via OI (β = -0.418). Therefore, it could be concluded that OD has stronger mediating effects than OI in the relationship between TMS and TI.

4.1.2. Quantitative results at regional level

4.1.2.1. Results of different effects of factors on turnover intention

The three models of SEM in the North, Middle, and South regions meet necessary model fit requirements. For the North region: chi-square/df = 1.594; TLI = 0.917; CFI = 0.923;GFI = 0.79;

RMSEA = 0.055 (*see Figure 4.2*). For the Middle region: chi-square/df = 1.874; TLI = 0.882; CFI = 0.891;GFI = 0.765; RMSEA = 0,066 (*see Figure 4.3*). For the South region: chi-square/df = 2.113; TLI = 0.8.72; CFI = 0.881; GFI = 0.736; RMSEA = 0.076 (*see Figure 4.4*).

Figure 4.2: Structural equation model results in the North

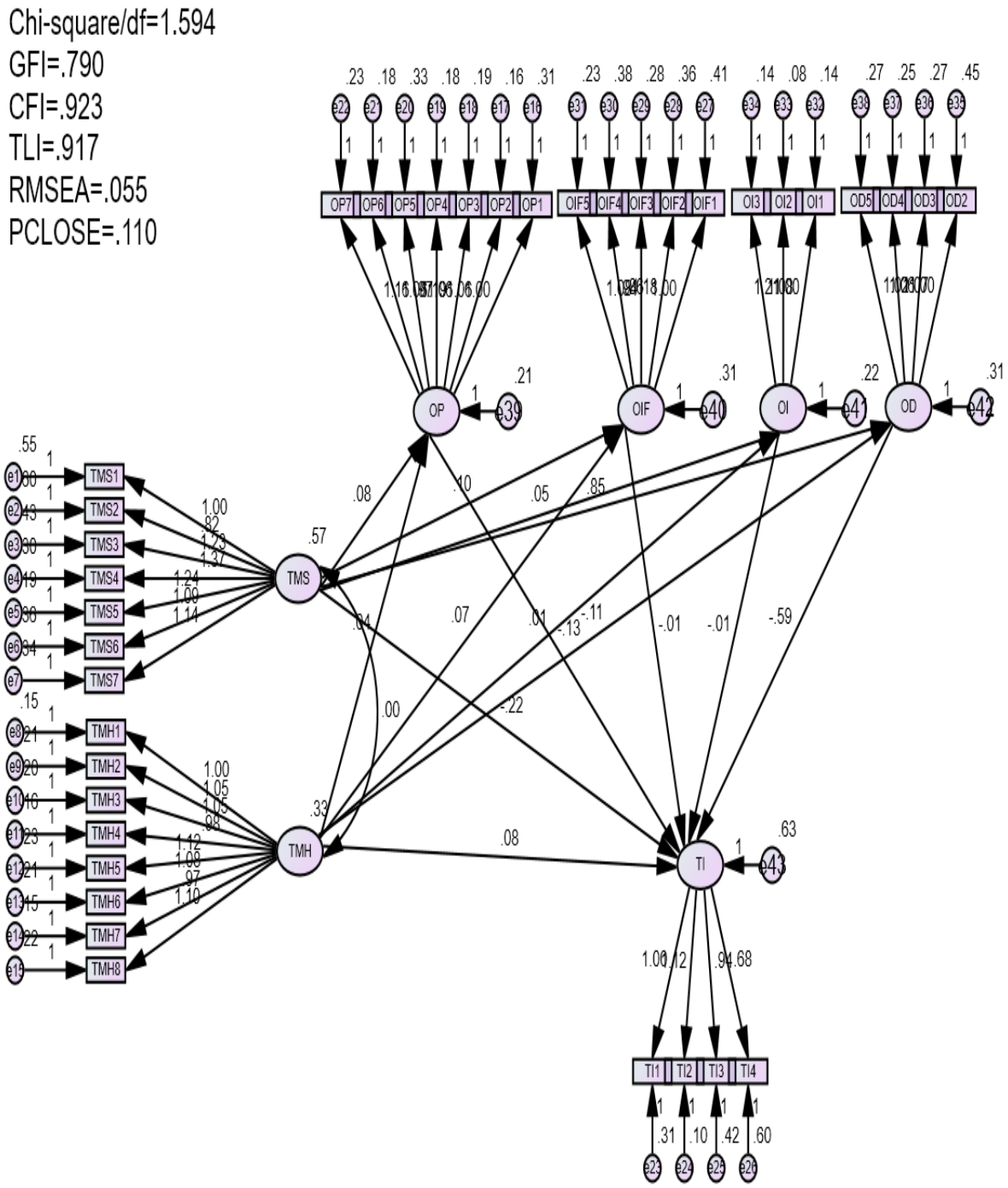


Figure 4.3: Structural equation model results in the Middle region

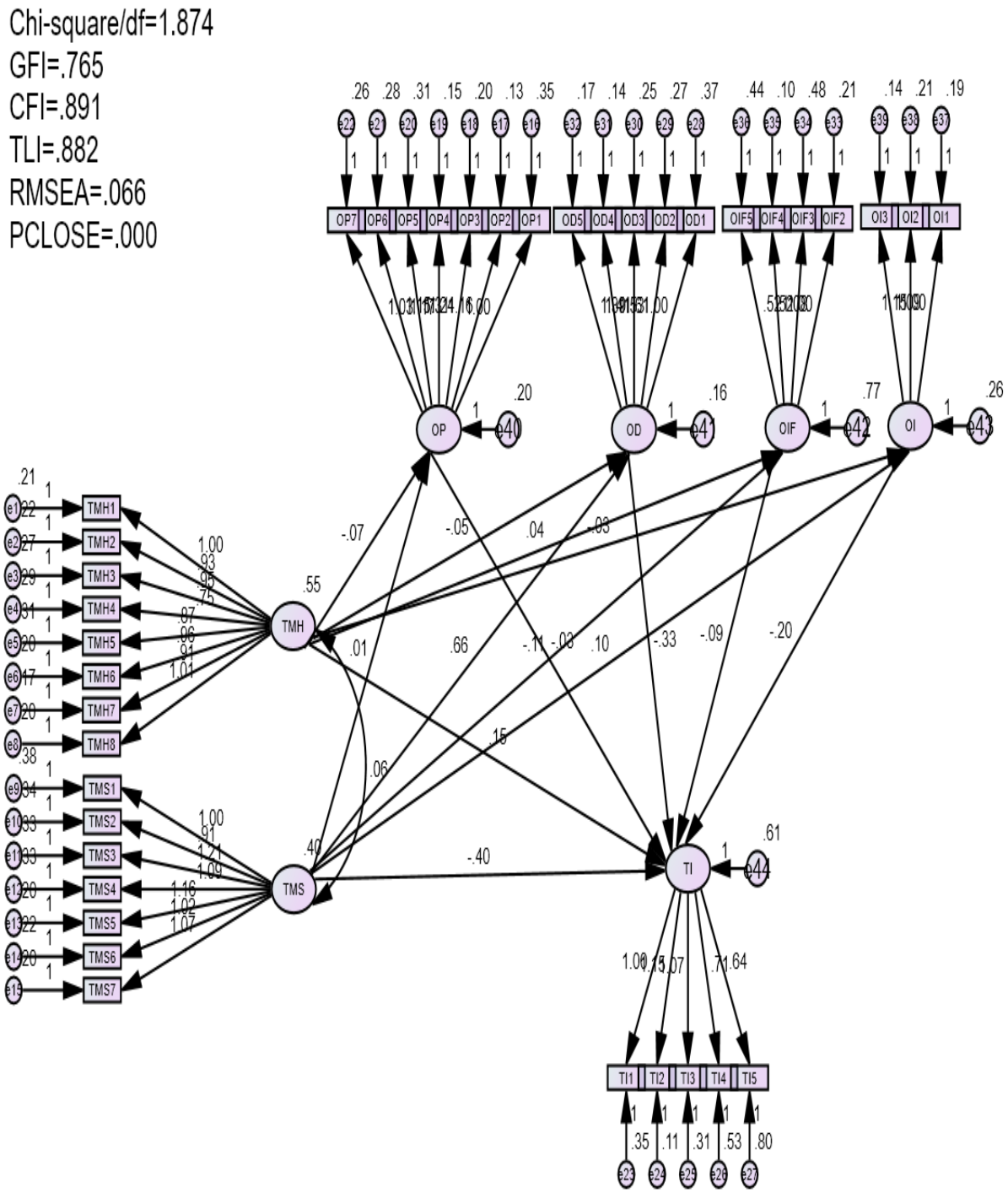


Figure 4.4: Structural equation model results in the South

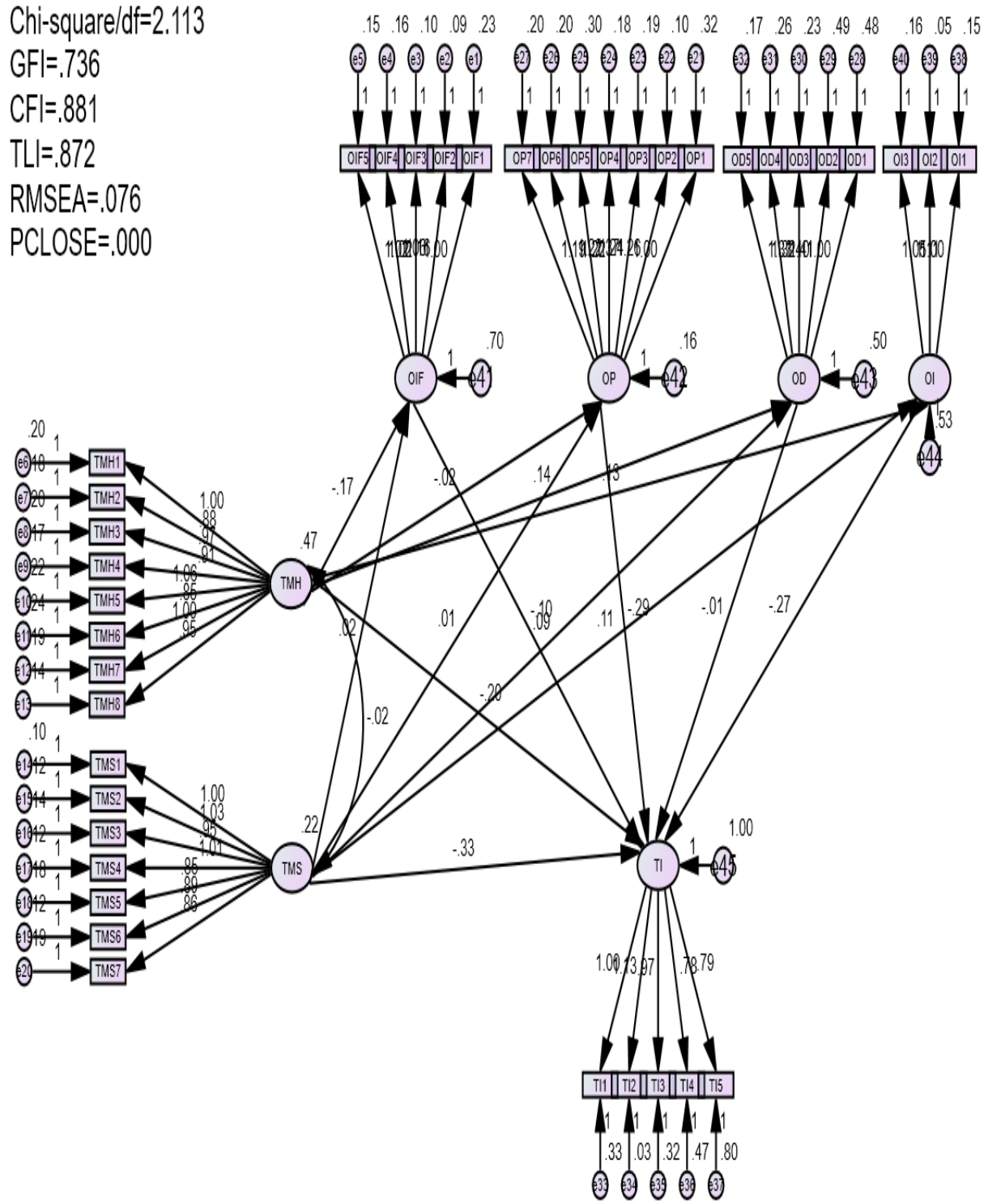


Table 4.3 shows the results of regional analysis of different direct and indirect effects on turnover intention.

Table 4.3. Regional analysis of different direct and indirect effects on turnover intention.

			North			Middle			South		
			Unst. β	St. β	P	Unst. β	St. β	P	Unst.β	St. β	P
OP	<---	TMS	0.078	0.129	*	0.014	0.020	0.795	0.013	0.015	0.852
OIF	<---	TMS	0.103	0.139	*	-0.113	-0.081	0.289	0.021	0.012	0.875
OI	<---	TMS	0.054	0.086	0.267	0.103	0.127	0.116	0.113	0.072	0.343
OD	<---	TMS	0.851	0.756	***	0.658	0.723	***	0.087	0.058	0.454
OP	<---	TMH	-0.043	-0.054	0.485	0.068	0.112	0.151	-0.021	-0.035	0.65
OIF	<---	TMH	-0.069	-0.071	0.373	-0.04	-0.034	0.655	-0.167	-0.136	*
OI	<---	TMH	-0.008	-0.01	0.897	0.029	0.041	0.603	0.135	0.127	*
OD	<---	TMH	0.106	0.072	0.191	0.047	0.061	0.284	0.137	0.132	*
TI	<---	TMS	-0.224	-0.165	0.108	-0.403	-0.284	***	-0.33	-0.148	**
TI	<---	TMH	0.077	0.043	0.476	0.147	0.121	*	0.198	0.129	*
TI	<---	OP	-0.131	-0.059	0.346	-0.027	-0.013	0.845	-0.292	-0.111	0.133
TI	<---	OIF	-0.01	-0.006	0.93	-0.093	-0.091	0.175	-0.103	-0.083	0.244
TI	<---	OI	-0.011	-0.005	0.938	-0.199	-0.115	*	-0.268	-0.186	***
TI	<---	OD	-0.587	-0.487	***	-0.333	-0.214	*	-0.007	-0.005	0.948

(*p<0.1 ** p <0.05 và *** p<0.01)

As can be seen, in the North, only the OD factor has a negative impact on the intention to leave (β = -0.487, p < 0.01). In the Middle region, TMH (β = -0.121, p <0.1), TMS (β = -0.284, p = <0.01), OI (β = -0.115, p <0.1), and OD (β = -0.214, p <0.1) have a statistically significant impact on TI. There are also three factors in the South that have a statistically significant impact on turnover intention, including: TMS (β = -0.148, p < 0.05), TMH (β = 0.129, p <0.1), and OI (β = -0.186, p < 0.01). Thus, there are differences in the factors affecting TI among regions, supporting hypothesis 8.

The indirect effects of TMH and TMS on TI vary in each region. In the North, TMH has no statistically significant impact on OP, OIf, OI, and OD; therefore, TMH has no indirect impact on TI. TMS has a statistically significant impact on OP (β = 0.129, p < 0.1), OIf (β = 0.139, p < 0.1), and OD (β = 0.756, p < 0.01), but among them only OD has a statistically significant impact on

TI (β = -0.487, $p < 0.01$), so only TMS indirectly impacts IT, and only via OD. In the Middle region, TMS has a statistically significant impact on OD (β = 0.723, $p < 0.1$), and OD has statistically significant impact on TI (β = -0.214, $p < 0.1$), so that TMS indirectly impacts IT via only OD. Meanwhile, TMH has no indirect impact on TI because TMH has no statistically significant impact on OP, OIf, OI, or OD. In the South region, TMS has no indirect impact on TI because TMS has no statistically significant impact on OP, OIf, OI, or OD. However, TMH has indirect impact on TI via OI because TMH directly impacts OD (β = 0.127, $p < 0.1$) and OD directly impact TI (β = -0.186, $p < 0.01$).

The results of total effects of TM practices on turnover intention through the perception of organizational justice by regions illustrate regional variations, as in Table 4.4.

Table 4.4: Results of total effects of talent management via organizational justice by regions

		North	Middle	South
Total Effects	TMH	0.075	0.137	0.138
	TMS	-0.542	-0.446	-0.164
Direct Effects	TMH	0.043	0.121	0.129
	TMS	-0.165	-0.284	-0.148
Indirect Effects	TMH	0.031	0.016	0.009
	TMS	-0.377	-0.162	-0.016

The total impact of TMS on TI was the largest in the North (β = -0.542), followed by the Middle (β = -0.446) and the South (β = -0.164). The Middle (β = 0.137) and South regions (β = 0.138) have a much higher proportion of the direct impact of TMS on TI than the North (β = 0.075). The proportion of indirect effects of the variable TMS on TI in the North, Middle, and South is 69.6%, 36.3%, and 9.8%, respectively.

In contrast, the total impact of TMH on TI was the smallest in the North (β = 0.075), followed by the Middle region (β = 0.137), and it was the highest in the South (β = 0.138). The Middle (β = 0.121) and South regions (β = 0.129) have a much higher proportion of direct impact of TMH on TI than the North (β = 0.043). The proportion of indirect effects of variable TMH on TI in the North, Central, and South is 42.7%, 11.7%, and 6.5%, respectively.

Thus, there are differences in the total effects of TMS and TMH on TI via OJ as the mediators among three regions in Vietnam, supporting hypothesis 8.

4.1.2.2. Results of regional differences on the degree of turnover intention

The results of the ANOVA test on the public employees' difference in intention to leave by regions show that Sig of the F test is 0.0001 < 0.05, and therefore, it can be said that there is a difference in the intention to leave among civil servants across regions with significance 1%. Thus, hypothesis H9 is accepted. Table 4.5 shows the results of regional differences in turnover intention.

Table 4.5. Regional differences in turnover intention

Code	North		Middle		South		ANOVA Test	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	F	Sig
TI1	3.07	1.08	3.28	1.17	3.48	1.19	6.340	0.002
TI2	2.84	1.09	2.96	1.19	3.37	1.19	11.330	0.000
TI3	2.89	1.11	3.03	1.16	3.38	1.16	9.820	0.000
TI4	2.89	0.97	2.97	1.04	3.19	1.07	4.500	0.011
TI5	3.04	1.07	3.20	1.10	3.32	1.22	2.890	0.057
TI	2.95	0.88	3.09	0.91	3.35	1.02	9.27	0.0001

Table 4.6 shows that the South has the highest turnover intention (3.35/5), followed by the Middle (3.09/5), and the North has the lowest level of turnover intention (2.95/5). The difference in each item of the intention to quit by region is as follows. The factors "I am always

looking for another job opportunity"; "I always thought I would quit my job"; "I intend to work at the agency for a period of time and then will quit"; and "I prefer to work in the private sector" have sig < 0.05, concluding that there is a difference in the mean value of the variable between regions. In other words, there is a difference in the opinion of public servants among regions at the 1% significance level. Only the factor "I consider paying fines if I break my contract with the government" has sig=0.057>0.05, indicating that there is no difference among the regions for this item.

4.1.2.3. A summary of the quantitative results

Based on the above analysis results, this thesis synthesizes the analysis conducted on the impact of hard TM practices, soft TM practices, organizational justice, and turnover intention (Table 4.7). Among the nine hypotheses, five were supported and four were rejected. Explanations for these rejections are discussed in the following qualitative results section.

Table 4.7. Hypothesis results

Hypothesis	Content	Hypothetical conclusions
H1	Hard TM practices negatively impacts turnover intention	*Rejected*
H2	Soft TM practices negatively impact turnover intention.	Accepted
H3	Distributive justice negatively impacts turnover intention	*Rejected*
H4	Procedural justice negatively impacts turnover intention	Accepted
H5	Interpersonal justice negatively impacts turnover intention	*Rejected*
H6	Informational justice negatively impacts turnover intention	Accepted
H7	Organizational justice mediates the relationship between TM and turnover intention	*Mostly rejected*

H7a	*Distributive justice mediates the relationship between soft TM and turnover intention*	Accepted
H7b	*Distributive justice mediates the relationship between hard TM and turnover intention*	*Rejected*
H7c	*Procedural justice mediates the relationship between soft TM and turnover intention*	*Rejected*
H7d	*Procedural justice mediates the relationship between hard TM and turnover intention*	*Rejected*
H7e	*Interpersonal justice mediates the relationship between soft TM and turnover intention*	Accepted
H7f	*Interpersonal justice mediates the relationship between hard TM and turnover intention*	*Rejected*
H7g	*Informational justice mediates the relationship between soft TM and turnover intention*	*Rejected*
H7h	*Informational justice mediates the relationship between soft TM and turnover intention*	*Rejected*
H8	There are differences in effects on TI by region	Accepted
H9	There are differences in TI by region	Accepted

4.2. Qualitative results and discussions

4.2.1. Qualitative results and discussions at national level

This study employed a qualitative method with that included 18 in-depth follow-up interviews. The information triangle analysis method as used to analyze data, whereby the judgment data of different groups of participants, including those who quit their jobs and those who continued to work in the public sector, those under TM programs of either central government or local government, or who managed their further education independently, those who hold executive positions and ordinary officials, are synthesized, compared, and analyzed to determine a number of similar opinions.

Hypothesis 1: Hard TM practices positively impact turnover intention (rejected)

The quantitative findings show that, when employees perceive higher numbers of hard TM practices, they generate higher turnover intention. Total effect of hard TM to turnover intention is 0.145, in which hard TM only has direct effect on TI and has no indirect effects on TI via any of the four components of organizational justice. This result is quite unexpected because it contradicts social exchange theory, which claims that the more organizational benefits employees receive, the more effort and loyalty they will provide to the organization. In addition, it contradicts the research of Sadangharn (2010), which demonstrated that hard TM has no effects on TI, and the research of Al-Kilani (2010) and Chang and Bui (2018), who stated that hard TM had negative effects on TI. However, this study's result is consistent with recent research by Ogbeibu et al. (2022) which supplies empirical evidence about how hard TM positively affects TI. The qualitative results reveal why this result contradicts SET in the context of the public sector in Vietnam, discussed below.

The results of qualitative research showed alignments with the quantitative results on the significant effects of hard TM practices on IT and gave more insights about why this factor affects turnover intention in a positive way in the context of the public sector in Vietnam. All of the 18 interviewees agreed on the reverse effects of TMH on turnover intention and expressed their negative attitudes towards low salaries and slow pay raises in the public sector. The following statements from the interviewees are representative of their overall arguments and the noticeable findings.

Interviewee 03 (2023), living in the North, highlighted the importance of TMH:

> The elderly always said it is impossible to follow your passion with an empty stomach, especially if you have a family who depends on you. For me, there are two aspects. When I was young, working in a state environment was a fantastic opportunity to accumulate knowledge and learn to improve expertise, then even though the salary is not high, it is still okay. However, if a job offers low wages, no training, and no future opportunities, I will consider quitting my work.

According to interviewee 08 (2023) from the Middle region, the increase in hard TM practices eventually generates a sense of dissatisfaction when comparing salaries between the public

sector and private sector; hence, the intention to quit tends to increase too, instead of resulting in satisfaction and more commitment as expected. He said:

> I think the increase in the salary in the public sector every year is too slow, the gap is still excessively big compared with the private sector organizations. The increase in fact does not meet my expectations while living costs and pricing have been increasing at a faster level.

Interviewee 6 (2023) was from the North; he obtained a doctorate overseas and was a manager of a technology center belonging to the Department of Technology in Hai Phong city. He discussed why he quit his organization.

> Although I am the manager of my center, my total salary every month is around 6.000 thousand Vietnamdong. As you know, the raise in basic salary is about 10,000 Vietnamdong per year, every year my salary raises around only 30,000 Vietnamdong per month. How can I afford to feed my family, my wife, and my kid? I am a man, and I feel unbelievably bad to put financial burden on my wife.

To illustrate these views, Table 4.8 shows the national average wage in 2021, highlighting the gap in pay between private sector employees and public sector officials (General Statistics Office of Vietnam, 2022). As can be seen, employees in public organizations with bachelor's degrees earn more than VND 8.3 million, but those in the private sector earn VND 10.6 million. Therefore, the average salary in the private sector is at least 25% higher compared to the public sector.

Table 4.7: National average wage 2021

Unit: VND million /person/month

Types	National level in general	Labor with bachelor's degree and above
Household/Individuals	6.1	9.4
Private sector	7.9	10.6
Public sector organizations	7.4	8.2
Government corporations	8.7	11.4

Foreign Direct Investment organizations	7.3	11.6
Other organizations	5.2	7.5
Average	6.7	9.6

Source: General Statistics Office of Vietnam (2022)

Another explanation offered in interviews is that hard TM practices offer materialistic values while non-materialistic values are also important. Of the 18 interviewees, 10 agreed about the significance of intangible rewards. Interviewee 17 (2023), who lives the South, said:

> The process of increasing salary is quite fair, while the working environment and the job itself are the present day-to-day things. To me, although if the salary offered is extremely high, the responsibility in the work is not challenging enough, I will not accept the attitude of an easy work for high salary. I want to challenge myself and get paid for what my efforts truly deserve. Similarly, if the working environment does not make me happy, although I get a good salary, I still feel dissatisfied. To me, salary is a crucial factor, but it is not everything.

In addition, when more hard TM practices are used, the self-esteem of talented employees tends to increase, which means they tend to need more TM practices to retain them. When organizations cannot meet their increasing requirements, these employees tend to look for a better job elsewhere. The explanation was mentioned by 11 of the 18 interviewees. For example, Interview 9 (2023) from the Middle region revealed:

> In my working environment, every year there are some people at managerial positions who have many years of experience as well as expertise quit their jobs because other places can offer them higher salaries and positions.

To sum up, hard TM practices are considered to play a key role in turnover intention. Unlike what is suggested by social exchange theory and other prior research findings, in the Vietnamese public section, increasing hard TM practices can cause an increase in turnover intention. This stems from the bucky structure of the political system, which includes three different organizations: the government, the Party, and the social–political organizations and parallels from central government to the provincial and district levels. Therefore, although the government puts an enormous effort into increasing the annual basic salary in the public sector,

the raise is rather modest. There is a large salary gap between the public sector and the private sector. Consequently, an increase in salary in the public sector generates unexpected dissatisfaction among officials; their intention to leave tends to increase when they have the chance to find a more promising job in other sectors. In addition, factors other than salary are suggested to be important, such as the working environment and the nature of the job itself. Lastly, increasing hard TM practices could lead to an increase in self-esteem, creating the possibility that talented officials will search for positions that offer better hard TM practices.

Hypothesis 2: Soft TM practices negatively impact turnover intention (accepted)

The study's quantitative results show that soft TM activities have a negative impact on the intention of civil servants to leave their positions. This was shown to be the strongest factor in this paper's research model, and it has statistical significance on the intention of civil servants in Vietnam to leave their positions (total effect: -0.436; direct effect: -0.414; indirect effect through perception of distributive justice is -0.44; indirect effect through the perception of information justice is -0.418). The findings are consistent with Chang and Bui (2018) and Ogbeibu et al. (2022), which had similar conclusions about the negative effects of soft TM practices on turnover intention.

The qualitative findings also confirm the significance of soft TM practices. All 18 interviewees strongly agree that it is the most crucial determinant of the common dilemma to stay or not to stay in public organizations among talented officials. The following notable answer was given:

> Soft TM is particularly important. The opportunities of further education and being able to express myself creatively at work increase my satisfaction. During my time working at Home Affairs Department of Da Nang city, although I was noticeably young, I was given a bright career plan, being sent to a political intermediate school, and assigned challenging jobs. When I quit my workplace, I still loved my job very much, I was working on a project proposal to merge public non-business units and reduce them to 20 units and participated in many other challenging projects of the local government. I really love my job and my city. Therefore, it really hurts when I decided to leave. However, the desire to renew myself, to develop more urges me to make that tough decision. Looking at the other senior colleagues who retired, they used to hold their

> position for like 20 years, 30 years, the job is repeated during that lengthy period. I thought I could not end my entire youth like that. I have a strong passion for research. I am grateful to my city, the Department of Home Affairs, and my job. In short, it is soft TM practices I perceived make me love my job. (Interviewee 11, living in the Middle region, 2023).

It can be argued that soft TM is particularly important because hard TM practices must follow the general rules and regulations of the government. All changes must follow the official governmental system with a fixed timeline, but soft TM can be flexible and adapt to an organizational and leadership perspective. According to the interviewee 13 from the South region (2023):

> Soft TM practices are pivotal in my view. As you know, in the public sector, hard TM practices are quite transparent under state regulations with a fixed framework. Therefore, it is difficult to change hard TM practices, especially salary. To tackle this issue, many organizations try to support their officials in their own budget, such as additional income, providing free housing or unbelievably cheap rental fees. I rent a decent 62 m^2 house for my family at only 500,000 Vietnamdong. Being a little proud that I am receiving special privilege from the local government. In the situation that the salary is difficult to increase, these bonuses become an invisible strength to stick within my organization…
>
> The working environment, office culture and positive friendliness makes me feel I belong to my organization. It is like my family. I am given opportunities to go training, rewarding and criticism are fair enough. If I work behind schedule, I will be reminded by my line manager. Positive and comfortable emotions I experience here make me want to stay and contribute to my workplace.

In summary, soft TM practices are considered to play the most key role in reducing turnover intention. The better the hard TM practices, the less likely talented employees are to intend to leave their job; in the public sector in Vietnam, hard TM practices, particularly salaries, are difficult to raise, and other changes are time-consuming because of the official national

frameworks and regulations. On the other hand, soft TM practices are easier to increase, which generate comfort, satisfaction, and a sense of intangible commitment with organizations.

Hypothesis 3: Distributive justice negatively impacts turnover intention (rejected)

The quantitative results show that distributive justice has no impact on the turnover intention of civil servants. The finding is inconsistent with Nadiri and Tanova (2010), Bayarçelik and Findikli (2016), and Yang et al. (2021), which contribute empirical evidence regarding the negative effects of distributive justice on turnover intention.

However, the qualitative findings confirm the insignificance of distributive justice in the context of the public sector in Vietnam. Of the 18 interviewees, 13 agree that OD is not a crucial factor because every distributive practice is in line with national wage regulations, which are transparent among public organizations. The following are some of noticeable explanations:

> I do not see any role of OD in my intention to leave. You know, the system has a clear payroll mostly based on the length of service. Simply, the longer you stay, the higher salary you get (Interviewee 4, living in the North, 2023).

> I am fortunate to work at the Department of Home Affairs. Our department makes and implements policies; therefore, we must ensure fairness and transparency. Leaders always create opportunities for young civil servants to develop their potential. The distribution of salary and allowance is very transparent. The extra fund is not much but it is clear when being distributed to everyone. I do not see injustice in distribution in my workplace, that is why I am incredibly happy and grateful to work here (Interview 11, living in the Middle, 2023).

In short, quantitative findings do not support the impact of distributive justice on turnover intention in the context of the public sector in Vietnam. Qualitative results further explain that this occurs because, although salary and rewards are low, public payrolls are transparent according to regular rules and regulations. The reason for this is the culture of high certainty preference, which causes pay to be fixed at certain levels rather than receiving bonuses (Zhu, 2002; Kauanui et al., 2006). Therefore, although pay and rewards are generally criticized as

less impressive than they are in the private sector, justice in distribution seems to be fair and plays no significant role in the intention to leave for talented employees.

Hypothesis 4: Procedural justice negatively impacts turnover intention (accepted)

The quantitative results show that procedural justice has a statistical significance on the civil servants' intention to leave in Vietnam with a low impact level of -0.066. This agrees with other research in the field (Arshadi and Shahbazi, 2013, Yusoffand Yusliza, 2020; Edrees et al., 2023) that provided empirical evidence of the negative effects of procedural justice on turnover intention in different contexts.

The qualitative findings also confirm the significance of procedural justice on turnover intention; however, its degree is weak as only 15 of the 18 interviewees agreed that it was a concern. The general explanation is that, in the context of the public sector in Vietnam, every official procedural is fixed and permanent, making it extremely difficult to propose or implement changes. Even when change do occur, time and effort is required to create synchronize policies from the central government to the provincial level and from one department to others. Public civil servants tend to take these factors for granted when they consider whether procedures are effective.

> Public administration procedures are by far weaker and redundant than those in the business sector. In the process of completion under administrative reform of the government, the role of this factor is unknown. Therefore, I think we should put at last on the list to consider like other determinants. (Interviewee 5, the North, 2023).

Agreeing on the matter, interviewee 9 from the Middle (2023) elaborated.

> There are two kinds of Procedural procedures within my workplace that are written in the internal regulations of the department, namely working manager mode (managers oversee the project from the beginning to the end) and expert mode (experts oversee the project from the beginning to the end. In the first mode, the initial role of the expert when writing proposals will be blurred. In the expert mechanism, experts are more responsible, and we can advise directly to the Board of Directors. However, the

> limitation is that not all professionals can do it. The classification of these modes is clearly made depending on the nature of the projects themselves. To some people, it would contribute to job dissatisfaction if procedures were lengthy and time-consuming. To me, neither of these mechanisms bother me much because it is something I must follow like other people in my workplace. Even if I get in trouble following those, I know it is the system itself, not somebody is trying to make it hard for me.

In short, in the context of the public sector in Vietnam, procedural justice has a weak impact on employee intention to leave. People tend to not to blame the system when they decide to quit, even if these procedures are redundant due to the culture of obedience in the workplace.

Hypothesis 5: Interpersonal justice negatively impacts turnover intention (rejected)

The quantitative results show that interpersonal justice has no impact on the turnover intention of civil servants. This result is inconsistent with some empirical research (Arif, 2018; Leineweber et al., 2020). The follow-up qualitative results gave more insights the reasons why this occurs Vietnam. Most interviewees (16 out of 18) suggested the insignificance of this factor in the intention to leave public organizations of talented employees.

> Due to job rotation, every three years or even sooner, my department will change the manager. If the current manager is not a good manager, it would be certainly stressful, yet I will just take it for granted and probably keep complaining with my colleagues, because I know eventually s/he will move to other places (Interviewee 3, living in the North, 2023).

> I know in some administrative agencies, managers are controlling and bossy, they lack communication skills and do not encourage self-esteem of individuals. In my department, the leader is not only supportive but also cares about individual employees and their personal life. Sometimes I do not agree with the manager, but I respect the way he explains, respects my opinions but would like me to think and do things differently to fit the situation. There are huge weaknesses in the public sector in this matter. However, due to the culture of power hierarchy and workplace obeyance, managers are always right. (Interviewee 16, living in the South 2023).

To summarize, interpersonal justice is not recognized as a crucial factor that negatively impacts turnover intention. Qualitative research reaffirms that organizational justice in interpersonal behavior, particularly with managers, is an inessential part of the turnover intention of talented employees because a manager will have to rotate to other organizations due to government regulations and avoid power abuse (Politburo, 2022b). Furthermore, people tend to accept power distance at work in a natural way without being upset or offended due to the tradition of high-power distance (Ronen and Shenkar, 1985; Hofstede, 1997; Ralston et al., 2006).

Hypothesis 6: Informational justice negatively impact turnover intention (accepted)

The quantitative results show that information justice has a negative impact on the turnover intention of civil servants. This has statistical significance regarding the intention to leave of civil servants in Vietnam, with the impact of this factor being -0.071. This result expands the existing literature on this organizational justice, which is still being researched. It is consistent with Arshadi and Shahbazi (2013), which highlighted the role of information sharing in reducing turnover intention via emotional exhaustion.

The significant role of perceived information justice is confirmed by the follow-up qualitative research. More than half of the interviewees (11 out of 18) strongly agree on its crucial contribution in reducing the intention of talented employees to leave public organizations. In particular, one interviewee stated that this is the most important factor to be mentioned in the public sector.

> Informational justice, particularly information about training and retraining courses, is not often provided transparently so that it has a negative effect on employee's psychology. To me, information disclosure is especially important. Civil Service Law on Cybersecurity protects the right of civil servants to access information if it is not confidential information. However, it is not usually the case in practice." (Interviewee 1, living in the North, 2023).

> It is indeed a sensitive issue. Some information only leaders know, information cannot reach employees. Sometimes there is unorthodox information, in which person A does not speak directly to person B but tells person C. It is not only poor justice in information but also in interaction in the workplace. Sometimes information on some training

> courses designates specific people, bosses have their own reasons, but we do not know it and do not dare to ask. It does affect my decision to quit my job (Interviewee 18, living in the South, 2023).
>
> In my personal point of view, it is the most key factor. In my organization, information is not transparent. Being sent on training courses or further education is a right. Particularly, some special training courses may lead to future advancement and the boost in salary. However, the criteria of who can or cannot participate are not clear at all, especially overseas master's, or PhD education. There is no official mechanism for that. Among the four types of justice you mentioned here, information is the most important to me. I would never know when I could be appointed to register to the senior expert training course, I cannot see my future (Interviewee 7, living in the Middle, 2023).

In short, in the context of the public sector in Vietnam, informational justice has a significant role to play in reducing turnover intention. However, information publishing is criticized as lacking transparency within many public organizations, causing tension and dissatisfaction for employees; therefore, perceived justice on this matter remains disappointing.

Hypothesis 7: Organizational justice mediates the relationship between TM and turnover intention (H7a and H7e are accepted; H7b, 7c, 7d, 7f, 7g are rejected)

The quantitative results show that only OD and OI are mediators of the relationship between soft TM and turnover intention, while none of any components of organizational justice mediate the relationship between hard TM and turnover intention. This finding supports the theoretical research of Stephen Swailes, (2013) and Narayanan et al., (2019). It proposes a similar argument with the empirical research of Gelens et al. (2014), showing the mediating impact of perceived distributive justice in the connection between worker's identity and job satisfaction.

The result of qualitative research supports the findings above. While hard TM practices are insignificant, all interviewees agree that, when an organization pays more attention to improving soft TM practices, its organizational justice will improve at a higher level. In this way, it helps indirectly tighten the connection with its employees and lessen their intention to

quit in the future. Procedure and information justice are not considered frequently because many interviewees (11 out of 18) explained that the connections between TM practices and organizational justice are unknown. The following in-depth answers provide valuable insights about the mediating results of organizational justice.

> Soft TM is important you know. Hard TM practices are clear according to state regulations and national framework. When soft TM practices are poor, there is no or little organizational justice. At the end of the day, turnover intention will grow bigger and bigger, until someone got a good chance, they would make their intention into actions (Interviewee 18, living the South, 2023).

> Organizational justice on procedures and information are something out of question in my workplace. There are certain procedures I must follow and some kinds of confidential information that I cannot access, which I think my manager has his own reasons for that and I honestly do not care much about it. There is not much links between TM practices and these factors (Interviewee 3, living the North, 2023).

In short, the indirect impacts of TMH on IT via OP, OD, OI, and OIf are rejected because of the insignificance of perceived TMH in the context of the public sector in Vietnam. Meanwhile, the indirect impacts of TMS on IT via OP and OIf are rejected because OP and OIf are considered to be objective and are accepted without question within the public sector, so the relationship of TM practices and the factors seem to be irrelevant. This stems from the tradition of high-power distance, which leads to obedient ideology at work (Ronen and Shenkar, 1985; Hofstede, 1997; Ralston et al., 2006).

4.2.2. Qualitative results and discussions at regional level

This section presents qualitative findings together with discussions about the two remaining hypotheses regarding how regional differences affect the way that TM and OJ impact TI in the public sector in each region in Vietnam. The role of each independent factor is empirically shown to be different among the three regions due to different institutions, traditions, customs, history, and socio-economic development, as discussed in Chapter 1.

Hypothesis 8: There are differences in effects of TM and OJ on TI by regions (accepted)

The quantitative findings show that there are disparities in effects of TM and OJ on TI among regions. To be more specific, in the North, the intention to leave is only affected by OD. In the Middle region, TMH, TMS, OD, and OI each have a statistically significant impact on TI. The South has three factors that have a statistically significant impact on turnover intention: TMS, TMH, and OI. Each region prioritizes different factors since work ethics, employee's attitudes towards a career in the public sector, power hierarchy, and job expectations vary in each region. To be more specific, due a long history of war and capital relocation, the North seems to be more traditional and have high collectivism, hierarchical power distribution, and governmental preferences (Painter, 2005; Ralston et al., 2006). On the other hand, the South values individualism and has dynamic economic development. Globalization, industrialization, and modernization have occurred more strongly in the South, lead to requirements of transparency at work and in work pay and rewards based on performances rather than fixed salaries (Gainsborough, 2018). The Middle region is affected by both the North and the South, making it a special blend region. As a result, this region had a more balanced view than either the North or the South regions. The results of in-depth interviews help further explain these differences with meaningful answers from talented employees in each region as follows.

As can be seen, OD is shown to negatively affect TI in the North and the Middle region, but not affect TI in the South, as confirmed by all interviewees in the North and the Middle region. For instance, interviewee 5 (2023), who lives in the North, highlighted the significance of OD:

> The matter here is not how much you are paid because everyone working in the public sector must accept low salary once they entered and they know it already before deciding to develop a career in the public sector. The matter here indeed is if the pay is fair among everyone? You know some work harder; some just pay not much effort.

Meanwhile, TMS has proven to be effective in the Middle and the South regions, with four of the six interviewees from the Middle region and all of the interviewees from the South region agreeing with the results. The following answers provide some in-depth thoughts on the topic:

> Work becomes so hectic and stressful. In my office, there was one colleague who quit his position at the beginning of this year. Four of us, together with our office manager, must share responsibilities in his work while the organization is trying to recruit a new one. The

> job itself is stressful but the pay is not brilliant. Therefore, if my manager is not sympathetic and if the working environment is not comfortable, I would consider quitting (Interviewee 15, 2023, living in the South).

Meanwhile, interview 11 (2023), who lives in the Middle region, highlighted what makes her connected with her organization:

> I got an offer to go to intermediate politic theory training. You know this kind of advanced training is normally offered to people who have lots of work experience. I also got opportunities to express myself at work and I took part in lots of challenging projects with generous support from my manager and my colleagues. When I decided to leave my workplace to continue my PhD in Australia, my boss told me that I should think carefully, his son was at my same age who went overseas to challenge himself and now he decides to come back to work in Vietnam. However, I still decided to quit my job to follow my dreams. Then my manager said he would keep my position open until I finish my PhD, but I declined because I could not be selfish. Each department has a certain quota of people. If my manager keeps my position for me, my department will lack a person to deal with mountain of work. When I left my organization, I felt so sad due to the abundant, meaningful soft TM practices I perceived here.

Another regional difference worth mentioning to support hypothesis 8 is the degree to which each factors affect turnover intention in each region of Vietnam, which was shown in Table 4.4 above (p.75). In terms of total effect of TMS on TI, it is the highest in the North and the lowest in the South. This pattern is reversed for the total effect of TMH on TI, where the impact is the strongest in the South, and the weakest in the North.

TMH has proven to be more effective in the Middle and the South, as confirmed by all interviewees from these regions. Interviewee 17, who lives in the South and quit his position, revealed his perception of his pay raise compared to his wife's.

> Life is expensive in Ho Chi Minh city. My salary is lower than my wife's, who works at Vietcombank. She sometimes makes a joke at home that those who earn less must do housework. I know she does not mean it but as a man, it hurts my self-esteem. My raise of salary every year is just a funny figure, as you may guess, it is almost nothing compared

> to what my wife receives from her bank. Apart from that, she gets a generous bonus every three months based on her performances.

The explanation for the pattern is that people in the North value a career in the public sector, and living costs in the North are lower than the other two regions, causing a less disappointing effect on the limited improvements of TMH, especially the salary in the public sector. Therefore, the public employees in the North value TMS more than those in the two other regions. On the other hand, the South has the most expensive cost of living, so public employees hold the most concern about TMH, especially salary and rewards. Furthermore, due to their unique history and tradition, careers in the public sector in the South and the Middle regions are not as privileged as they are in the North, causing the public employees in the two regions to have fewer preferences for TMS at work. Regarding the mediating impacts of OJ on the relationship between TMS, TMH, and TI, the North holds the strongest mediating impacts while the South holds the weakest impacts and the Middle remains in the middle. The results are explained by the traditions of Confucian ideology, which is deep-rooted in the North, where the capital city is located. Public civil servants in the North region tend to value organizational justice more than those in the two other regions. TM practices in the North positively impact OJ, and OJ therefore helps to negatively reduce TI. However, the pattern is less obvious in the South and the Middle regions, making the mediating impact of OJ on TI weaker than in the North.

Hypothesis 9: There are differences of TI by regions (accepted)

Geography has been empirically shown to play a crucial part in shaping turnover perceptions of public employees from the three regions in Vietnam. According to the quantitative findings, the South has the highest turnover intention (3.48/5), followed by the Middle (3.28/5) and the North (3.07/5). Interviewees in all three regions confirmed regional differences in turnover intention. The findings are further explained by some interesting responses.

> Regional factors do have a big influence on intention to leave. In the South, the living standard is higher than in the North and the Middle parts of Vietnam. Most people must do another part-time job apart from their main job as a public civil servant. Living costs are much higher, while the national salary is the same. Life in Ho Chi Minh City is more expensive than in other regions, but the salary is not enough. On the other hand, the

South has more job opportunities in a vibrant economic environment with lots of multinational companies and foreign investment. Thus, people tend to find a way to quit and find a better-earning job in the private sector (Interviewee 17, who lives in Ho Chi Minh city).

General perceptions, regional history, socio-economic conditions, and cultures in each region are all different. The North people put more emphasis on politics and power. During the war against the Americans, the North was led by Uncle Ho and the Communist Party committee. All departments and public branches of the central government are placed in the capital, Ha Noi, in the North of Vietnam. A career in the public sector therefore is respectful in the North. At school, teachers of my children know that my wife and I are both public officials, the school gives us a small discount on tuition fees. It is not much per month, yet my job is a privilege (Interviewee 3, living in the North).

The North is more concerned about social face and status, particularly the elderly. Sometimes, I really wanted to quit, then l told my mom and dad about my intention of leaving the public sector. They said they would be angry with me if I did so. You know, they would feel embarrassed in front of our relatives. They are constantly telling me that "Look! Many people want to have a job in your organization, but they cannot. You got it already and did not treasure it" (Interviewee 1, living in the North).

Geographic nature is certainly a crucial factor. You know, the Middle part has always been suffering weather extremes like flood and heavy rains; life here is harder. Just like in the South, we do not feel much difference between working in the private sector or public sector if we can afford a comfortable life (Interviewee 7, living in the Middle).

Northern people tend to be more elegant and ritual, particularly in Ha Noi capital, people care so much about qualified education, rituals, social status and respect a career in the public sector. Meanwhile, people are more relaxed and take it easy in the South. We do not care about which car brand we use, Lexus or Toyota, whatever, it is just a vehicle. The Middle part citizens may think like us (Interviewee 15, living in the South).

In short, turnover intention among regions differs due to institutional features, deep-rooted culture, socio-economic development, and regional history. The North public employees tend to have deeper connections with the state and treasure a career in the public sector; hence, they are less likely to think about quitting their jobs in the public sector than those in the other two regions. Meanwhile, the perceptions of Middle-part public officials are in the middle of the scales, they do hold higher of turnover intention than the North because they are quite far away from the central government and have adapted a modern lifestyle like the South, where social status does not have a critical role. On the other hand, the South economy is developing, and the living cost is the highest, so there is most stress to afford the cost of living, and the most opportunities to find a high-salary job are in the private sector, which leads to the highest turnover intention as well as actual higher official turnover rates.

5. RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

This chapter presents policy recommendations at national and regional levels considering the results shown in Chapter 4 and the actual context of the public sector in Vietnam. It also highlights contributions and limitations of the research and offers a few suggestions for further studies in this field.

5.1. Policy recommendations

5.1.1. Policy recommendations at national level

The 11th Party Congress strongly determined that rapid development of human resources, especially high-quality human resources, is a decisive factor in the country's rapid and sustainable development (Communist Party of Vietnam, 2011). High-quality human resources refers to people who, in addition to moral qualities, good health, and solid political awareness, also have expertise, potential, and the ability to obtain a master's or doctorate's degree. To rapidly develop human resources, especially high-quality ones, the government should first and foremost focus on developing highly qualified human resources in the public sector because this force plays a pivotal role in the development strategy of the whole nation. Regarding management and utilization, the state is responsible for talent management of formulating and implementing policies on attracting, training, developing, employing, and retaining high-quality human resources. The effectiveness and efficiency of the state apparatus is heavily determined by the qualifications, capacity, ethical qualities, and work efficiency of the high-quality human resources. Therefore, talent management in the public sector has recently become a pivotal strategy of administrative reform that aims to enhance governmental effectiveness under Industry 4.0 era of industrialization, modernization, and globalization (Communist Party of Vietnam, 2021).

The results of this study show that, at national level, turnover intention is affected directly by TMH, TMS, OP, and OIf and indirectly by TMS via OD and OI. TMS has the strongest direct impact on reducing the employees' turnover intention. In addition, when organizations put effort into increasing TMS, organizational justice in distribution and information will rise, which decrease turnover intention. This is the most crucial factor that needs to be considered

when making and implementing policies to retain talented employees and reduce their intention to quit. To increase the effectiveness of TMS, the government may want to focus on eight practices selected in the research for talented officials, including coaching that supports their development, the opportunity to earn scholarships to pursue higher education, the opportunity to participate in training, courses, and workshop, job rotation, support in planning their future development, possibilities to present their opinions on matters, challenging assignments, and work that gives them the opportunity to express themselves (Bui and Chang, 2018) [2]. To do so, it is essential that leaders and managers have the awareness to understand why these practices should be introduced in public organizations, then take the necessary actions to implement these practices in their own workplace.

While the negative impacts of TMS on turnover intention were expected, the positive impacts of TMH were unexpected in this research as they do not support social exchange theory and are inconsistent with some empirical research in different contexts. The follow-up qualitative interviews helped clarify the reasons for this that are based in the specific context of the Vietnamese public sector. All interviewees hold unsatisfactory views towards the annual increase in public salaries due to the significant gaps in wages and wage raises between the public sector and the private sector. Consequently, the current solution of the central government of annual, small raises does not result in talent retention; instead it generates less loyalty and commitment, which leads to an unexpected increase in turnover intention. Since the first administrative reform in 1986, reforming the wage regime in the public sector has remained an unresolved issue and could not be done in the most recent iteration as the public sector payroll is currently in surplus. The distribution of the national budget is a rather bulky apparatus, including not only governmental organizations and party committee branches but also social organizations; this is unlike other countries where the national budget is only responsible for government organizations. Therefore, wage reform must be associated with downsizing staffing from the point of view of that "less is more" to boost the level of wage increase to be similar to that in the private sector. Outside of the emphasis on wage reform, the government may wish to implement policies that can enhance other hard practices of talent management as listed in

[2] Eight items about soft TM practices originated from Bui and Chang (2018). Bui worked in the Human Resource Department of the local government in Da Nang city, Vietnam; the item's names were chosen to fit the context of the public sector in Vietnam, so they remained unchanged in this dissertation.

this research, including the critical transparency during selection of new employees, the advantages in selection to be an official civil servant, flexible job assignments, an employment contract that requires the employee to commit to working for a public organization, and the possibility of occupying a higher position within the organization through succession planning (Bui and Chang, 2018)[3].

The findings also highlight the significances of four elements of organizational justice, including OP and OIf as independent variables and OD and OI as mediators contributing to lessening the intention of talented individuals to leave their positions. Therefore, policies for retaining talented employees should focus on how to increase all four elements of perceived organizational justice in the public sector in Vietnam. Based on equity theory, the deep-rooted formula to reduce the intention to quit is to increase employee perceptions that they are being treated fairly at work. First, in terms of distributive justice, fairness should be highlighted in individual work schedule, pay level, and workload to ensure justice in responsibilities or efforts with salary and rewards. Second, regarding interpersonal justice, leadership is the key point to enhance fairness in interactions with employees. Public leaders and managers should complete special trainings for soft interpersonal skills and increase awareness on how important their behavior at work is in terms of generating psychological effects for employees, which may affect whether they intend to stay in their positions in the future. Next, perceptions of procedures will be improved when job decisions are applied consistently to everyone at work in a fair manner; decisions should be made after collecting accurate information and considering the concerns of all employees. Finally, regarding informational justice, it is necessary to enhance transparency in information sharing with official procedures to ensure that all employees have the same rights to access all non-confidential information in the workplace.

5.1.2. Policy recommendations at regional level

According to Le et al., (2016), a statistical analysis of a nation's entire population may miss some of the diversity of its constituent portions. Even homogeneous nations might differ regionally in their attitudes toward various issues. Hence, various talent retention initiatives

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may be more successful if they were tailored to the requirements of each location based on their own provincial budgets and priorities.

The findings show regional differences in the volume of turnover intention in the three parts of Vietnam, where turnover intention in the South is the highest, followed by the Middle region, and public employees in the North region have the lowest intention to quit. These findings are consistent with the current situation of turnover wave, where an alarming number of officials in the South region have withdrawn from the public sector. Based on quantitative results, the main reasons for the issue are low salary, stressful environment, and the perception that a career in the public sector is not preferable. Together with wage reform, as mentioned above at national level, the government should increase official awareness of the privilege that comes from working in the public sector by giving several intangible rewards for officials in the South and the Middle regions, such as a generous package of insurance and cheap rental housing. At the same time, local governments in the Middle and the South regions may wish to improve the professionalism, modernity, and fair competition in the working environment to reduce stress at work and tighten connections and commitment between organizations and officials by using soft TM practices, as mentioned above.

Apart from the differences in volume of turnover intention, there are the variety in the effects of talent management and organizational justice on turnover intention in each region. In the North, OD negatively impacts the intention to leave. In the Middle region, TMH, TMS, OI, and OD have statistically significant impacts on TI. The South has three factors that have statistically significant impacts on turnover intention: TMH, TMS, and OI. Based on the various results, local governments in each region should prioritize the crucial determinant of turnover intention for their area. For example, the local government in the North region should implement policies to improve OD, the Middle region's local government should design policies to enhance TMH, TMS, OI, and OD, and the South region's local government should focus in enhancing TMH, TMS, and OI.

Another striking regional difference worth considering when forming and implementing regional policies in retaining talent is the total impact of TMH and TMS on TI in three regions in Vietnam. The total impact of TMS in the North is the strongest, while TMH has the strongest impact in the South. Similarity, the indirect impacts of TMS and TMH via OJ in the North are the strongest and are the weakest in the South. The reasons for this stem from the unique nature of each region in

terms of tradition, customs, and social economic development. To be more specific, in the North, where traditions and customs have existed for thousands of years and where the capital city is located, a career in the public sector is generally considered respected and a privilege, but this is not the case in the South. After the invasion of the South region by the US military, those who live in the South tend to have a more Westernized lifestyle and way of thinking and place less value on a public sector job. Additionally, due to the high level of economic development, the living cost in the South is the highest, causing more stress for public civil servants because salary and pay raises in the public sector are much less impressive than those in the private sector. Therefore, local government in the North region may wish to prioritize TMS and OJ while the local government in the South may need to take additional actions to improve TMH and reduce turnover intention.

5.2. Contributions, limitations, and suggestions for future study

Based on research findings above, this study offers some theoretical and practical contributions in the field of public talent management. In terms of the current academic literature, this study provides a new conceptual framework based on social exchange theory and equity theory and expands previous research on turnover intention and TM in the public sector in a developing Asian nation. Due to the unique setting of TM programs in Vietnam, the research includes two additional variables for turnover intention: "I plan to work in private sector local or multinational companies in private sector when quitting my job in the public sector" and "I consider paying compensation if I quit my job in the public sector." In addition, this study provides new empirical contributions that consider regional differences within a nation with the use of both quantitative and qualitative methodologies as follows: reaffirming the significance of TMS in minimizing turnover intention; discovering unexpected issues of TMH that contribute to enhancing turnover intention; and showing the significance of all four components of organizational justice on turnover intention, including the direct effects of OP and OIf in TI and the mediating effects of OD and OI in the relationship between TMS and TI in the public sector in Vietnam.

In terms of implementation, the results of this study can be considered a reliable basis for central and local governments to determine policy priorities and measures to reduce employee turnover in the public sector, thereby controlling the actual turnover rate of talented officials. The

proposed recommendations are approached from both the manager and employee perspectives, which suggest improving organizational practices on talent management and organizational justice as well as improving the job satisfaction and lesson the turnover intention of employees. The reduction of employee turnover will inevitably lead to an increase in employee engagement and help public organizations have more stable and sustainable talented human resources. This study also recommends policies that support the retention of highly qualified employees at both national and regional levels. The various findings offer practical advice to policymakers and leaders on how to create regional suitable policies, strengthen governance capabilities, and enforce the effectiveness of hard and soft TM policies to ensure organizational justice and inspire people to work towards the common goals of serving society as the ultimate purposes of public sector.

However, there are still several constraints on the research that future study in the field may wish to consider. First, regarding the proposed research model, it disregards other critical factors. The focus of research is only on talent management and organizational justice. Although both previous studies in the literature and the results of this study have confirmed the influence of other factors such as the outside environment, company culture, leadership, and the impact of demographic characteristics on turnover intention, doubts remain. Since it is not possible to include all factors in the framework related to the scope of a study, the issue could be proposed as a future research directions. Second, regarding sampling, the study only gathered data using snowball sampling methods in big cities among 63 provinces in Vietnam because of time and budget constraints. In addition, as the study analyzed 597 samples, the research cannot be considered highly representative. This limitation has been overcome by analyzing the reliability and validity of the dataset. However, future research may also want to examine smaller provinces and increase the number of provinces and participants while employing probability sampling to enforce the representativeness of the data. Third, in terms of data collection, this study may contain common bias as it relies on self-reported data from talented people about their perceptions of TM practices, organizational justice, and their own thinking about their intention to leave. Study respondents tended to assess their perceived thoughts emotionally rather than logically. Fourth, the research employs a survey questionnaire inherited from previous studies in English. The translation of the questions from the original scales faces many difficulties in fitting the content with the Vietnamese context to make sure it

is clear and understandable for participants to determine the appropriate responses according to their perceptions. The simpler and clearer the questionnaires are, the more time can be saved in explanations, and the more valid the data. Future comparative research may wish to be aware of these issues. Fifth, in terms of outcome analysis, ensuring radical outcome comparisons with cross-province data necessitates careful evaluation of the causality between independent and dependent variables within each provincial context. Finally, the information acquired from these 597 participants reveals a hierarchical structure that takes into account both individual consciousness and the diversity of the regional groups to which the participants belong. The dissertation analyzes each hierarchy separately, but it is important to incorporate group variability when looking at data within a hierarchical structure, which is not adequately illustrated by the SEM technique. In order to emphasize variations among regional groups, future studies might wish to use a hierarchical regression model with the mediating variables (organizational justice) as dummy variables for the analysis.

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APPENDIX 1: DATA ANALYSIS MECHANICS

Descriptive statistics, comprising frequency, percentage, mean, minimum, and maximum values and standard deviation, were used to illustrate common demographic characteristics of the respondents. The percentage distribution revealed the turnover intention level on the measurement scale. In general, turnover intention was more than fifty percent. This measure was also used to evaluate how much highly qualified public employees agreed with their perceived HR practices, organizational justice, and turnover intention.

Cronbach's alpha reliability analysis was employed to evaluate the reliability of the scale to eliminate unsuitable variables. According to Hair et al., 2010), the Cronbach alpha coefficient value should be above 0.6, the usable level is 0.6–0.7, above 0.7 is fine, about 0.8 is very good, and above 0.9 is ideal. However, Cronbach's alpha only reveals whether indicators are suitable to measure a variable; it is necessary to also use item-total correlation to screen correlation with other indicators in the same scale. Variables with item-total correlation less than 0.3 should be considered for elimination (Cristobal et al., 2007). Therefore, the scales retained in this study have Cronbach's alpha coefficient above 0.7 and item-total correlation above 0.3.

Exploratory factor Analysis (EFA) was used after analyzing Cronbach's alpha to examine variable correlations and structures of the data. The main goal of EFA is to group the variables that are most related. There are five important indicators in EFA, namely Kaiser–Meyer–Olkin (KMO), sig Barlett's test, Eigenvalue, total variance explained, and factor loading. According to Kaiser (1974), a KMO range of 0.6–0.7 is acceptable, 0.7–0.8 is fairly good, 0.8–0.9 is good, and more than 0.9 is excellent. For the sig Barlett's test, below 0.05 has statically meaning,

demonstrating that the observed variables are correlated with each other in the same factor. Eigenvalue is commonly used to determine the number of factors in EFA analysis. Only factors with Eigenvalue ≥ 1 are kept in the analytical model. A total variance explained value of more than 50% indicates that the model is suitable. Factor loading represents the correlation between the observed variable and the factor. The higher the factor loading coefficient, the greater the correlation between that observed variable and the factor and vice versa. According to Hair et al (2010), factor loading of 0.5 or higher is a decent quality observation variable, the minimum factor loading should be 0.3.

Confirmatory factor analysis (CFA) is used after EFA to measure and confirm the fit of the model. Some recommended indices are chi-squared minimum (CMIN), comparative fit index (CFI), Tukey and Lewis index (TLI), and root mean square error of approximation coefficient (RMSEA), p of close fit (PCLOSE), goodness of fit index (GFI). According to Hu and Bentler (1999), a model is consistent with the study data when CMIN/df < 3, CFI, TLI, GFI ≥ 0.9, RMSEA < 0.08, and PCLOSE ≥ 0.05. Anderson and Gerbing (1988) suggest that the scale achieves convergence values when the standardized regression weight of the scale is higher than 0.5 and statistically significant (p <0.05).

Finally, structural equation modeling (SEM) is used to test impacts of six independent variables (hard TM practices, soft TM practices, distributive justice, procedural justice, interpersonal justice and informational justice) to one dependent variable (turnover intention) and the effects of mediating variables (distributive justice, procedural justice, interpersonal justice and informational justice). SEM is considered to be an extension of the general linear model (GLM) that allows a set of regression equations to be tested simultaneously. Using SEM tools to test hypotheses and research methods allows for multivariable regression and allows latent variables to appear in the model. The effects of exogenous variables on endogenous variables and the effects of endogenous variables on endogenous variables are evaluated through regression coefficients. The relationships between the variables are indicated by arrows on the model. The direction of the arrow represents the direction of the effect of one variable on the other to test relating hypotheses. In social science research, all suggested causal relationships have a probability value (P-value) of 95% (p = .05) (Cohen, 1988).

Regarding mediating impacts, this study uses 1000 bootstrap samples from the collected data to examine the indirect effect of TM practices on turnover intention through organizational justice (Preacher and Hayes, 2004). For example, to test the mediating impact in a series Y1 →Y2 →Y3, there are direct effects and indirect effects from Y1 to Y3, in which Total Effects = Direct Effect + Indirect Effect. According to (Zhao et al., 2010), there are two types of impacts that do not have mediators: (1) Direct-only nonmediation, in which direct effect of Y1 to Y3 are statically significant but there are no indirect effects and (2) No-effect nonmediation, which has neither direct effects nor indirect effects. On the other hand, there are three kinds of indirect mediations: (1) Indirect-only mediation, in which indirect effect is statically significant but there is no direct effect; (2) Competitive mediation, in which both indirect effects are statically significant and have opposite directions; (3) Complementary mediation, in which both indirect effects are statically significant and have same directions.

APPENDIX 2: DATA RELIABILITY AND MODEL FIT

1. Analysis of measure reliability

After eliminating two unqualified items in preliminary quantitative research, 40 items remain in the scale, all of which show satisfactory Cronbach's alpha (from 0.777 to 0.95) and corrected item–total correction (more than 0.3) results, as is shown in Table 4.5 below.

Table 1. Item-total statistics of official quantitative research

Measure Items Cronbach's Alpha	Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Soft TM practices: 0.921	**TMS**				
1. Coaching that supports my development	tms1	23.77	16.599	.543	.767
2. The opportunity to follow training, courses	tms2	23.53	19.016	.259	.804
3. Job rotation	tms3	24.00	14.483	.682	.741
4. Support in planning my future development	tms4	24.20	13.476	.850	.706
5. Possibilities to present my opinions	tms5	23.67	15.678	.737	.739
6. Challenging assignments	tms6	23.67	16.782	.638	.757
7. The opportunity to express myself	tms7	23.83	15.385	.637	.750
Hard TM practices: 0.941	**TMH**				
1. Critical selection of new employee	tmh1	25.03	20.378	.794	.897
2. Advantages in selection	tmh2	24.83	22.075	.757	.902
3. Flexible job assignment	tmh3	25.23	20.530	.807	.896
4. Payment	tmh4	24.73	22.271	.609	.913

5. Performance appraisal	tmh5	25.03	22.171	.583	.916
6. Employment contract requires commitment	tmh6	24.93	20.685	.753	.901
7. An attractive benefit package	tmh7	24.87	21.430	.794	.898
8. The possibility to occupy a higher position	tmh8	24.83	21.799	.693	.906
Perceived Distributive justice: 0.922	**OD**				
1. My work schedule is fair	od1	11.30	12.010	.488	.884
2. I think that my level of pay is fair	od2	12.23	10.185	.648	.852
3. I consider my workload to be quite fair	od3	11.63	9.551	.748	.826
4. The rewards I receive here are quite fair	od4	11.60	9.421	.789	.815
5. I feel that my job responsibilities are fair	od5	11.50	10.052	.803	.815
Perceived Procedural justice: 0.932					
1. Be able to express your views and feelings during those procedures	op1	24.20	12.993	.537	.888
2. Have influence over the (outcome) arrived at by those procedures?	op2	24.13	12.602	.860	.851
3. Those procedures been applied consistently	op3	24.20	12.648	.754	.860
4. Those procedures been free of bias	op4	24.27	13.306	.734	.865
5. Those procedures been based on accurate information	op5	24.30	12.355	.559	.890
6. Able to appeal the (outcome) arrived at by those procedures?	op6	24.23	12.530	.811	.854
7. Those procedures upheld ethical and moral standards	op7	24.47	12.533	.635	.875
Perceived interpersonal justice: 0.777	**OI**				
1. The general manager treats me with kindness and consideration	oi1	10.20	3.062	.688	.592
2. The general manager treats me with respect and dignity	oi2	10.27	2.685	.675	.580
3. The general manager is sensitive to my personal needs	oi3	10.20	2.648	.759	.529
Perceived informational justice: 0.95	**OIf**				
1. My general manger is candid in their communication with me	oif1	14.53	3.499	.766	.863
2. My manager explained the procedures thoroughly.	oif2	14.50	3.293	.788	.858
3. My manager's explanations regarding the procedures were reasonable	oif3	14.53	3.775	.727	.873
4. My manager communicated details in a timely manner.	oif4	14.47	3.913	.679	.883
5. My manager seems to tailor their communications to individuals' specific needs	oif5	14.50	3.362	.749	.868
Turnover intention: 0.887	**TI**				
1. I am always searching for an opportunity to work anywhere else	ti1	13.40	8.938	.700	.813
2. I thought I would leave this organization	ti2	13.57	8.323	.809	.783
3. I plan to work at this organization for a certain time and will leave after that	ti3	13.57	8.461	.735	.802

4. I always prefer working in the private sector (local firms or multinational companies)	ti4	13.63	9.068	.654	.824
5. I consider paying fines when breaking my contract with the government.	ti5	13.57	10.047	.443	.877

Source: Author, 2023

2. Results of Exploratory Factor Analysis (EFA)

The results of EFA show that the data are appropriate for the analysis. To be specific, the KMO index for all factors is more than 0.5, and Barlett's test results for significance level (sig) are all less than 0.05, which means that the variables have correlations. Principal components with Varimax rotation show that talent management was initially divided into two groups, organizational justice into four groups, and turnover intention itself one group. Total value of variance extracted (TVE) meets the requirements of being more than 50%. The factor loading coefficient values are more than 0.5. Therefore, all factors ensure convergent and discriminant values. Tables 2 and 3 shows the EFA results for TM factors, OJ factors, and TI factors.

Table 2. Exploratory factor analysis of talent management factors

Items	Factor loading	
	TMS	**TMH**
TMS1		.755
TMS2		.712
TMS3		.856
TMS4		.857
TMS5		.875
TMS6		.830
TMS7		.853
TMH1	.866	
TMH2	.842	
TMH3	.844	
TMH4	.821	
TMH5	.825	
TMH6	.835	
TMH7	.860	

TMH8	.864	
KMO	.924	
p-value	0	
TVE (%)	69.714	

Table 3. Exploratory factor analysis of organizational justice factors

Items	Factor loading			
	F1	F2	F3	F4
OD1		.787		
OD2		.865		
OD3		.898		
OD4		.907		
OD5		.903		
OP1	.674			
OP2	.836			
OP3	.791			
OP4	.799			
OP5	.760			
OP6	.788			
OP7	.764			
OI1				.864
OI2				.841
OI3				.855
OIF1			.659	
OIF2			.809	
OIF3			.764	
OIF4			.807	
OIF5			.755	
KMO	.846			
p-value	.000			
TVE (%)	66.68			

Table 4. Exploratory factor analysis of turnover intention factors

Code	Variables	Factor loading
TI1	I am always searching for an opportunity to work anywhere else	.885

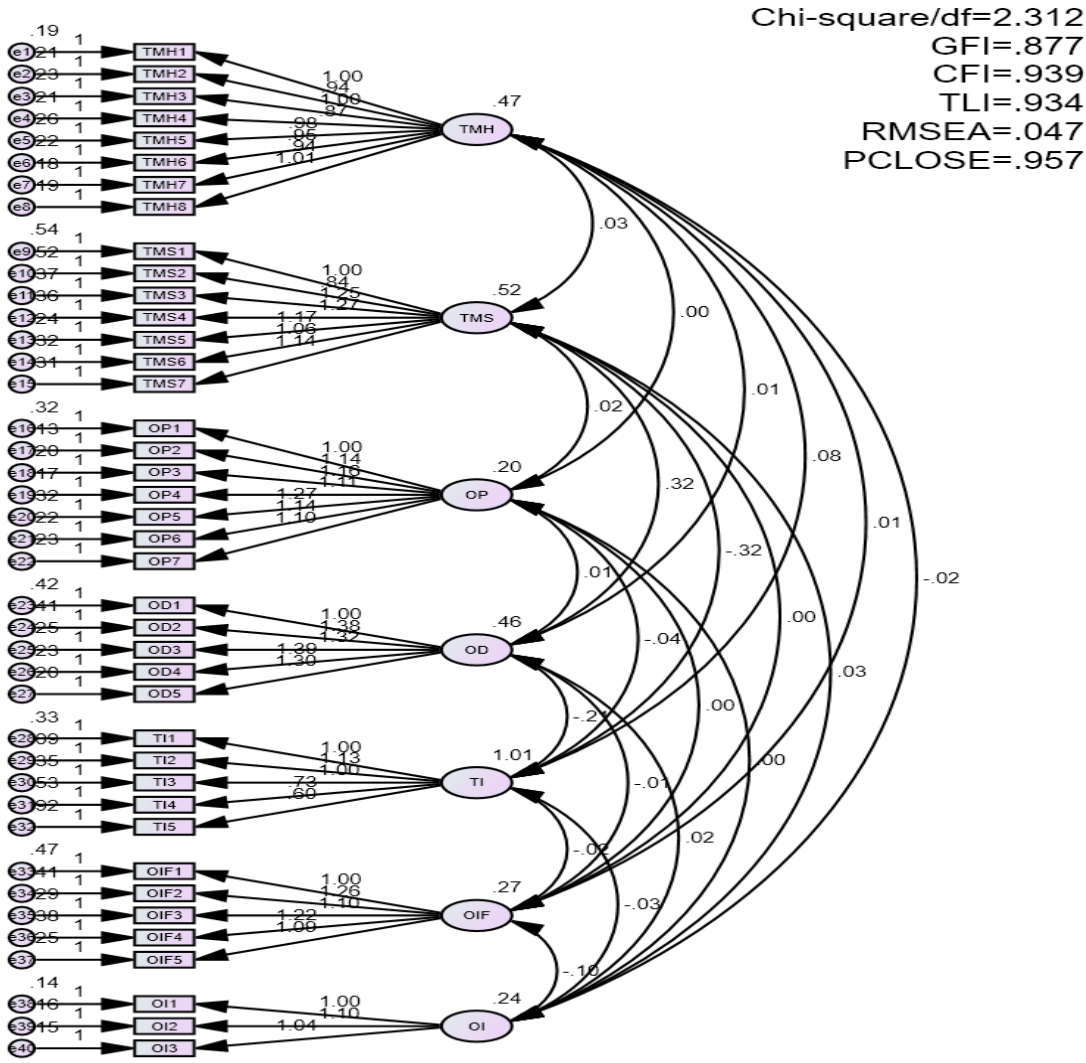
TI2	I thought I would leave this organization	.930
TI3	I plan to work at this organization for a certain time and will leave after that	.884
TI4	I always prefer working in the private sector (local firms or multinational companies)	.814
TI5	I consider paying fines when breaking my contract with the government.	.681
KMO		0.842
p-value		0.000
TVE (%)		71.114

Source: Author (2023)

3. Results of confirmatory factor analysis (CFA)

The results of CFA analysis prove that this model is consistent with the research data as all indicators meet requirements (Chi-square/df = 2.312 with p = 0.000, CFI = 0.939>. 0.9; TLI = 0.934>0.9; GFI = 0.874; RMSEA = 0.047 < 0.08). Figure 1 shows the CFA results.

Figure 1: Exploratory factor analysis results



In addition, all unstandardized and standardized coefficients of TMS, TMH, OD, OP, OI, OIf, and TI are greater than 0.5 and have statistical significance of 0.000. All AVE values of these factors are greater than 0.5. Therefore, all factors achieved convergent validity. Table 4 shows the results of the convergence test.

Table 4. Convergence validity test

			Unstandardized Coefficients	Standardized Coefficients	S.E.	C.R.	P
TMH1	<---	TMH	1.000	.845			
TMH2	<---	TMH	.943	.817	.038	24.768	***
TMH3	<---	TMH	1.002	.819	.040	24.867	***
TMH4	<---	TMH	.868	.792	.037	23.561	***

TMH5	<---	TMH	.985	.797	.041	23.774	***
TMH6	<---	TMH	.945	.810	.039	24.413	***
TMH7	<---	TMH	.944	.838	.037	25.819	***
TMH8	<---	TMH	1.006	.845	.038	26.180	***
TMS1	<---	TMS	1.000	.703			
TMS2	<---	TMS	.838	.642	.056	15.005	***
TMS3	<---	TMS	1.252	.829	.065	19.224	***
TMS4	<---	TMS	1.271	.837	.066	19.405	***
TMS5	<---	TMS	1.165	.863	.058	19.976	***
TMS6	<---	TMS	1.058	.805	.057	18.694	***
TMS7	<---	TMS	1.143	.828	.060	19.203	***
OIF1	<---	OIF	1.000	.616			
OIF2	<---	OIF	1.139	.812	.073	15.497	***
OIF3	<---	OIF	1.157	.758	.078	14.789	***
OIF4	<---	OIF	1.105	.766	.074	14.904	***
OIF5	<---	OIF	1.268	.707	.090	14.062	***
OP1	<---	OP	1.137	.735	.079	14.465	***
OP2	<---	OP	1.103	.713	.078	14.153	***
OP3	<---	OP	1.000	.721			
OP4	<---	OP	1.380	.823	.070	19.820	***
OP5	<---	OP	1.324	.874	.063	21.069	***
OP6	<---	OP	1.385	.888	.065	21.420	***
OP7	<---	OP	1.305	.891	.061	21.488	***
OD1	<---	OD	1.000	.869			
OD2	<---	OD	1.133	.968	.032	35.727	***
OD3	<---	OD	.998	.861	.035	28.910	***
OD4	<---	OD	.729	.708	.035	20.734	***
OD5	<---	OD	.602	.534	.042	14.166	***
TI1	<---	TI	1.000	.604			
TI2	<---	TI	1.258	.714	.096	13.140	***
TI3	<---	TI	1.095	.724	.083	13.253	***
TI4	<---	TI	1.216	.713	.093	13.135	***
TI5	<---	TI	1.086	.744	.081	13.483	***
OI1	<---	OI	1.000	.798			
OI2	<---	OI	1.096	.806	.058	18.828	***
OI3	<---	OI	1.042	0.800	.056	18.755	***

Furthermore, the scale after analyzing CFA includes six independent variables, including TMS, TMH, OD, OP, OI, and OIf. The CFA results show that the components of the scale all achieve structural values including: convergent value, discriminant value, and correlation. The component factors have no correlation between the errors of the observed variables, so they all achieve unidimentionality. The results of testing the correlation of factors are shown in the table below.

Table 5. Correlation test of factors

			Standardized Coefficients	S.E.	C.R.	P
TMH	<-->	TMS	.027	.022	1.255	.209
TMH	<-->	OP	-.002	.014	-.156	.876
TMH	<-->	OD	.009	.020	.468	.640
TMH	<-->	TI	.084	.030	2.804	.005
TMH	<-->	OIF	.013	.016	.817	.414
TMH	<-->	OI	-.019	.015	-1.209	.227
TMS	<-->	OP	.020	.015	1.379	.168
TMS	<-->	OD	.323	.031	10.332	***
TMS	<-->	TI	-.320	.037	-8.544	***
TMS	<-->	OIF	.000	.017	-.014	.989
TMS	<-->	OI	.026	.017	1.572	.116
OP	<-->	OD	.013	.013	.955	.340
OP	<-->	TI	-.043	.020	-2.127	.033
OP	<-->	OIF	.001	.011	.082	.934
OP	<-->	OI	.003	.010	.292	.770
OD	<-->	TI	-.213	.032	-6.626	***
OD	<-->	OIF	-.014	.016	-.882	.378
OD	<-->	OI	.025	.015	1.604	.109
TI	<-->	OIF	-.022	.024	-.931	.352
TI	<-->	OI	-.033	.023	-1.448	.148
OIF	<-->	OI	-.096	.014	-6.663	***

APPENDIX 3: QUESTIONAIRES OF QUANTITATIVE RESEARCH

To whom it may concern,

My name is Pham Thi Thanh Huyen, and I work at the Organization Department of Hai Phong City Party Committee. I am a PhD student at the National Institute for Policy Studies, Japan, under the cooperation program between the Governments of Japan and Vietnam. My research topic is: "THE IMPACTS OF TALENT MANAGEMENT AND ORGANIZATIONAL JUSTICE ON TURNOVER INTENTION IN THE PUBLIC SECTOR. Regional differences in Vietnam."

If you have a higher education degree (master's or doctorate) and have been/are working in the public sector in Vietnam, would you mind taking 5 minutes to answer 55 survey questions below and share with relatives, friends, and colleagues to help me? Please fill in the most honest answer based on your personal feelings. I pledge that the information you provide is kept confidential and is not used for any purpose other than database analysis, thereby planning policies to retain high quality human resources in the public sector.

I am looking forward to receiving your kind support to complete the research mission in Japan! Thank you very much!

PART 1: GENERAL INFORMATION

1.1 Personal information

1. Gender: ☐ Male ☐ Female

2. Age: ☐ Under 30 ☐ 31-40 ☐ Over 40

3. Working seniority: ☐ Less than 5 years ☐ From 5 to 10 years ☐ Over 10 years

4. Job position before going to graduate school:

☐ Employees ☐ Department level managers ☐ Unit level managers

5. Unit you worked for before going to graduate school:

☐ Party Committee Government non-business units (including schools)

☐ State-owned enterprises non-state enterprises

6. Working area before going to graduate school:

☐ North ☐ Central ☐ South

7. Current job position (if completed graduate program):

☐ Employees ☐ Department level managers ☐ Unit level managers

8. Current work unit (if you have completed a master's program):

☐ Party Committee Government non-business units (including schools)

☐ State-owned enterprises non-state enterprises

9. Current area of work (if you have completed a graduate program):

☐ North ☐ Central ☐ South ☐ Foreign

1.2 Program information

10. Education level:

☐ Master ☐ Doctorate

11. Funding for schooling:

☐ Project on developing high-quality human resources of the Central Government (Project 165)

☐ Local high-quality human resource development project

☐ Self-pay or self-find scholarships from other sources

12. In which area do you attend school:

☐ Domestic

☐ Foreign

☐ Domestic combined with foreign (affiliate program)

13. Major you have been (currently) studying:

☐Accounting – Finance Business Administration

☐ Human Resource Management Education Management

☐ Marketing Commercial Law

☐ Health Public Policy

☐Other majors: …….

PART 2: ASSESSMENT OF SATISFACTION

Please indicate how much you agree with the following statements about high-quality human resource management practices in your organization.

Please give your opinion about the following statements about high-quality human resource management activities in the organization you are working for by circling the appropriate number: 1—Strongly disagree/Very poor; 2—Disagree/Poor; 3—Neutral/Medium; 4—Agree/Good; 5—Strongly agree/Very good.

Survey contents	①	②	③	④	⑤
I. TM PRACTICES					
Soft TM practices:					
14. Coaching that supports my development	①	②	③	④	⑤
15. The opportunity to gain scholarship for higher education	①	②	③	④	⑤
16. The opportunity to follow training, courses	①	②	③	④	⑤
17. Job rotation	①	②	③	④	⑤
18. Support in planning my future development	①	②	③	④	⑤
19. Possibilities to present my opinions	①	②	③	④	⑤
20. Challenging assignments	①	②	③	④	⑤
21. The opportunity to express myself	①	②	③	④	⑤
Hard TM practices:					
22. Critical selection of new employee	①	②	③	④	⑤
23. Advantages in selection	①	②	③	④	⑤
24. Flexible job assignment	①	②	③	④	⑤
25. Payment	①	②	③	④	⑤
26. Performance appraisal	①	②	③	④	⑤
27. Employment contract requires commitment	①	②	③	④	⑤
28. An attractive benefit package	①	②	③	④	⑤
29. The possibility to occupy a higher position	①	②	③	④	⑤
II. ORGAANIZATIONAL JUSTICE					
Perceived Distributive justice: 0.868					
30. My work schedule is fair	①	②	③	④	⑤
31. I think that my level of pay is fair	①	②	③	④	⑤
32. I consider my workload to be quite fair	①	②	③	④	⑤
33. The rewards I receive here are quite fair	①	②	③	④	⑤
34. I feel that my job responsibilities are fair	①	②	③	④	⑤

Perceived Procedural justice: 0.886					
35. Be able to express your views and feelings during those procedures	①	②	③	④	⑤
36. Have influence over the (outcome) arrived at by those procedures?	①	②	③	④	⑤
37. Those procedures been applied consistently	①	②	③	④	⑤
38. Those procedures been free of bias.	①	②	③	④	⑤
39. Those procedures been based on accurate information	①	②	③	④	⑤
40. Able to appeal the (outcome) arrived at by those procedures?	①	②	③	④	⑤
41. Those procedures upheld ethical and moral standards	①	②	③	④	⑤
Perceived interpersonal justice: 0.735					
42. The general manager treats me with kindness and consideration	①	②	③	④	⑤
43. The general manager treats me with respect and dignity	①	②	③	④	⑤
44. The general manager is sensitive to my personal needs	①	②	③	④	⑤
45. The general manager deals with me in a truthful manner	①	②	③	④	⑤
Perceived informational justice: 0.893					
46. My general manger candid in their communication with me	①	②	③	④	⑤
47. My manager explained the procedures thoroughly.	①	②	③	④	⑤
48. My manager's explanations regarding the procedures reasonable	①	②	③	④	⑤
49. My manager communicated details in a timely manner.	①	②	③	④	⑤
50. My manager seems to tailor their communications to individuals' specific needs	①	②	③	④	⑤
III. Turnover intention					

51. I am always searching for an opportunity to work anywhere else	①	②	③	④	⑤
52. I thought I would leave this organization	①	②	③	④	⑤
53. I plan to work at this organization for a certain time and will leave after that	①	②	③	④	⑤
54. I always prefer working in the private sector (local firms or multinational companies)	①	②	③	④	⑤
55. I consider paying fines when breaking my contract with the government.	①	②	③	④	⑤

Thank you very much for your kind help

APPENDIX 4: INTERVIEW QUESTIONS FOR QUALITATIVE RESEARCH

(January 2023)

Part 1: General introduction to the interview

To whom it may concern,

My name is Pham Thi Thanh Huyen, and I work at the Organization Department of Hai Phong City Party Committee. I am a PhD student at the National Institute for Policy Studies, Japan under the cooperation program between the Governments of Japan and Vietnam. My research topic is: "THE IMPACTS OF TALENT MANAGEMENT AND ORGANIZATIONAL JUSTICE ON TURNOVER INTENTION IN THE PUBLIC SECTOR. Regional differences in Vietnam."

I pledge that the information you provide is for sociological investigation, kept confidential, does not store name information, and is not used for any purpose other than database analysis. The data is based on the overall research samples, thereby planning policies to retain high-quality human resources in the public sector in general and in the context of Vietnam in particular.

The interview consists of 3 parts. Part 1 is general information about me, the research topic, and purpose of the interview. Part 2 is information about the interviewee. Part 3 is the interviewer's personal feelings about some issues related to retaining civil servants and public employees working in the public sector. I am looking forward to receiving your support and friends to complete the research mission in Japan!

Part 2: Information about the interviewee

- Information about interviewees: age, gender, position, current work unit, and seniority.

- Information about the study program: education level, funding sources, majors, and form of study.

Part 3: Key questions

1. How do hard human resource management activities affect your turnover retention in the public sector?

2. How do soft human resource management activities affect your turnover retention in the public sector?

3. How does distributive justice affect your turnover retention in the public sector?

4. How does procedural justice affect your turnover retention in the public sector?

5. How does interpersonal justice affect your turnover retention in the public sector?

6. How does informational justice affect your turnover retention in the public sector?

7. How does organizational justice mediate the relationship between talent management practices and your turnover intention?

8. How do the impacts of TM practices and organizational justice on turnover intention differs from the North to the South?

9. How does the degree of turnover intention of talented officials differs from the North to the South?

10. In your opinion, what measures should be taken to encourage talented people to work in the public sector and reduce the intention to quit?

Thank you very much for your time!

APPENDIX 5: QUANTITATIVE DATA

PART 1: Statistics

I. Statistics

c1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	275	46.1	46.1	46.1
	Female	322	53.9	53.9	100.0
	Total	597	100.0	100.0	

c2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<30	107	17.9	17.9	17.9
	>40	162	27.1	27.1	45.1
	31–40	328	54.9	54.9	100.0
	Total	597	100.0	100.0	

c3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5–10 years	157	26.3	26.3	26.3
	<5 years	97	16.2	16.2	42.5
	>10 years	343	57.5	57.5	100.0
	Total	597	100.0	100.0	

c4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employees	442	74.0	74.0	74.0
	Department manager	23	3.9	3.9	77.9
	Unit manager	132	22.1	22.1	100.0

	Total	597	100.0	100.0	

c5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Party organizations	76	12.7	12.7	12.7
	State companies	29	4.9	4.9	17.6
	Public non-business units	233	39.0	39.0	56.6
	Governmental departments	207	34.7	34.7	91.3
	Others	52	8.7	8.7	100.0
	Total	597	100.0	100.0	

c6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	228	38.2	38.2	38.2
	2	173	29.0	29.0	67.2
	3	196	32.8	32.8	100.0
	Total	597	100.0	100.0	

c7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		11	1.8	1.8	1.8
	Employees	380	63.7	63.7	65.5
	Department manager	39	6.5	6.5	72.0
	Unit manager	167	28.0	28.0	100.0
	Total	597	100.0	100.0	

c8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Party organizations	80	13.4	13.4	13.4
	State companies	20	3.4	3.4	16.8
	Public non-business units	244	40.9	40.9	57.6
	Governmental departments	210	35.2	35.2	92.8
	Others	43	7.2	7.2	100.0
	Total	597	100.0	100.0	

c9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	North	200	33.5	33.5	33.5
	South	196	32.8	32.8	66.3
	Middle	201	33.7	33.7	100.0
	Total	597	100.0	100.0	

c10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master's	435	72.9	72.9	72.9
	Doctors	162	27.1	27.1	100.0
	Total	597	100.0	100.0	

c11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	61	10.2	10.2	10.2
	2	104	17.4	17.4	27.6
	3	432	72.4	72.4	100.0
	Total	597	100.0	100.0	

c12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Overseas	218	36.5	36.5	36.5
	Domestics	360	60.3	60.3	96.8
	Overseas and domestics	19	3.2	3.2	100.0
	Total	597	100.0	100.0	

c13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	30	5.0	5.0	5.0
	2	22	3.7	3.7	8.7
	3	545	91.3	91.3	100.0
	Total	597	100.0	100.0	

II. Variable means according to regions

Table 1. National level

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TMS1	597	1	5	3.48	1.030
TMS2	597	1	5	3.72	.944
TMS3	597	1	5	3.23	1.093
TMS4	597	1	5	3.20	1.100
TMS5	597	1	5	3.50	.977
TMS6	597	1	5	3.56	.951
TMS7	597	1	5	3.52	.999
TMH1	597	1	5	3.69	.809
TMH2	597	1	5	3.80	.788
TMH3	597	1	5	3.47	.836
TMH4	597	1	5	3.76	.749
TMH5	597	1	5	3.55	.845

TMH6	597	2	5	3.67	.798
TMH7	597	1	5	3.60	.770
TMH8	597	1	5	3.69	.814
OD1	597	1	5	3.29	.937
OD2	597	1	5	2.67	1.132
OD3	597	1	5	3.03	1.024
OD4	597	1	5	2.96	1.053
OD5	597	1	5	3.11	.989
OP1	597	1	5	1.99	.722
OP2	597	1	5	1.90	.624
OP3	597	1	4	1.94	.679
OP4	597	1	5	1.95	.642
OP5	597	1	5	1.94	.799
OP6	597	1	5	1.95	.689
OP7	597	1	4	2.12	.689
OI1	597	2	5	3.91	.616
OI2	597	1	5	3.98	.668
OI3	597	1	5	3.89	.640
OIF1	597	1	5	2.27	.858
OIF2	597	1	5	2.78	.914
OIF3	597	1	5	2.44	.785
OIF4	597	1	5	2.64	.884
OIF5	597	1	5	2.30	.756
TI1	597	1	5	3.27	1.157
TI2	597	1	5	3.05	1.177
TI3	597	1	5	3.10	1.165
TI4	597	1	5	3.01	1.035
TI5	597	1	5	3.19	1.134
Valid N (listwise)	597				

Table 2. North region of Vietnam

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TMS1	200	1	5	3.48	1.061
TMS2	200	1	5	3.73	.996
TMS3	200	1	5	3.22	1.138
TMS4	200	1	5	3.10	1.169
TMS5	200	1	5	3.38	1.035
TMS6	200	1	5	3.51	1.022

TMS7	200	1	5	3.51	1.042
TMH1	200	2	5	3.65	.692
TMH2	200	1	5	3.77	.760
TMH3	200	2	5	3.46	.756
TMH4	200	2	5	3.77	.694
TMH5	200	2	5	3.55	.807
TMH6	200	2	5	3.69	.774
TMH7	200	2	5	3.66	.684
TMH8	200	2	5	3.68	.793
OD1	200	1	5	3.23	.964
OD2	200	1	5	2.59	1.085
OD3	200	1	5	2.91	1.045
OD4	200	1	5	2.82	1.044
OD5	200	1	5	3.09	1.015
OP1	200	1	4	2.07	.726
OP2	200	1	3	1.96	.633
OP3	200	1	4	2.00	.654
OP4	200	1	4	2.03	.622
OP5	200	1	5	2.03	.798
OP6	200	1	4	2.07	.646
OP7	200	1	4	2.16	.719
OI1	200	2	5	3.88	.603
OI2	200	1	5	3.94	.639
OI3	200	2	5	3.91	.636
OIF1	200	1	5	2.23	.855
OIF2	200	1	5	2.61	.895
OIF3	200	1	4	2.41	.745
OIF4	200	1	5	2.50	.783
OIF5	200	1	5	2.24	.772
TI1	200	1	5	3.27	1.169
TI2	200	1	5	2.96	1.187
TI3	200	1	5	3.03	1.164
TI4	200	1	5	2.97	1.044
TI5	200	1	5	3.20	1.098
Valid N (listwise)	200				

Table 3. Middle region of Vietnam

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TMS1	201	1	5	3.58	.886
TMS2	201	1	5	3.68	.825
TMS3	201	1	5	3.33	.965
TMS4	201	1	5	3.33	.902
TMS5	201	1	5	3.56	.865
TMS6	201	1	5	3.69	.803
TMS7	201	1	5	3.66	.815
TMH1	201	1	5	3.56	.876
TMH2	201	1	5	3.67	.838
TMH3	201	1	5	3.24	.879
TMH4	201	1	5	3.64	.782
TMH5	201	1	5	3.48	.855
TMH6	201	2	5	3.58	.846
TMH7	201	2	5	3.48	.794
TMH8	201	1	5	3.56	.870
OD1	201	1	5	3.36	.844
OD2	201	1	5	2.85	1.068
OD3	201	1	5	3.16	.956
OD4	201	1	5	3.15	.968
OD5	201	1	5	3.20	.907
OP1	201	1	5	1.95	.743
OP2	201	1	5	1.87	.638
OP3	201	1	4	1.89	.715
OP4	201	1	5	1.89	.654
OP5	201	1	5	1.86	.815
OP6	201	1	5	1.88	.739
OP7	201	1	3	2.10	.693
OI1	201	2	5	3.99	.678
OI2	201	1	5	4.06	.753
OI3	201	1	5	3.94	.676
OIF1	201	1	5	2.20	.866
OIF2	201	1	5	2.93	.998
OIF3	201	1	5	2.50	.831
OIF4	201	1	5	2.78	1.006
OIF5	201	1	5	2.33	.807
TI1	201	1	5	3.07	1.079
TI2	201	1	5	2.84	1.088
TI3	201	1	5	2.89	1.114

TI4	201	1	5	2.89	.974
TI5	201	1	5	3.04	1.069
Valid N (listwise)	201				

Table 4: South region of Vietnam

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
TMS1	196	1	4	2.24	.572
TMS2	196	1	4	2.26	.596
TMS3	196	1	4	2.24	.581
TMS4	196	1	4	2.20	.590
TMS5	196	1	3	2.07	.586
TMS6	196	1	3	2.15	.549
TMS7	196	1	3	2.05	.593
TMH1	196	2	5	3.85	.825
TMH2	196	2	5	3.95	.742
TMH3	196	2	5	3.71	.805
TMH4	196	2	5	3.88	.752
TMH5	196	1	5	3.63	.870
TMH6	196	2	5	3.76	.764
TMH7	196	1	5	3.68	.813
TMH8	196	1	5	3.81	.758
OD1	196	1	5	2.72	.996
OD2	196	1	5	3.43	1.224
OD3	196	1	5	2.99	1.057
OD4	196	1	5	3.09	1.122
OD5	196	1	5	2.97	1.037
OP1	196	1	4	1.96	.693
OP2	196	1	3	1.87	.598
OP3	196	1	4	1.95	.666
OP4	196	1	5	1.94	.646
OP5	196	1	5	1.94	.775
OP6	196	1	3	1.91	.665
OP7	196	1	4	2.10	.653
OI1	196	1	5	2.46	.831
OI2	196	1	5	2.49	.801
OI3	196	1	5	2.56	.907
OIF1	196	1	5	3.53	.979

OIF2	196	1	5	3.38	1.034
OIF3	196	1	5	3.33	.921
OIF4	196	1	5	3.35	.989
OIF5	196	1	5	3.42	.950
TI1	196	1	5	3.48	1.192
TI2	196	1	5	3.37	1.193
TI3	196	1	5	3.38	1.164
TI4	196	1	5	3.19	1.067
TI5	196	1	5	3.32	1.220
Valid N (listwise)	196				

PART 2: Cronbach alpha analysis

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.919	.919	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TMS1	20.71	25.860	.675	.476	.914
TMS2	20.47	26.988	.623	.405	.919
TMS3	20.96	24.255	.793	.651	.902
TMS4	20.99	24.154	.799	.667	.902
TMS5	20.69	25.036	.818	.683	.900
TMS6	20.63	25.791	.756	.677	.906
TMS7	20.67	25.107	.788	.691	.903

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
236.384	39.067	6	591	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.943	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TMH1	25.54	22.393	.820	.690	.933
TMH2	25.43	22.762	.790	.633	.935
TMH3	25.76	22.370	.791	.642	.935
TMH4	25.47	23.249	.764	.606	.937
TMH5	25.68	22.451	.769	.611	.937
TMH6	25.55	22.737	.783	.624	.936
TMH7	25.62	22.775	.811	.667	.934
TMH8	25.54	22.366	.818	.680	.933

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
201.705	28.525	7	590	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.922	.922	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OD1	11.77	14.403	.684	.479	.924
OD2	12.39	12.560	.786	.666	.907
OD3	12.03	12.952	.834	.718	.896
OD4	12.10	12.677	.848	.747	.893
OD5	11.95	13.140	.841	.741	.895

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
259.543	64.559	4	593	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.885	.888	7

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OP1	24.19	10.771	.565	.374	.883
OP2	24.10	10.517	.757	.595	.860
OP3	24.14	10.455	.695	.522	.866
OP4	24.15	10.600	.708	.528	.865
OP5	24.14	10.004	.659	.471	.872
OP6	24.15	10.380	.702	.507	.865
OP7	24.32	10.499	.672	.478	.869

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
90.228	14.912	6	591	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.843	.844	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OI1	7.87	1.405	.708	.502	.783
OI2	7.80	1.295	.709	.502	.783
OI3	7.89	1.352	.710	.505	.780

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
18.615	9.292	2	595	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.825	.827	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OIF1	10.16	7.229	.529	.320	.816
OIF2	9.65	6.540	.648	.557	.782
OIF3	9.98	7.112	.639	.474	.785
OIF4	9.78	6.680	.645	.556	.782
OIF5	10.13	7.197	.650	.471	.783

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
221.459	55.086	4	593	.000

Case Processing Summary

		N	%
Cases	Valid	597	100.0
	Excluded[a]	0	.0
	Total	597	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.896	.895	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
TI1	12.35	14.365	.799	.719	.860
TI2	12.57	13.759	.867	.826	.844
TI3	12.52	14.324	.798	.711	.860
TI4	12.61	15.796	.711	.512	.880
TI5	12.44	16.340	.555	.324	.913

Hotelling's T-Squared Test

Hotelling's T-Squared	F	df1	df2	Sig
86.107	21.418	4	593	.000

PART 3: EFA RESULTS

I. Independent variables

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.924
Bartlett's Test of Sphericity	Approx. Chi-Square	6625.439
	df	105
	Sig.	.000

Communalities

	Initial	Extraction
TMS1	1.000	.571
TMS2	1.000	.509
TMS3	1.000	.733
TMS4	1.000	.740
TMS5	1.000	.768
TMS6	1.000	.689
TMS7	1.000	.731
TMH1	1.000	.750
TMH2	1.000	.710
TMH3	1.000	.712
TMH4	1.000	.675
TMH5	1.000	.682
TMH6	1.000	.699
TMH7	1.000	.739
TMH8	1.000	.749

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.273	21.366	21.366	4.273	21.366	21.366	4.204	21.019	21.019
2	3.880	19.399	40.766	3.880	19.399	40.766	3.828	19.139	40.158
3	3.413	17.067	57.833	3.413	17.067	57.833	2.993	14.967	55.124
4	1.769	8.844	66.677	1.769	8.844	66.677	2.311	11.553	66.677
5	.856	4.279	70.956						
6	.714	3.568	74.524						
7	.598	2.990	77.514						
8	.549	2.747	80.261						
9	.490	2.451	82.711						
10	.428	2.142	84.853						
11	.424	2.121	86.973						
12	.384	1.920	88.893						
13	.362	1.808	90.701						
14	.339	1.693	92.393						
15	.323	1.614	94.008						
16	.302	1.512	95.520						
17	.290	1.449	96.968						
18	.249	1.246	98.214						
19	.204	1.019	99.233						
20	.153	.767	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
TMS1		.735
TMS2		.706
TMS3		.839
TMS4		.823
TMS5		.846
TMS6		.808
TMS7		.824
TMH1	.851	
TMH2	.827	
TMH3	.823	
TMH4	.808	
TMH5	.802	
TMH6	.825	

TMH7	.840	
TMH8	.854	

Extraction Method: Principal Component Analysis.

a. two components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
TMS1		.755
TMS2		.712
TMS3		.856
TMS4		.857
TMS5		.875
TMS6		.830
TMS7		.853
TMH1	.866	
TMH2	.842	
TMH3	.844	
TMH4	.821	
TMH5	.825	
TMH6	.835	
TMH7	.860	
TMH8	.864	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.977	.214
2	-.214	.977

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

II. Mediating variables

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.846
Bartlett's Test of Sphericity	Approx. Chi-Square	6412.862
	df	190
	Sig.	.000

Communalities

	Initial	Extraction
OD1	1.000	.622
OD2	1.000	.750
OD3	1.000	.810
OD4	1.000	.824
OD5	1.000	.819
OP1	1.000	.456
OP2	1.000	.702
OP3	1.000	.630
OP4	1.000	.647
OP5	1.000	.579
OP6	1.000	.623
OP7	1.000	.592
OI1	1.000	.768
OI2	1.000	.744
OI3	1.000	.754
OIF1	1.000	.469
OIF2	1.000	.655
OIF3	1.000	.607
OIF4	1.000	.652
OIF5	1.000	.631

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component			
	1	2	3	4
OD1		.637		
OD2		.653		
OD3		.733		
OD4		.693		
OD5		.730		
OP1	.622			
OP2	.763			
OP3	.734			
OP4	.743			
OP5	.679			
OP6	.720			
OP7	.719			
OI1				.645
OI2			-.508	.596
OI3			-.506	.632
OIF1			.551	
OIF2			.608	
OIF3			.605	
OIF4			.591	
OIF5			.676	

Extraction Method: Principal Component Analysis.

a. Four components extracted.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
OD1		.787		
OD2		.865		
OD3		.898		
OD4		.907		
OD5		.903		
OP1	.674			

OP2	.836			
OP3	.791			
OP4	.799			
OP5	.760			
OP6	.788			
OP7	.764			
OI1				.864
OI2				.841
OI3				.855
OIF1			.659	
OIF2			.809	
OIF3			.764	
OIF4			.807	
OIF5			.755	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Component Transformation Matrix

Component	1	2	3	4
1	.913	.389	-.087	.087
2	-.398	.785	-.380	.285
3	-.090	.481	.740	-.462
4	-.010	-.043	.548	.835

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

III. Dependent variable

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.842
Bartlett's Test of Sphericity	Approx. Chi-Square	2072.894
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
TI1	1.000	.783
TI2	1.000	.865
TI3	1.000	.781
TI4	1.000	.663
TI5	1.000	.463

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.556	71.114	71.114	3.556	71.114	71.114
2	.645	12.902	84.015			
3	.410	8.199	92.215			
4	.269	5.380	97.595			
5	.120	2.405	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

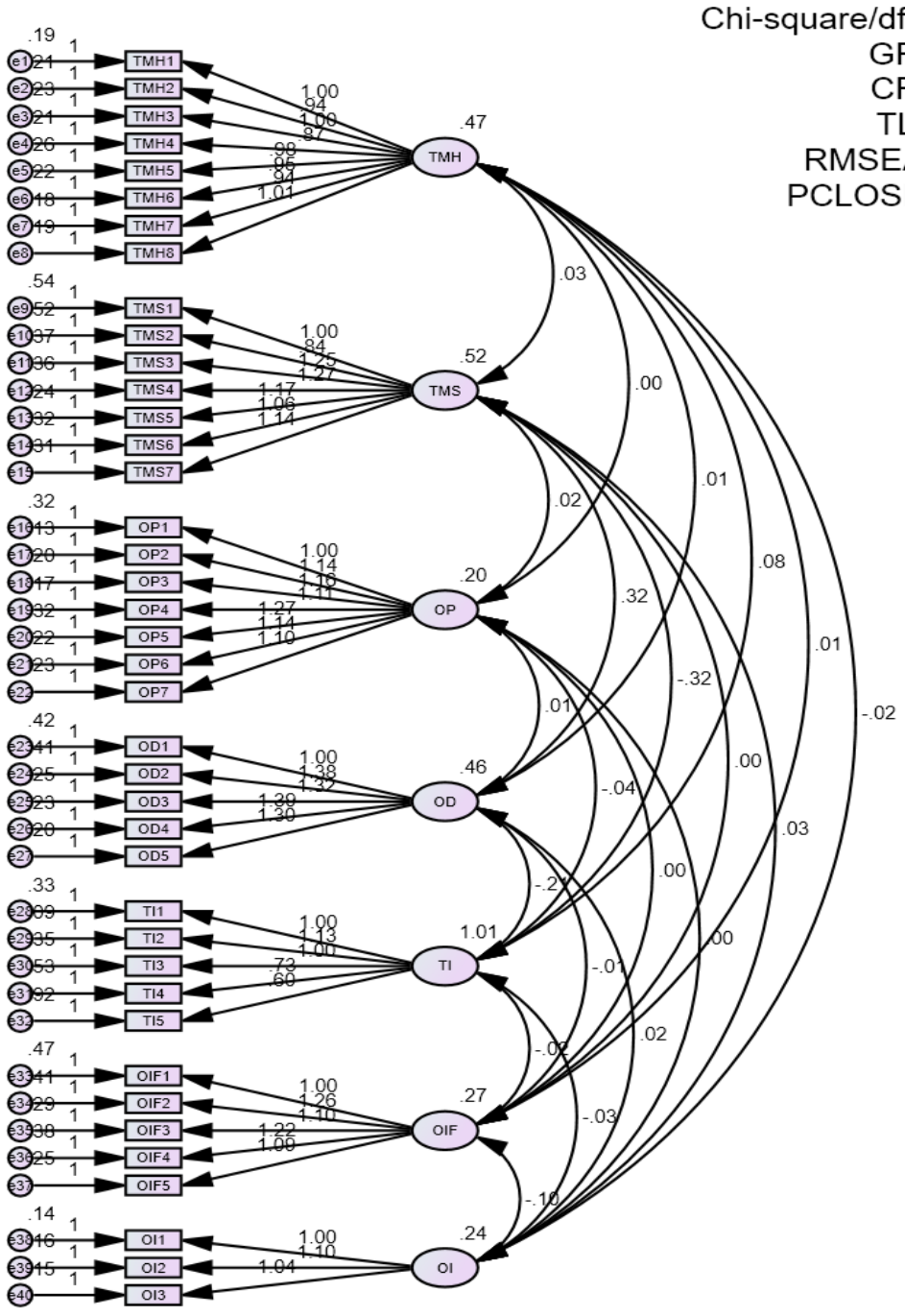
	Component
	1
TI1	.885
TI2	.930
TI3	.884
TI4	.814
TI5	.681

Extraction Method: Principal Component Analysis.

PART 4: IMPACTS OF TM AND OJ TO IT BY CFA AND SEM

1. CFA Model

Nation



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.943	.038	24.768	***	
TMH3	<---	TMH	1.002	.040	24.867	***	
TMH4	<---	TMH	.868	.037	23.561	***	
TMH5	<---	TMH	.985	.041	23.774	***	
TMH6	<---	TMH	.945	.039	24.413	***	
TMH7	<---	TMH	.944	.037	25.819	***	
TMH8	<---	TMH	1.006	.038	26.180	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.838	.056	15.005	***	
TMS3	<---	TMS	1.252	.065	19.224	***	
TMS4	<---	TMS	1.271	.066	19.405	***	
TMS5	<---	TMS	1.165	.058	19.976	***	
TMS6	<---	TMS	1.058	.057	18.694	***	
TMS7	<---	TMS	1.143	.060	19.203	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.139	.073	15.497	***	
OP3	<---	OP	1.157	.078	14.789	***	
OP4	<---	OP	1.105	.074	14.904	***	
OP5	<---	OP	1.268	.090	14.062	***	
OP6	<---	OP	1.137	.079	14.465	***	
OP7	<---	OP	1.103	.078	14.153	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.380	.070	19.820	***	
OD3	<---	OD	1.324	.063	21.069	***	
OD4	<---	OD	1.385	.065	21.420	***	
OD5	<---	OD	1.305	.061	21.488	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.133	.032	35.727	***	
TI3	<---	TI	.998	.035	28.910	***	
TI4	<---	TI	.729	.035	20.734	***	
TI5	<---	TI	.602	.042	14.166	***	
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.258	.096	13.140	***	
OIF3	<---	OIF	1.095	.083	13.253	***	
OIF4	<---	OIF	1.216	.093	13.135	***	
OIF5	<---	OIF	1.086	.081	13.483	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.096	.058	18.828	***	
OI3	<---	OI	1.042	.056	18.755	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
TMH1	<---	TMH	.845
TMH2	<---	TMH	.817
TMH3	<---	TMH	.819
TMH4	<---	TMH	.792
TMH5	<---	TMH	.797
TMH6	<---	TMH	.810
TMH7	<---	TMH	.838
TMH8	<---	TMH	.845
TMS1	<---	TMS	.703
TMS2	<---	TMS	.642
TMS3	<---	TMS	.829
TMS4	<---	TMS	.837
TMS5	<---	TMS	.863
TMS6	<---	TMS	.805
TMS7	<---	TMS	.828
OP1	<---	OP	.616
OP2	<---	OP	.812
OP3	<---	OP	.758
OP4	<---	OP	.766
OP5	<---	OP	.707
OP6	<---	OP	.735
OP7	<---	OP	.713
OD1	<---	OD	.721
OD2	<---	OD	.823
OD3	<---	OD	.874
OD4	<---	OD	.888
OD5	<---	OD	.891
TI1	<---	TI	.869
TI2	<---	TI	.968
TI3	<---	TI	.861
TI4	<---	TI	.708
TI5	<---	TI	.534
OIF1	<---	OIF	.604
OIF2	<---	OIF	.714
OIF3	<---	OIF	.724
OIF4	<---	OIF	.713
OIF5	<---	OIF	.744
OI1	<---	OI	.798
OI2	<---	OI	.806

			Estimate
OI3	<---	OI	.800

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH	<-->	TMS	.027	.022	1.255	.209	
TMH	<-->	OP	-.002	.014	-.156	.876	
TMH	<-->	OD	.009	.020	.468	.640	
TMH	<-->	TI	.084	.030	2.804	.005	
TMH	<-->	OIF	.013	.016	.817	.414	
TMH	<-->	OI	-.019	.015	-1.209	.227	
TMS	<-->	OP	.020	.015	1.379	.168	
TMS	<-->	OD	.323	.031	10.332	***	
TMS	<-->	TI	-.320	.037	-8.544	***	
TMS	<-->	OIF	.000	.017	-.014	.989	
TMS	<-->	OI	.026	.017	1.572	.116	
OP	<-->	OD	.013	.013	.955	.340	
OP	<-->	TI	-.043	.020	-2.127	.033	
OP	<-->	OIF	.001	.011	.082	.934	
OP	<-->	OI	.003	.010	.292	.770	
OD	<-->	TI	-.213	.032	-6.626	***	
OD	<-->	OIF	-.014	.016	-.882	.378	
OD	<-->	OI	.025	.015	1.604	.109	
TI	<-->	OIF	-.022	.024	-.931	.352	
TI	<-->	OI	-.033	.023	-1.448	.148	
OIF	<-->	OI	-.096	.014	-6.663	***	

Correlations: (Group number 1—Default model)

			Estimate
TMH	<-->	TMS	.055
TMH	<-->	OP	-.007
TMH	<-->	OD	.020
TMH	<-->	TI	.122
TMH	<-->	OIF	.038
TMH	<-->	OI	-.056
TMS	<-->	OP	.062
TMS	<-->	OD	.662
TMS	<-->	TI	-.440
TMS	<-->	OIF	-.001
TMS	<-->	OI	.073

			Estimate
OP	<-->	OD	.043
OP	<-->	TI	-.095
OP	<-->	OIF	.004
OP	<-->	OI	.014
OD	<-->	TI	-.314
OD	<-->	OIF	-.041
OD	<-->	OI	.074
TI	<-->	OIF	-.043
TI	<-->	OI	-.066
OIF	<-->	OI	-.379

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMH	.467	.037	12.639	***	
TMS	.523	.054	9.627	***	
OP	.198	.025	7.963	***	
OD	.456	.046	9.987	***	
TI	1.009	.076	13.233	***	
OIF	.268	.036	7.494	***	
OI	.241	.022	10.764	***	
e1	.187	.013	14.674	***	
e2	.206	.014	15.172	***	
e3	.229	.015	15.141	***	
e4	.209	.013	15.516	***	
e5	.260	.017	15.460	***	
e6	.218	.014	15.281	***	
e7	.176	.012	14.805	***	
e8	.189	.013	14.660	***	
e9	.537	.033	16.060	***	
e10	.523	.032	16.398	***	
e11	.373	.026	14.530	***	
e12	.361	.025	14.347	***	
e13	.243	.018	13.618	***	
e14	.318	.021	14.975	***	
e15	.313	.022	14.550	***	
e16	.323	.020	16.016	***	
e17	.132	.010	13.268	***	
e18	.196	.014	14.489	***	
e19	.170	.012	14.336	***	
e20	.319	.021	15.222	***	

	Estimate	S.E.	C.R.	P	Label
e21	.218	.015	14.859	***	
e22	.233	.015	15.148	***	
e23	.420	.026	15.977	***	
e24	.413	.028	14.742	***	
e25	.247	.019	13.346	***	
e26	.234	.018	12.713	***	
e27	.201	.016	12.570	***	
e28	.328	.023	14.139	***	
e29	.086	.016	5.259	***	
e30	.349	.024	14.394	***	
e31	.532	.032	16.417	***	
e32	.918	.054	16.947	***	
e33	.467	.031	15.301	***	
e34	.409	.030	13.676	***	
e35	.293	.022	13.464	***	
e36	.383	.028	13.685	***	
e37	.255	.020	12.959	***	
e38	.137	.012	11.295	***	
e39	.156	.014	10.937	***	
e40	.147	.013	11.206	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI3	.640
OI2	.650
OI1	.637
OIF5	.554
OIF4	.509
OIF3	.524
OIF2	.509
OIF1	.365
TI5	.285
TI4	.502
TI3	.742
TI2	.937
TI1	.755
OD5	.794
OD4	.789
OD3	.764
OD2	.678

	Estimate
OD1	.520
OP7	.508
OP6	.540
OP5	.499
OP4	.587
OP3	.574
OP2	.660
OP1	.380
TMS7	.686
TMS6	.648
TMS5	.745
TMS4	.701
TMS3	.687
TMS2	.412
TMS1	.494
TMH8	.714
TMH7	.703
TMH6	.656
TMH5	.635
TMH4	.628
TMH3	.671
TMH2	.668
TMH1	.713

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	101	1662.494	719	.000	2.312
Saturated model	820	.000	0		
Independence model	40	16370.589	780	.000	20.988

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.030	.877	.860	.769
Saturated model	.000	1.000		
Independence model	.229	.276	.239	.263

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.898	.890	.940	.934	.939
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.922	.828	.866
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	943.494	828.554	1066.121
Saturated model	.000	.000	.000
Independence model	15590.589	15177.921	16009.640

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.789	1.583	1.390	1.789
Saturated model	.000	.000	.000	.000
Independence model	27.467	26.159	25.466	26.862

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.047	.044	.050	.957
Independence model	.183	.181	.186	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1864.494	1879.416	2308.077	2409.077
Saturated model	1640.000	1761.153	5241.372	6061.372
Independence model	16450.589	16456.499	16626.266	16666.266

ECVI

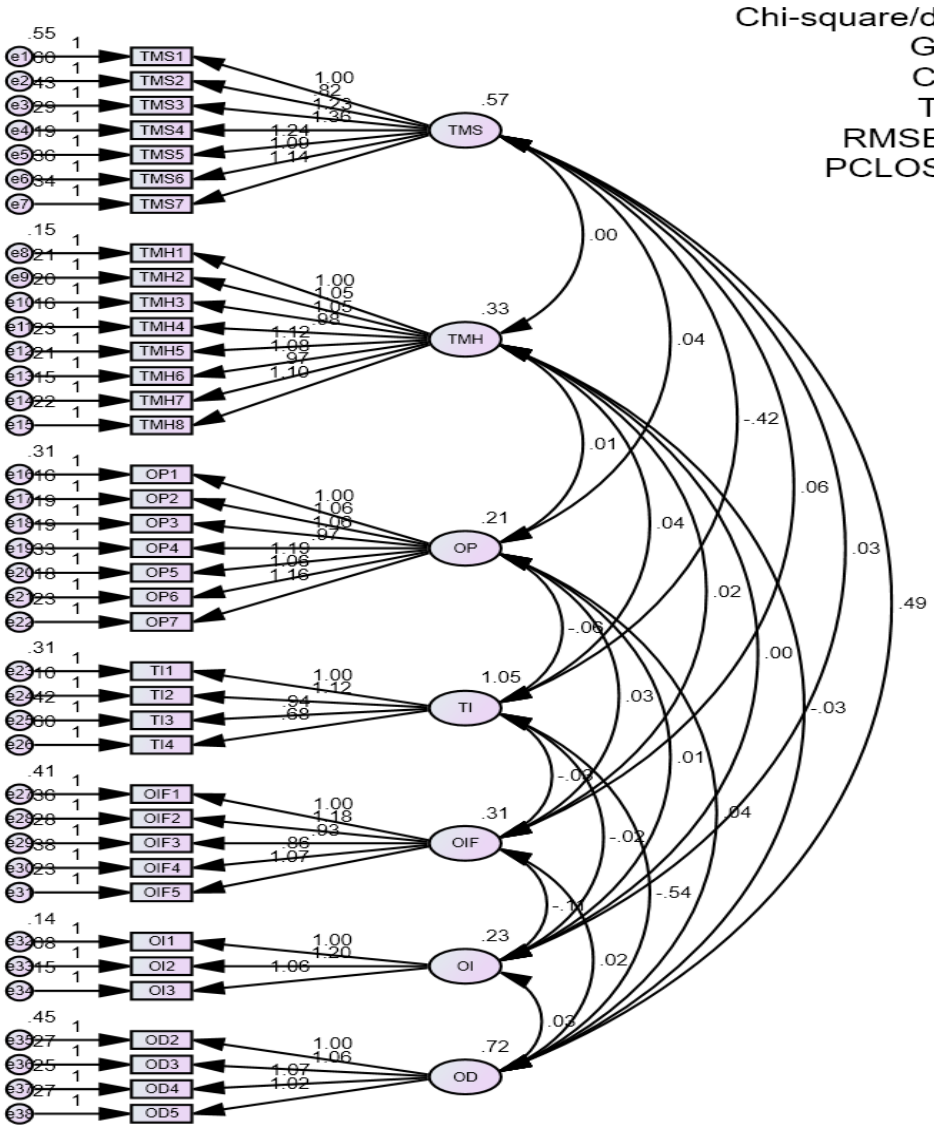
Model	ECVI	LO 90	HI 90	MECVI
Default model	3.128	2.935	3.334	3.153

Model	ECVI	LO 90	HI 90	MECVI
Saturated model	2.752	2.752	2.752	2.955
Independence model	27.602	26.909	28.305	27.612

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	281	291
Independence model	31	32

1.1. North region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.824	.095	8.659	***	
TMS3	<---	TMS	1.228	.108	11.338	***	
TMS4	<---	TMS	1.365	.111	12.272	***	
TMS5	<---	TMS	1.239	.098	12.584	***	
TMS6	<---	TMS	1.091	.097	11.210	***	
TMS7	<---	TMS	1.138	.099	11.481	***	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	1.048	.078	13.391	***	
TMH3	<---	TMH	1.049	.078	13.510	***	
TMH4	<---	TMH	.981	.071	13.885	***	
TMH5	<---	TMH	1.123	.083	13.582	***	
TMH6	<---	TMH	1.083	.079	13.690	***	
TMH7	<---	TMH	.971	.069	13.965	***	
TMH8	<---	TMH	1.104	.081	13.579	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.060	.119	8.885	***	
OP3	<---	OP	1.059	.122	8.671	***	
OP4	<---	OP	.971	.115	8.439	***	
OP5	<---	OP	1.191	.146	8.141	***	
OP6	<---	OP	1.064	.121	8.779	***	
OP7	<---	OP	1.161	.134	8.650	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.115	.054	20.698	***	
TI3	<---	TI	.943	.060	15.835	***	
TI4	<---	TI	.677	.061	11.023	***	
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.182	.139	8.535	***	
OIF3	<---	OIF	.931	.114	8.188	***	
OIF4	<---	OIF	.860	.117	7.375	***	
OIF5	<---	OIF	1.073	.121	8.832	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.198	.097	12.404	***	
OI3	<---	OI	1.063	.091	11.650	***	
OD2	<---	OD	1.000				
OD3	<---	OD	1.061	.078	13.539	***	
OD4	<---	OD	1.073	.078	13.734	***	
OD5	<---	OD	1.022	.076	13.378	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
TMS1	<---	TMS	.715
TMS2	<---	TMS	.627
TMS3	<---	TMS	.819
TMS4	<---	TMS	.885
TMS5	<---	TMS	.908
TMS6	<---	TMS	.809
TMS7	<---	TMS	.829
TMH1	<---	TMH	.834
TMH2	<---	TMH	.795
TMH3	<---	TMH	.800
TMH4	<---	TMH	.815
TMH5	<---	TMH	.803
TMH6	<---	TMH	.807
TMH7	<---	TMH	.818
TMH8	<---	TMH	.803
OP1	<---	OP	.634
OP2	<---	OP	.772
OP3	<---	OP	.747
OP4	<---	OP	.720
OP5	<---	OP	.688
OP6	<---	OP	.759
OP7	<---	OP	.744
TI1	<---	TI	.878
TI2	<---	TI	.964
TI3	<---	TI	.831
TI4	<---	TI	.666
OIF1	<---	OIF	.658
OIF2	<---	OIF	.743
OIF3	<---	OIF	.703
OIF4	<---	OIF	.617
OIF5	<---	OIF	.782
OI1	<---	OI	.790
OI2	<---	OI	.893
OI3	<---	OI	.796
OD2	<---	OD	.784
OD3	<---	OD	.865
OD4	<---	OD	.875
OD5	<---	OD	.857

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMS	<-->	TMH	.005	.033	.140	.889	
TMS	<-->	OP	.044	.028	1.602	.109	
TMS	<-->	TI	-.420	.073	-5.733	***	
TMS	<-->	OIF	.062	.035	1.779	.075	
TMS	<-->	OI	.032	.028	1.137	.256	
TMS	<-->	OD	.485	.074	6.590	***	
TMH	<-->	OP	.015	.021	.706	.480	
TMH	<-->	TI	.041	.044	.914	.361	
TMH	<-->	OIF	.023	.026	.900	.368	
TMH	<-->	OI	.003	.021	.141	.888	
TMH	<-->	OD	-.031	.038	-.824	.410	
OP	<-->	TI	-.061	.037	-1.649	.099	
OP	<-->	OIF	.026	.021	1.200	.230	
OP	<-->	OI	.009	.018	.489	.625	
OP	<-->	OD	.042	.031	1.343	.179	
TI	<-->	OIF	-.034	.046	-.746	.456	
TI	<-->	OI	-.025	.038	-.659	.510	
TI	<-->	OD	-.541	.085	-6.396	***	
OIF	<-->	OI	-.111	.026	-4.278	***	
OIF	<-->	OD	.025	.039	.638	.524	
OI	<-->	OD	.028	.032	.860	.390	

Correlations: (Group number 1—Default model)

			Estimate
TMS	<-->	TMH	.011
TMS	<-->	OP	.127
TMS	<-->	TI	-.542
TMS	<-->	OIF	.146
TMS	<-->	OI	.089
TMS	<-->	OD	.756
TMH	<-->	OP	.055
TMH	<-->	TI	.069
TMH	<-->	OIF	.072
TMH	<-->	OI	.011
TMH	<-->	OD	-.063
OP	<-->	TI	-.130
OP	<-->	OIF	.100
OP	<-->	OI	.039

			Estimate
OP	<-->	OD	.107
TI	<-->	OIF	-.059
TI	<-->	OI	-.051
TI	<-->	OD	-.622
OIF	<-->	OI	-.417
OIF	<-->	OD	.052
OI	<-->	OD	.068

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMS	.572	.100	5.726	***	
TMH	.331	.046	7.138	***	
OP	.211	.044	4.757	***	
TI	1.049	.135	7.759	***	
OIF	.315	.065	4.840	***	
OI	.226	.036	6.303	***	
OD	.721	.112	6.464	***	
e1	.547	.058	9.371	***	
e2	.598	.062	9.601	***	
e3	.425	.048	8.794	***	
e4	.294	.037	7.847	***	
e5	.187	.026	7.220	***	
e6	.358	.040	8.871	***	
e7	.338	.039	8.699	***	
e8	.145	.017	8.473	***	
e9	.211	.024	8.841	***	
e10	.205	.023	8.804	***	
e11	.161	.019	8.676	***	
e12	.230	.026	8.780	***	
e13	.208	.024	8.744	***	
e14	.154	.018	8.646	***	
e15	.222	.025	8.781	***	
e16	.314	.034	9.130	***	
e17	.161	.020	8.114	***	
e18	.188	.022	8.385	***	
e19	.185	.021	8.616	***	
e20	.334	.038	8.847	***	
e21	.176	.021	8.257	***	
e22	.230	.027	8.409	***	
e23	.311	.040	7.679	***	

	Estimate	S.E.	C.R.	P	Label
e24	.099	.032	3.093	.002	
e25	.417	.048	8.605	***	
e26	.603	.063	9.550	***	
e27	.412	.048	8.538	***	
e28	.357	.047	7.626	***	
e29	.280	.034	8.125	***	
e30	.377	.043	8.819	***	
e31	.230	.033	6.975	***	
e32	.136	.018	7.392	***	
e33	.083	.019	4.303	***	
e34	.147	.020	7.252	***	
e35	.451	.052	8.636	***	
e36	.274	.037	7.455	***	
e37	.255	.035	7.205	***	
e38	.273	.036	7.635	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OD5	.734
OD4	.765
OD3	.748
OD2	.615
OI3	.634
OI2	.797
OI1	.624
OIF5	.612
OIF4	.381
OIF3	.494
OIF2	.552
OIF1	.433
TI4	.444
TI3	.691
TI2	.930
TI1	.771
OP7	.554
OP6	.576
OP5	.473
OP4	.519
OP3	.557
OP2	.595

	Estimate
OP1	.402
TMH8	.644
TMH7	.668
TMH6	.651
TMH5	.645
TMH4	.663
TMH3	.640
TMH2	.633
TMH1	.695
TMS7	.687
TMS6	.655
TMS5	.825
TMS4	.784
TMS3	.670
TMS2	.394
TMS1	.511

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	97	1003.775	644	.000	1.559
Saturated model	741	.000	0		
Independence model	38	5735.254	703	.000	8.158

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.037	.796	.765	.692
Saturated model	.000	1.000		
Independence model	.253	.260	.220	.246

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.825	.809	.929	.922	.929
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.916	.756	.851
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	359.775	277.816	449.667
Saturated model	.000	.000	.000
Independence model	5032.254	4794.163	5276.898

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	5.044	1.808	1.396	2.260
Saturated model	.000	.000	.000	.000
Independence model	28.820	25.288	24.091	26.517

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.053	.047	.059	.217
Independence model	.190	.185	.194	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1197.775	1245.062	1517.711	1614.711
Saturated model	1482.000	1843.238	3926.053	4667.053
Independence model	5811.254	5829.779	5936.590	5974.590

ECVI

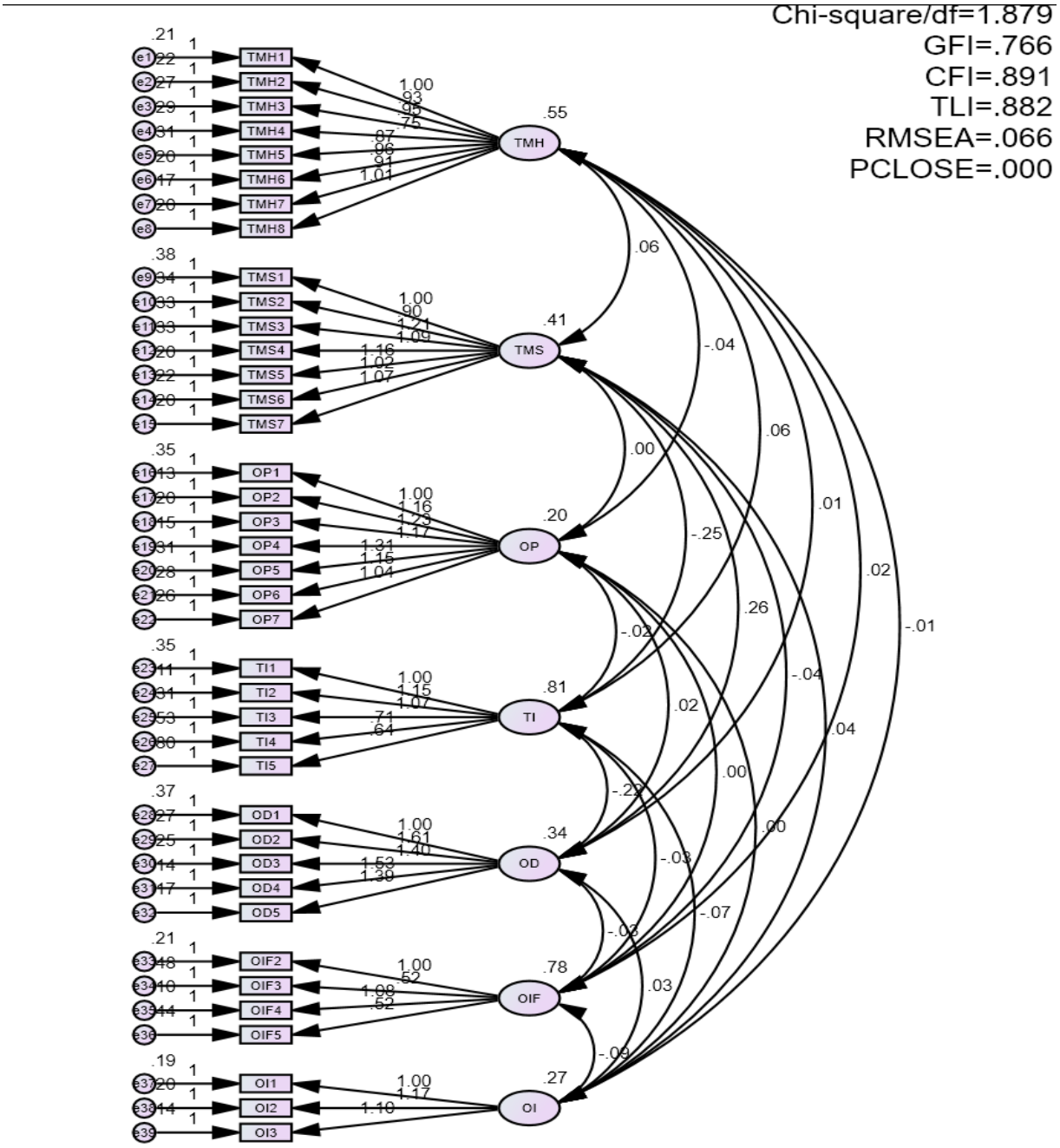
Model	ECVI	LO 90	HI 90	MECVI
Default model	6.019	5.607	6.471	6.257
Saturated model	7.447	7.447	7.447	9.263
Independence model	29.202	28.006	30.432	29.295

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	140	145

Model	HOELTER .05	HOELTER .01
Independence model	27	28

1.2. Middle region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.933	.063	14.848	***	
TMH3	<---	TMH	.948	.067	14.085	***	
TMH4	<---	TMH	.754	.063	11.884	***	
TMH5	<---	TMH	.868	.068	12.821	***	
TMH6	<---	TMH	.965	.062	15.485	***	
TMH7	<---	TMH	.911	.058	15.630	***	
TMH8	<---	TMH	1.006	.064	15.834	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.905	.094	9.665	***	
TMS3	<---	TMS	1.209	.109	11.068	***	
TMS4	<---	TMS	1.089	.102	10.663	***	
TMS5	<---	TMS	1.159	.098	11.858	***	
TMS6	<---	TMS	1.017	.091	11.200	***	
TMS7	<---	TMS	1.072	.092	11.622	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.157	.130	8.918	***	
OP3	<---	OP	1.234	.143	8.632	***	
OP4	<---	OP	1.174	.132	8.859	***	
OP5	<---	OP	1.306	.159	8.210	***	
OP6	<---	OP	1.148	.143	8.032	***	
OP7	<---	OP	1.035	.133	7.801	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.148	.065	17.714	***	
TI3	<---	TI	1.069	.069	15.506	***	
TI4	<---	TI	.711	.068	10.384	***	
TI5	<---	TI	.642	.079	8.137	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.606	.140	11.462	***	
OD3	<---	OD	1.405	.125	11.223	***	
OD4	<---	OD	1.533	.128	11.986	***	
OD5	<---	OD	1.391	.119	11.659	***	
OIF2	<---	OIF	1.000				
OIF3	<---	OIF	.522	.061	8.505	***	
OIF4	<---	OIF	1.080	.067	16.017	***	
OIF5	<---	OIF	.524	.059	8.871	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.165	.111	10.478	***	
OI3	<---	OI	1.096	.103	10.621	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
TMH1	<---	TMH	.850
TMH2	<---	TMH	.829
TMH3	<---	TMH	.803
TMH4	<---	TMH	.718
TMH5	<---	TMH	.756
TMH6	<---	TMH	.850
TMH7	<---	TMH	.854
TMH8	<---	TMH	.861
TMS1	<---	TMS	.720
TMS2	<---	TMS	.700
TMS3	<---	TMS	.799
TMS4	<---	TMS	.771
TMS5	<---	TMS	.855
TMS6	<---	TMS	.809
TMS7	<---	TMS	.839
OP1	<---	OP	.608
OP2	<---	OP	.819
OP3	<---	OP	.779
OP4	<---	OP	.810
OP5	<---	OP	.724
OP6	<---	OP	.702
OP7	<---	OP	.675
TI1	<---	TI	.836
TI2	<---	TI	.952
TI3	<---	TI	.866
TI4	<---	TI	.659
TI5	<---	TI	.542
OD1	<---	OD	.688
OD2	<---	OD	.874
OD3	<---	OD	.853
OD4	<---	OD	.920
OD5	<---	OD	.891
OIF2	<---	OIF	.885
OIF3	<---	OIF	.555
OIF4	<---	OIF	.948
OIF5	<---	OIF	.573
OI1	<---	OI	.761
OI2	<---	OI	.799
OI3	<---	OI	.838

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH	<-->	TMS	.056	.036	1.546	.122	
TMH	<-->	OP	-.036	.026	-1.400	.162	
TMH	<-->	TI	.056	.050	1.116	.265	
TMH	<-->	OD	.011	.032	.343	.732	
TMH	<-->	OIF	.015	.049	.313	.754	
TMH	<-->	OI	-.010	.030	-.324	.746	
TMS	<-->	OP	-.001	.022	-.033	.974	
TMS	<-->	TI	-.246	.051	-4.836	***	
TMS	<-->	OD	.264	.043	6.149	***	
TMS	<-->	OIF	-.042	.043	-.979	.328	
TMS	<-->	OI	.039	.027	1.481	.139	
OP	<-->	TI	-.019	.031	-.623	.534	
OP	<-->	OD	.024	.020	1.180	.238	
OP	<-->	OIF	-.001	.031	-.034	.973	
OP	<-->	OI	.004	.019	.238	.812	
TI	<-->	OD	-.220	.046	-4.741	***	
TI	<-->	OIF	-.026	.060	-.431	.666	
TI	<-->	OI	-.073	.038	-1.937	.053	
OD	<-->	OIF	-.034	.039	-.872	.383	
OD	<-->	OI	.030	.024	1.253	.210	
OIF	<-->	OI	-.090	.037	-2.422	.015	

Correlations: (Group number 1—Default model)

			Estimate
TMH	<-->	TMS	.119
TMH	<-->	OP	-.109
TMH	<-->	TI	.084
TMH	<-->	OD	.026
TMH	<-->	OIF	.024
TMH	<-->	OI	-.026
TMS	<-->	OP	-.003
TMS	<-->	TI	-.430
TMS	<-->	OD	.715
TMS	<-->	OIF	-.075
TMS	<-->	OI	.120
OP	<-->	TI	-.048
OP	<-->	OD	.092
OP	<-->	OIF	-.003

			Estimate
OP	<-->	OI	.019
TI	<-->	OD	-.421
TI	<-->	OIF	-.033
TI	<-->	OI	-.157
OD	<-->	OIF	-.066
OD	<-->	OI	.100
OIF	<-->	OI	-.199

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMH	.552	.075	7.396	***	
TMS	.405	.070	5.761	***	
OP	.203	.045	4.546	***	
TI	.811	.113	7.179	***	
OD	.336	.062	5.453	***	
OIF	.776	.103	7.529	***	
OI	.265	.045	5.857	***	
e1	.212	.025	8.472	***	
e2	.218	.025	8.709	***	
e3	.273	.031	8.936	***	
e4	.294	.031	9.377	***	
e5	.311	.034	9.219	***	
e6	.198	.023	8.473	***	
e7	.170	.020	8.412	***	
e8	.196	.023	8.320	***	
e9	.375	.041	9.186	***	
e10	.345	.037	9.275	***	
e11	.335	.039	8.660	***	
e12	.329	.037	8.894	***	
e13	.200	.025	7.926	***	
e14	.222	.026	8.567	***	
e15	.196	.024	8.200	***	
e16	.346	.037	9.345	***	
e17	.133	.017	7.692	***	
e18	.201	.024	8.258	***	
e19	.146	.019	7.833	***	
e20	.315	.036	8.760	***	
e21	.275	.031	8.908	***	
e22	.260	.029	9.063	***	
e23	.349	.042	8.347	***	

	Estimate	S.E.	C.R.	P	Label
e24	.110	.029	3.784	***	
e25	.309	.040	7.763	***	
e26	.533	.056	9.511	***	
e27	.803	.082	9.741	***	
e28	.373	.039	9.469	***	
e29	.269	.033	8.053	***	
e30	.247	.029	8.390	***	
e31	.144	.022	6.678	***	
e32	.170	.022	7.672	***	
e33	.214	.042	5.148	***	
e34	.476	.049	9.637	***	
e35	.102	.043	2.405	.016	
e36	.435	.045	9.596	***	
e37	.192	.026	7.281	***	
e38	.203	.032	6.394	***	
e39	.135	.025	5.320	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI3	.702
OI2	.639
OI1	.580
OIF5	.329
OIF4	.898
OIF3	.308
OIF2	.784
OD5	.793
OD4	.846
OD3	.728
OD2	.763
OD1	.474
TI5	.294
TI4	.434
TI3	.750
TI2	.907
TI1	.699
OP7	.455
OP6	.493
OP5	.524
OP4	.656

	Estimate
OP3	.606
OP2	.670
OP1	.369
TMS7	.703
TMS6	.654
TMS5	.732
TMS4	.594
TMS3	.639
TMS2	.490
TMS1	.519
TMH8	.741
TMH7	.730
TMH6	.722
TMH5	.572
TMH4	.516
TMH3	.645
TMH2	.687
TMH1	.722

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	99	1279.552	681	.000	1.879
Saturated model	780	.000	0		
Independence model	39	6240.250	741	.000	8.421

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.042	.766	.732	.669
Saturated model	.000	1.000		
Independence model	.212	.261	.223	.248

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.795	.777	.892	.882	.891
Saturated model	1.000		1.000		1.000

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.919	.731	.819
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	598.552	501.610	703.292
Saturated model	.000	.000	.000
Independence model	5499.250	5250.495	5754.549

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	6.398	2.993	2.508	3.516
Saturated model	.000	.000	.000	.000
Independence model	31.201	27.496	26.252	28.773

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.066	.061	.072	.000
Independence model	.193	.188	.197	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1477.552	1527.052	1804.579	1903.579
Saturated model	1560.000	1950.000	4136.578	4916.578
Independence model	6318.250	6337.750	6447.079	6486.079

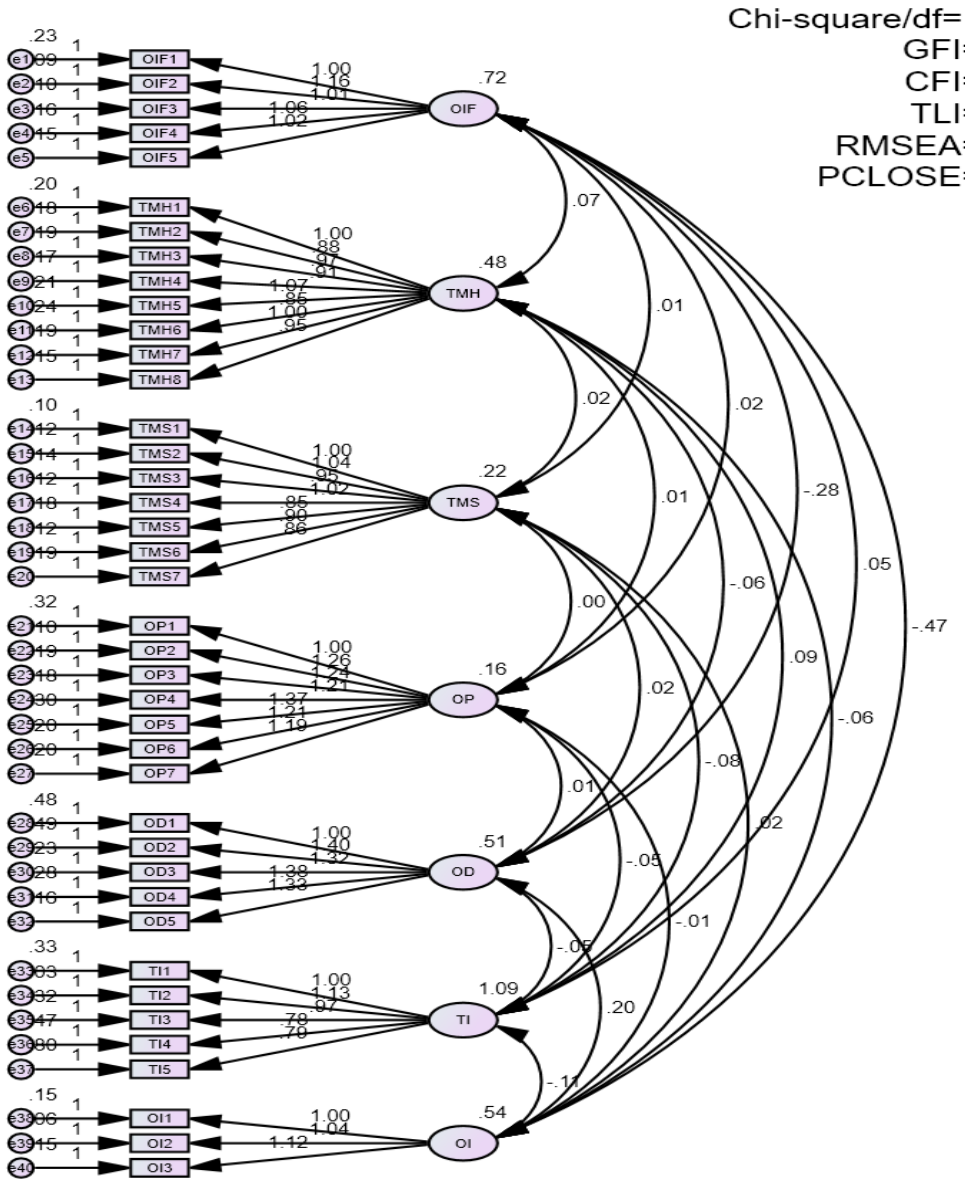
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	7.388	6.903	7.911	7.635
Saturated model	7.800	7.800	7.800	9.750
Independence model	31.591	30.347	32.868	31.689

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	117	121
Independence model	26	27

1.3. South region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.159	.054	21.283	***	
OIF3	<---	OIF	1.014	.050	20.327	***	
OIF4	<---	OIF	1.057	.056	18.966	***	
OIF5	<---	OIF	1.018	.053	19.086	***	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.879	.062	14.090	***	
TMH3	<---	TMH	.974	.067	14.594	***	
TMH4	<---	TMH	.908	.062	14.535	***	
TMH5	<---	TMH	1.065	.072	14.891	***	
TMH6	<---	TMH	.846	.067	12.714	***	
TMH7	<---	TMH	.995	.067	14.895	***	
TMH8	<---	TMH	.947	.061	15.400	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	1.035	.078	13.271	***	
TMS3	<---	TMS	.950	.078	12.206	***	
TMS4	<---	TMS	1.017	.077	13.122	***	
TMS5	<---	TMS	.849	.082	10.369	***	
TMS6	<---	TMS	.896	.074	12.164	***	
TMS7	<---	TMS	.857	.083	10.341	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.257	.148	8.495	***	
OP3	<---	OP	1.240	.157	7.912	***	
OP4	<---	OP	1.215	.152	7.969	***	
OP5	<---	OP	1.370	.179	7.655	***	
OP6	<---	OP	1.212	.155	7.808	***	
OP7	<---	OP	1.186	.152	7.794	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.399	.124	11.254	***	
OD3	<---	OD	1.319	.107	12.297	***	
OD4	<---	OD	1.385	.114	12.165	***	
OD5	<---	OD	1.333	.105	12.658	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.130	.049	23.044	***	
TI3	<---	TI	.973	.055	17.636	***	
TI4	<---	TI	.783	.057	13.808	***	
TI5	<---	TI	.792	.070	11.378	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.038	.050	20.816	***	

			Estimate	S.E.	C.R.	P	Label
OI3	<---	OI	1.121	.059	18.908	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
OIF1	<---	OIF	.871
OIF2	<---	OIF	.956
OIF3	<---	OIF	.939
OIF4	<---	OIF	.911
OIF5	<---	OIF	.914
TMH1	<---	TMH	.838
TMH2	<---	TMH	.818
TMH3	<---	TMH	.836
TMH4	<---	TMH	.834
TMH5	<---	TMH	.847
TMH6	<---	TMH	.766
TMH7	<---	TMH	.847
TMH8	<---	TMH	.864
TMS1	<---	TMS	.824
TMS2	<---	TMS	.819
TMS3	<---	TMS	.772
TMS4	<---	TMS	.812
TMS5	<---	TMS	.683
TMS6	<---	TMS	.770
TMS7	<---	TMS	.681
OP1	<---	OP	.581
OP2	<---	OP	.846
OP3	<---	OP	.749
OP4	<---	OP	.758
OP5	<---	OP	.711
OP6	<---	OP	.733
OP7	<---	OP	.731
OD1	<---	OD	.718
OD2	<---	OD	.818
OD3	<---	OD	.893
OD4	<---	OD	.883
OD5	<---	OD	.920
TI1	<---	TI	.877
TI2	<---	TI	.989
TI3	<---	TI	.873
TI4	<---	TI	.767

			Estimate
TI5	<---	TI	.678
OI1	<---	OI	.883
OI2	<---	OI	.952
OI3	<---	OI	.907

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OIF	<-->	TMH	.075	.044	1.684	.092	
OIF	<-->	TMS	.011	.030	.368	.713	
OIF	<-->	OP	.025	.026	.934	.350	
OIF	<-->	OD	-.275	.054	-5.076	***	
OIF	<-->	TI	.054	.065	.823	.411	
OIF	<-->	OI	-.472	.063	-7.518	***	
TMH	<-->	TMS	.021	.025	.844	.399	
TMH	<-->	OP	.010	.021	.458	.647	
TMH	<-->	OD	-.060	.038	-1.580	.114	
TMH	<-->	TI	.092	.054	1.707	.088	
TMH	<-->	OI	-.059	.039	-1.525	.127	
TMS	<-->	OP	.003	.015	.214	.830	
TMS	<-->	OD	.016	.026	.610	.542	
TMS	<-->	TI	-.077	.038	-2.036	.042	
TMS	<-->	OI	.020	.027	.764	.445	
OP	<-->	OD	.010	.022	.435	.663	
OP	<-->	TI	-.046	.032	-1.420	.156	
OP	<-->	OI	-.010	.023	-.421	.674	
OD	<-->	TI	-.046	.056	-.831	.406	
OD	<-->	OI	.198	.045	4.415	***	
TI	<-->	OI	-.112	.058	-1.948	.051	

Correlations: (Group number 1—Default model)

			Estimate
OIF	<-->	TMH	.127
OIF	<-->	TMS	.028
OIF	<-->	OP	.072
OIF	<-->	OD	-.454
OIF	<-->	TI	.061
OIF	<-->	OI	-.758
TMH	<-->	TMS	.065
TMH	<-->	OP	.036

			Estimate
TMH	<-->	OD	-.122
TMH	<-->	TI	.128
TMH	<-->	OI	-.116
TMS	<-->	OP	.017
TMS	<-->	OD	.047
TMS	<-->	TI	-.157
TMS	<-->	OI	.059
OP	<-->	OD	.034
OP	<-->	TI	-.110
OP	<-->	OI	-.033
OD	<-->	TI	-.062
OD	<-->	OI	.379
TI	<-->	OI	-.147

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
OIF	.724	.094	7.669	***	
TMH	.475	.066	7.153	***	
TMS	.221	.032	6.868	***	
OP	.161	.038	4.245	***	
OD	.509	.089	5.694	***	
TI	1.086	.140	7.735	***	
OI	.536	.069	7.770	***	
e1	.230	.026	8.904	***	
e2	.091	.014	6.528	***	
e3	.100	.013	7.542	***	
e4	.165	.020	8.349	***	
e5	.148	.018	8.296	***	
e6	.202	.023	8.602	***	
e7	.181	.021	8.781	***	
e8	.194	.022	8.618	***	
e9	.171	.020	8.638	***	
e10	.213	.025	8.507	***	
e11	.240	.026	9.113	***	
e12	.186	.022	8.505	***	
e13	.145	.018	8.285	***	
e14	.104	.013	7.900	***	
e15	.116	.015	7.982	***	
e16	.136	.016	8.512	***	
e17	.118	.015	8.071	***	

	Estimate	S.E.	C.R.	P	Label
e18	.182	.020	9.070	***	
e19	.122	.014	8.529	***	
e20	.187	.021	9.076	***	
e21	.317	.034	9.313	***	
e22	.101	.014	7.058	***	
e23	.194	.023	8.451	***	
e24	.177	.021	8.370	***	
e25	.296	.034	8.736	***	
e26	.204	.024	8.579	***	
e27	.197	.023	8.594	***	
e28	.478	.052	9.221	***	
e29	.493	.057	8.619	***	
e30	.226	.031	7.382	***	
e31	.276	.036	7.633	***	
e32	.165	.026	6.398	***	
e33	.327	.038	8.667	***	
e34	.030	.022	1.397	.162	
e35	.321	.037	8.731	***	
e36	.467	.049	9.500	***	
e37	.801	.083	9.679	***	
e38	.152	.019	7.835	***	
e39	.060	.013	4.529	***	
e40	.145	.021	7.075	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI3	.822
OI2	.905
OI1	.779
TI5	.459
TI4	.588
TI3	.762
TI2	.979
TI1	.768
OD5	.846
OD4	.780
OD3	.797
OD2	.669
OD1	.516
OP7	.535

	Estimate
OP6	.538
OP5	.506
OP4	.574
OP3	.561
OP2	.716
OP1	.337
TMS7	.464
TMS6	.592
TMS5	.466
TMS4	.660
TMS3	.595
TMS2	.671
TMS1	.680
TMH8	.746
TMH7	.717
TMH6	.586
TMH5	.717
TMH4	.696
TMH3	.700
TMH2	.670
TMH1	.702
OIF5	.835
OIF4	.831
OIF3	.881
OIF2	.914
OIF1	.759

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	101	1346.318	719	.000	1.872
Saturated model	820	.000	0		
Independence model	40	7544.963	780	.000	9.673

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.045	.760	.726	.666
Saturated model	.000	1.000		
Independence model	.229	.246	.207	.234

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.822	.806	.908	.899	.907
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.922	.757	.836
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	627.318	527.845	734.591
Saturated model	.000	.000	.000
Independence model	6764.963	6489.962	7046.474

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	6.904	3.217	2.707	3.767
Saturated model	.000	.000	.000	.000
Independence model	38.692	34.692	33.282	36.136

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.067	.061	.072	.000
Independence model	.211	.207	.215	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1548.318	1602.097	1879.407	1980.407
Saturated model	1640.000	2076.623	4328.054	5148.054
Independence model	7624.963	7646.262	7756.088	7796.088

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	7.940	7.430	8.490	8.216
Saturated model	8.410	8.410	8.410	10.649
Independence model	39.102	37.692	40.546	39.212

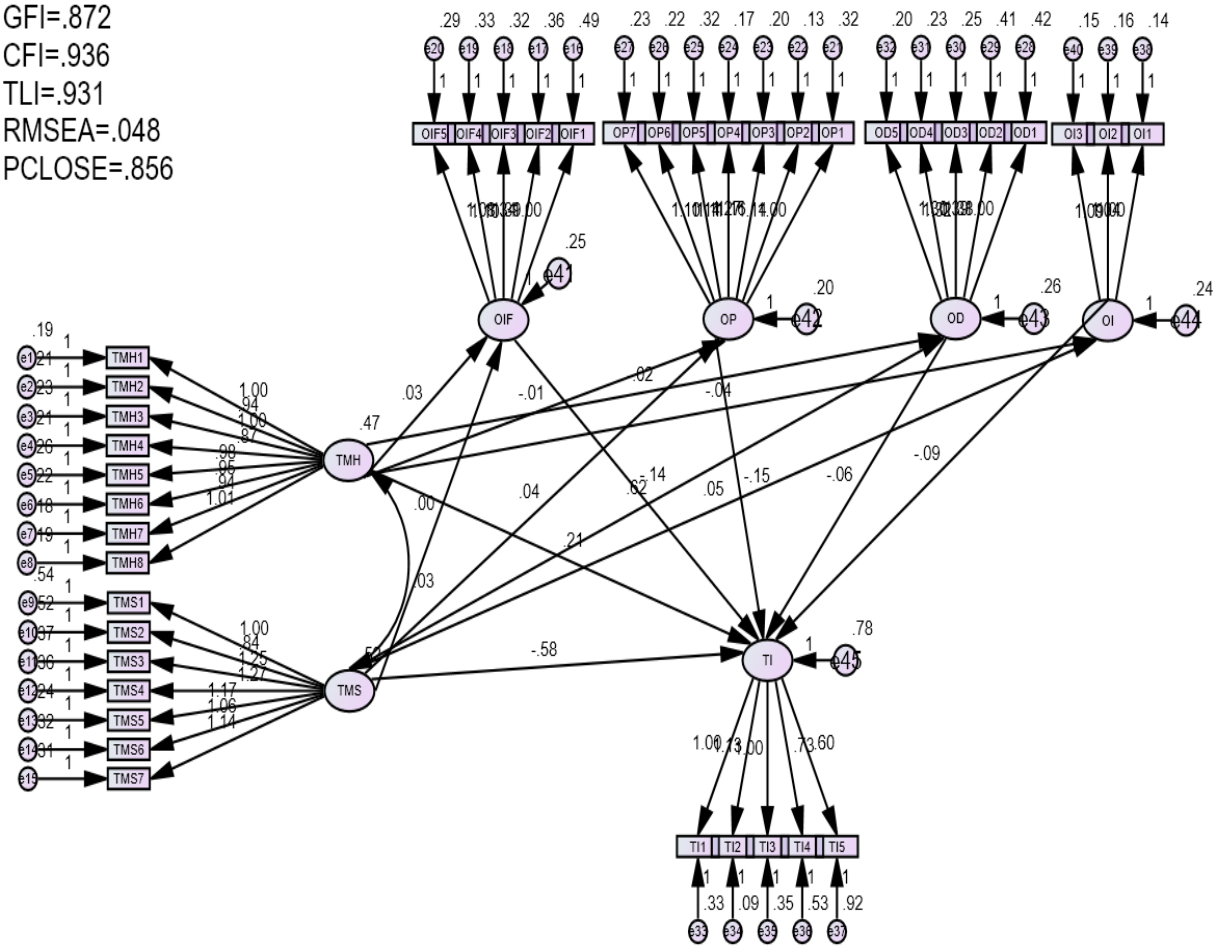
HOELTER

Model	HOELTER .05	HOELTER .01
Default model	114	118
Independence model	22	23

2. SEM Models

National

Chi-square/df=2.379
GFI=.872
CFI=.936
TLI=.931
RMSEA=.048
PCLOSE=.856



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OIF	<---	TMH	.027	.034	.796	.426	
OP	<---	TMH	-.007	.029	-.234	.815	
OD	<---	TMH	-.016	.034	-.470	.638	
OI	<---	TMH	-.044	.033	-1.318	.187	
OIF	<---	TMS	-.003	.032	-.090	.928	
OP	<---	TMS	.039	.028	1.400	.162	
OD	<---	TMS	.618	.048	12.877	***	
OI	<---	TMS	.053	.032	1.693	.090	
TI	<---	TMH	.214	.057	3.722	***	
TI	<---	TMS	-.575	.081	-7.107	***	
TI	<---	OIF	-.143	.084	-1.711	.087	
TI	<---	OP	-.149	.090	-1.656	.098	
TI	<---	OD	-.058	.081	-.720	.472	
TI	<---	OI	-.091	.084	-1.089	.276	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.943	.038	24.767	***	
TMH3	<---	TMH	1.002	.040	24.867	***	
TMH4	<---	TMH	.868	.037	23.560	***	
TMH5	<---	TMH	.985	.041	23.774	***	
TMH6	<---	TMH	.945	.039	24.411	***	
TMH7	<---	TMH	.944	.037	25.819	***	
TMH8	<---	TMH	1.006	.038	26.179	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.838	.056	15.004	***	
TMS3	<---	TMS	1.252	.065	19.226	***	
TMS4	<---	TMS	1.271	.066	19.404	***	
TMS5	<---	TMS	1.165	.058	19.976	***	
TMS6	<---	TMS	1.058	.057	18.696	***	
TMS7	<---	TMS	1.143	.060	19.209	***	
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.392	.107	13.003	***	
OIF3	<---	OIF	1.096	.089	12.381	***	
OIF4	<---	OIF	1.345	.103	12.998	***	
OIF5	<---	OIF	1.075	.086	12.517	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.138	.073	15.495	***	
OP3	<---	OP	1.157	.078	14.790	***	
OP4	<---	OP	1.106	.074	14.904	***	
OP5	<---	OP	1.268	.090	14.062	***	

			Estimate	S.E.	C.R.	P	Label
OP6	<---	OP	1.137	.079	14.465	***	
OP7	<---	OP	1.103	.078	14.150	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.381	.070	19.823	***	
OD3	<---	OD	1.324	.063	21.052	***	
OD4	<---	OD	1.386	.065	21.419	***	
OD5	<---	OD	1.304	.061	21.472	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.133	.032	35.761	***	
TI3	<---	TI	.998	.034	28.934	***	
TI4	<---	TI	.729	.035	20.751	***	
TI5	<---	TI	.602	.042	14.178	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.086	.058	18.573	***	
OI3	<---	OI	1.041	.056	18.578	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
OIF	<---	TMH	.037
OP	<---	TMH	-.010
OD	<---	TMH	-.016
OI	<---	TMH	-.060
OIF	<---	TMS	-.004
OP	<---	TMS	.063
OD	<---	TMS	.663
OI	<---	TMS	.078
TI	<---	TMH	.145
TI	<---	TMS	-.414
TI	<---	OIF	-.071
TI	<---	OP	-.066
TI	<---	OD	-.039
TI	<---	OI	-.045
TMH1	<---	TMH	.845
TMH2	<---	TMH	.817
TMH3	<---	TMH	.819
TMH4	<---	TMH	.792
TMH5	<---	TMH	.797
TMH6	<---	TMH	.810
TMH7	<---	TMH	.838
TMH8	<---	TMH	.845

			Estimate
TMS1	<---	TMS	.703
TMS2	<---	TMS	.642
TMS3	<---	TMS	.829
TMS4	<---	TMS	.837
TMS5	<---	TMS	.863
TMS6	<---	TMS	.805
TMS7	<---	TMS	.828
OIF1	<---	OIF	.578
OIF2	<---	OIF	.756
OIF3	<---	OIF	.693
OIF4	<---	OIF	.755
OIF5	<---	OIF	.706
OP1	<---	OP	.616
OP2	<---	OP	.812
OP3	<---	OP	.758
OP4	<---	OP	.766
OP5	<---	OP	.707
OP6	<---	OP	.735
OP7	<---	OP	.713
OD1	<---	OD	.721
OD2	<---	OD	.824
OD3	<---	OD	.873
OD4	<---	OD	.889
OD5	<---	OD	.891
TI1	<---	TI	.869
TI2	<---	TI	.968
TI3	<---	TI	.862
TI4	<---	TI	.709
TI5	<---	TI	.534
OI1	<---	OI	.801
OI2	<---	OI	.802
OI3	<---	OI	.802

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH	<-->	TMS	.027	.022	1.256	.209	

Correlations: (Group number 1—Default model)

	Estimate
TMH <--> TMS	.055

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMH	.467	.037	12.638	***	
TMS	.523	.054	9.628	***	
e41	.246	.035	7.101	***	
e42	.197	.025	7.961	***	
e43	.256	.027	9.575	***	
e44	.241	.022	10.739	***	
e45	.782	.060	12.985	***	
e1	.187	.013	14.674	***	
e2	.206	.014	15.172	***	
e3	.229	.015	15.140	***	
e4	.209	.013	15.516	***	
e5	.260	.017	15.460	***	
e6	.218	.014	15.281	***	
e7	.176	.012	14.805	***	
e8	.189	.013	14.661	***	
e9	.537	.033	16.059	***	
e10	.523	.032	16.398	***	
e11	.373	.026	14.530	***	
e12	.361	.025	14.350	***	
e13	.243	.018	13.620	***	
e14	.318	.021	14.975	***	
e15	.313	.022	14.546	***	
e16	.489	.032	15.531	***	
e17	.357	.028	12.570	***	
e18	.319	.023	14.031	***	
e19	.335	.027	12.588	***	
e20	.286	.021	13.788	***	
e21	.323	.020	16.016	***	
e22	.132	.010	13.270	***	
e23	.196	.014	14.487	***	
e24	.170	.012	14.334	***	
e25	.319	.021	15.222	***	
e26	.218	.015	14.858	***	
e27	.233	.015	15.149	***	
e28	.421	.026	15.978	***	
e29	.412	.028	14.733	***	

	Estimate	S.E.	C.R.	P	Label
e30	.248	.019	13.357	***	
e31	.233	.018	12.693	***	
e32	.201	.016	12.583	***	
e33	.328	.023	14.141	***	
e34	.086	.016	5.260	***	
e35	.349	.024	14.395	***	
e36	.532	.032	16.417	***	
e37	.918	.054	16.947	***	
e38	.136	.012	10.963	***	
e39	.159	.015	10.935	***	
e40	.146	.013	10.911	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI	.009
OD	.438
OP	.004
OIF	.001
TI	.226
OI3	.644
OI2	.643
OI1	.642
TI5	.285
TI4	.502
TI3	.742
TI2	.938
TI1	.755
OD5	.794
OD4	.790
OD3	.763
OD2	.678
OD1	.520
OP7	.508
OP6	.540
OP5	.499
OP4	.587
OP3	.575
OP2	.660
OP1	.380
OIF5	.498

	Estimate
OIF4	.571
OIF3	.481
OIF2	.571
OIF1	.335
TMS7	.686
TMS6	.648
TMS5	.745
TMS4	.701
TMS3	.687
TMS2	.412
TMS1	.494
TMH8	.714
TMH7	.703
TMH6	.656
TMH5	.635
TMH4	.628
TMH3	.671
TMH2	.668
TMH1	.713

Matrices (Group number 1—Default model)

Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.053	-.044	.000	.000	.000	.000	.000
OD	.618	-.016	.000	.000	.000	.000	.000
OP	.039	-.007	.000	.000	.000	.000	.000
OIF	-.003	.027	.000	.000	.000	.000	.000
TI	-.622	.216	-.091	-.058	-.149	-.143	.000
OI3	.056	-.045	1.041	.000	.000	.000	.000
OI2	.058	-.047	1.086	.000	.000	.000	.000
OI1	.053	-.044	1.000	.000	.000	.000	.000
TI5	-.374	.130	-.055	-.035	-.090	-.086	.602
TI4	-.453	.157	-.066	-.043	-.109	-.104	.729
TI3	-.620	.215	-.091	-.058	-.149	-.143	.998
TI2	-.704	.245	-.103	-.066	-.169	-.162	1.133
TI1	-.622	.216	-.091	-.058	-.149	-.143	1.000
OD5	.807	-.021	.000	1.304	.000	.000	.000
OD4	.857	-.022	.000	1.386	.000	.000	.000
OD3	.819	-.021	.000	1.324	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OD2	.854	-.022	.000	1.381	.000	.000	.000
OD1	.618	-.016	.000	1.000	.000	.000	.000
OP7	.043	-.007	.000	.000	1.103	.000	.000
OP6	.044	-.008	.000	.000	1.137	.000	.000
OP5	.049	-.009	.000	.000	1.268	.000	.000
OP4	.043	-.008	.000	.000	1.106	.000	.000
OP3	.045	-.008	.000	.000	1.157	.000	.000
OP2	.044	-.008	.000	.000	1.138	.000	.000
OP1	.039	-.007	.000	.000	1.000	.000	.000
OIF5	-.003	.029	.000	.000	.000	1.075	.000
OIF4	-.004	.036	.000	.000	.000	1.345	.000
OIF3	-.003	.029	.000	.000	.000	1.096	.000
OIF2	-.004	.037	.000	.000	.000	1.392	.000
OIF1	-.003	.027	.000	.000	.000	1.000	.000
TMS7	1.143	.000	.000	.000	.000	.000	.000
TMS6	1.058	.000	.000	.000	.000	.000	.000
TMS5	1.165	.000	.000	.000	.000	.000	.000
TMS4	1.271	.000	.000	.000	.000	.000	.000
TMS3	1.252	.000	.000	.000	.000	.000	.000
TMS2	.838	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	1.006	.000	.000	.000	.000	.000
TMH7	.000	.944	.000	.000	.000	.000	.000
TMH6	.000	.945	.000	.000	.000	.000	.000
TMH5	.000	.985	.000	.000	.000	.000	.000
TMH4	.000	.868	.000	.000	.000	.000	.000
TMH3	.000	1.002	.000	.000	.000	.000	.000
TMH2	.000	.943	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000

Standardized Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.078	-.060	.000	.000	.000	.000	.000
OD	.663	-.016	.000	.000	.000	.000	.000
OP	.063	-.010	.000	.000	.000	.000	.000
OIF	-.004	.037	.000	.000	.000	.000	.000
TI	-.447	.147	-.045	-.039	-.066	-.071	.000
OI3	.063	-.049	.802	.000	.000	.000	.000
OI2	.063	-.048	.802	.000	.000	.000	.000
OI1	.063	-.048	.801	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TI5	-.239	.078	-.024	-.021	-.035	-.038	.534
TI4	-.317	.104	-.032	-.028	-.047	-.050	.709
TI3	-.385	.126	-.038	-.034	-.057	-.061	.862
TI2	-.433	.142	-.043	-.038	-.064	-.068	.968
TI1	-.389	.127	-.039	-.034	-.057	-.061	.869
OD5	.591	-.014	.000	.891	.000	.000	.000
OD4	.589	-.014	.000	.889	.000	.000	.000
OD3	.579	-.014	.000	.873	.000	.000	.000
OD2	.546	-.013	.000	.824	.000	.000	.000
OD1	.478	-.012	.000	.721	.000	.000	.000
OP7	.045	-.007	.000	.000	.713	.000	.000
OP6	.046	-.008	.000	.000	.735	.000	.000
OP5	.045	-.007	.000	.000	.707	.000	.000
OP4	.048	-.008	.000	.000	.766	.000	.000
OP3	.048	-.008	.000	.000	.758	.000	.000
OP2	.051	-.008	.000	.000	.812	.000	.000
OP1	.039	-.006	.000	.000	.616	.000	.000
OIF5	-.003	.026	.000	.000	.000	.706	.000
OIF4	-.003	.028	.000	.000	.000	.755	.000
OIF3	-.003	.026	.000	.000	.000	.693	.000
OIF2	-.003	.028	.000	.000	.000	.756	.000
OIF1	-.002	.021	.000	.000	.000	.578	.000
TMS7	.828	.000	.000	.000	.000	.000	.000
TMS6	.805	.000	.000	.000	.000	.000	.000
TMS5	.863	.000	.000	.000	.000	.000	.000
TMS4	.837	.000	.000	.000	.000	.000	.000
TMS3	.829	.000	.000	.000	.000	.000	.000
TMS2	.642	.000	.000	.000	.000	.000	.000
TMS1	.703	.000	.000	.000	.000	.000	.000
TMH8	.000	.845	.000	.000	.000	.000	.000
TMH7	.000	.838	.000	.000	.000	.000	.000
TMH6	.000	.810	.000	.000	.000	.000	.000
TMH5	.000	.797	.000	.000	.000	.000	.000
TMH4	.000	.792	.000	.000	.000	.000	.000
TMH3	.000	.819	.000	.000	.000	.000	.000
TMH2	.000	.817	.000	.000	.000	.000	.000
TMH1	.000	.845	.000	.000	.000	.000	.000

Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.053	-.044	.000	.000	.000	.000	.000
OD	.618	-.016	.000	.000	.000	.000	.000
OP	.039	-.007	.000	.000	.000	.000	.000
OIF	-.003	.027	.000	.000	.000	.000	.000
TI	-.575	.214	-.091	-.058	-.149	-.143	.000
OI3	.000	.000	1.041	.000	.000	.000	.000
OI2	.000	.000	1.086	.000	.000	.000	.000
OI1	.000	.000	1.000	.000	.000	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.602
TI4	.000	.000	.000	.000	.000	.000	.729
TI3	.000	.000	.000	.000	.000	.000	.998
TI2	.000	.000	.000	.000	.000	.000	1.133
TI1	.000	.000	.000	.000	.000	.000	1.000
OD5	.000	.000	.000	1.304	.000	.000	.000
OD4	.000	.000	.000	1.386	.000	.000	.000
OD3	.000	.000	.000	1.324	.000	.000	.000
OD2	.000	.000	.000	1.381	.000	.000	.000
OD1	.000	.000	.000	1.000	.000	.000	.000
OP7	.000	.000	.000	.000	1.103	.000	.000
OP6	.000	.000	.000	.000	1.137	.000	.000
OP5	.000	.000	.000	.000	1.268	.000	.000
OP4	.000	.000	.000	.000	1.106	.000	.000
OP3	.000	.000	.000	.000	1.157	.000	.000
OP2	.000	.000	.000	.000	1.138	.000	.000
OP1	.000	.000	.000	.000	1.000	.000	.000
OIF5	.000	.000	.000	.000	.000	1.075	.000
OIF4	.000	.000	.000	.000	.000	1.345	.000
OIF3	.000	.000	.000	.000	.000	1.096	.000
OIF2	.000	.000	.000	.000	.000	1.392	.000
OIF1	.000	.000	.000	.000	.000	1.000	.000
TMS7	1.143	.000	.000	.000	.000	.000	.000
TMS6	1.058	.000	.000	.000	.000	.000	.000
TMS5	1.165	.000	.000	.000	.000	.000	.000
TMS4	1.271	.000	.000	.000	.000	.000	.000
TMS3	1.252	.000	.000	.000	.000	.000	.000
TMS2	.838	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	1.006	.000	.000	.000	.000	.000
TMH7	.000	.944	.000	.000	.000	.000	.000
TMH6	.000	.945	.000	.000	.000	.000	.000
TMH5	.000	.985	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TMH4	.000	.868	.000	.000	.000	.000	.000
TMH3	.000	1.002	.000	.000	.000	.000	.000
TMH2	.000	.943	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000

Standardized Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.078	-.060	.000	.000	.000	.000	.000
OD	.663	-.016	.000	.000	.000	.000	.000
OP	.063	-.010	.000	.000	.000	.000	.000
OIF	-.004	.037	.000	.000	.000	.000	.000
TI	-.414	.145	-.045	-.039	-.066	-.071	.000
OI3	.000	.000	.802	.000	.000	.000	.000
OI2	.000	.000	.802	.000	.000	.000	.000
OI1	.000	.000	.801	.000	.000	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.534
TI4	.000	.000	.000	.000	.000	.000	.709
TI3	.000	.000	.000	.000	.000	.000	.862
TI2	.000	.000	.000	.000	.000	.000	.968
TI1	.000	.000	.000	.000	.000	.000	.869
OD5	.000	.000	.000	.891	.000	.000	.000
OD4	.000	.000	.000	.889	.000	.000	.000
OD3	.000	.000	.000	.873	.000	.000	.000
OD2	.000	.000	.000	.824	.000	.000	.000
OD1	.000	.000	.000	.721	.000	.000	.000
OP7	.000	.000	.000	.000	.713	.000	.000
OP6	.000	.000	.000	.000	.735	.000	.000
OP5	.000	.000	.000	.000	.707	.000	.000
OP4	.000	.000	.000	.000	.766	.000	.000
OP3	.000	.000	.000	.000	.758	.000	.000
OP2	.000	.000	.000	.000	.812	.000	.000
OP1	.000	.000	.000	.000	.616	.000	.000
OIF5	.000	.000	.000	.000	.000	.706	.000
OIF4	.000	.000	.000	.000	.000	.755	.000
OIF3	.000	.000	.000	.000	.000	.693	.000
OIF2	.000	.000	.000	.000	.000	.756	.000
OIF1	.000	.000	.000	.000	.000	.578	.000
TMS7	.828	.000	.000	.000	.000	.000	.000
TMS6	.805	.000	.000	.000	.000	.000	.000
TMS5	.863	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TMS4	.837	.000	.000	.000	.000	.000	.000
TMS3	.829	.000	.000	.000	.000	.000	.000
TMS2	.642	.000	.000	.000	.000	.000	.000
TMS1	.703	.000	.000	.000	.000	.000	.000
TMH8	.000	.845	.000	.000	.000	.000	.000
TMH7	.000	.838	.000	.000	.000	.000	.000
TMH6	.000	.810	.000	.000	.000	.000	.000
TMH5	.000	.797	.000	.000	.000	.000	.000
TMH4	.000	.792	.000	.000	.000	.000	.000
TMH3	.000	.819	.000	.000	.000	.000	.000
TMH2	.000	.817	.000	.000	.000	.000	.000
TMH1	.000	.845	.000	.000	.000	.000	.000

Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
TI	-.046	.002	.000	.000	.000	.000	.000
OI3	.056	-.045	.000	.000	.000	.000	.000
OI2	.058	-.047	.000	.000	.000	.000	.000
OI1	.053	-.044	.000	.000	.000	.000	.000
TI5	-.374	.130	-.055	-.035	-.090	-.086	.000
TI4	-.453	.157	-.066	-.043	-.109	-.104	.000
TI3	-.620	.215	-.091	-.058	-.149	-.143	.000
TI2	-.704	.245	-.103	-.066	-.169	-.162	.000
TI1	-.622	.216	-.091	-.058	-.149	-.143	.000
OD5	.807	-.021	.000	.000	.000	.000	.000
OD4	.857	-.022	.000	.000	.000	.000	.000
OD3	.819	-.021	.000	.000	.000	.000	.000
OD2	.854	-.022	.000	.000	.000	.000	.000
OD1	.618	-.016	.000	.000	.000	.000	.000
OP7	.043	-.007	.000	.000	.000	.000	.000
OP6	.044	-.008	.000	.000	.000	.000	.000
OP5	.049	-.009	.000	.000	.000	.000	.000
OP4	.043	-.008	.000	.000	.000	.000	.000
OP3	.045	-.008	.000	.000	.000	.000	.000
OP2	.044	-.008	.000	.000	.000	.000	.000
OP1	.039	-.007	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OIF5	-.003	.029	.000	.000	.000	.000	.000
OIF4	-.004	.036	.000	.000	.000	.000	.000
OIF3	-.003	.029	.000	.000	.000	.000	.000
OIF2	-.004	.037	.000	.000	.000	.000	.000
OIF1	-.003	.027	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
TI	-.033	.001	.000	.000	.000	.000	.000
OI3	.063	-.049	.000	.000	.000	.000	.000
OI2	.063	-.048	.000	.000	.000	.000	.000
OI1	.063	-.048	.000	.000	.000	.000	.000
TI5	-.239	.078	-.024	-.021	-.035	-.038	.000
TI4	-.317	.104	-.032	-.028	-.047	-.050	.000
TI3	-.385	.126	-.038	-.034	-.057	-.061	.000
TI2	-.433	.142	-.043	-.038	-.064	-.068	.000
TI1	-.389	.127	-.039	-.034	-.057	-.061	.000
OD5	.591	-.014	.000	.000	.000	.000	.000
OD4	.589	-.014	.000	.000	.000	.000	.000
OD3	.579	-.014	.000	.000	.000	.000	.000
OD2	.546	-.013	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OD1	.478	-.012	.000	.000	.000	.000	.000
OP7	.045	-.007	.000	.000	.000	.000	.000
OP6	.046	-.008	.000	.000	.000	.000	.000
OP5	.045	-.007	.000	.000	.000	.000	.000
OP4	.048	-.008	.000	.000	.000	.000	.000
OP3	.048	-.008	.000	.000	.000	.000	.000
OP2	.051	-.008	.000	.000	.000	.000	.000
OP1	.039	-.006	.000	.000	.000	.000	.000
OIF5	-.003	.026	.000	.000	.000	.000	.000
OIF4	-.003	.028	.000	.000	.000	.000	.000
OIF3	-.003	.026	.000	.000	.000	.000	.000
OIF2	-.003	.028	.000	.000	.000	.000	.000
OIF1	-.002	.021	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	95	1724.583	725	.000	2.379
Saturated model	820	.000	0		
Independence model	40	16370.589	780	.000	20.988

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.034	.872	.855	.771
Saturated model	.000	1.000		
Independence model	.229	.276	.239	.263

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.895	.887	.936	.931	.936
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.929	.832	.870
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	999.583	881.975	1124.867
Saturated model	.000	.000	.000
Independence model	15590.589	15177.921	16009.640

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.894	1.677	1.480	1.887
Saturated model	.000	.000	.000	.000
Independence model	27.467	26.159	25.466	26.862

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.048	.045	.051	.856
Independence model	.183	.181	.186	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1914.583	1928.619	2331.815	2426.815

Model	AIC	BCC	BIC	CAIC
Saturated model	1640.000	1761.153	5241.372	6061.372
Independence model	16450.589	16456.499	16626.266	16666.266

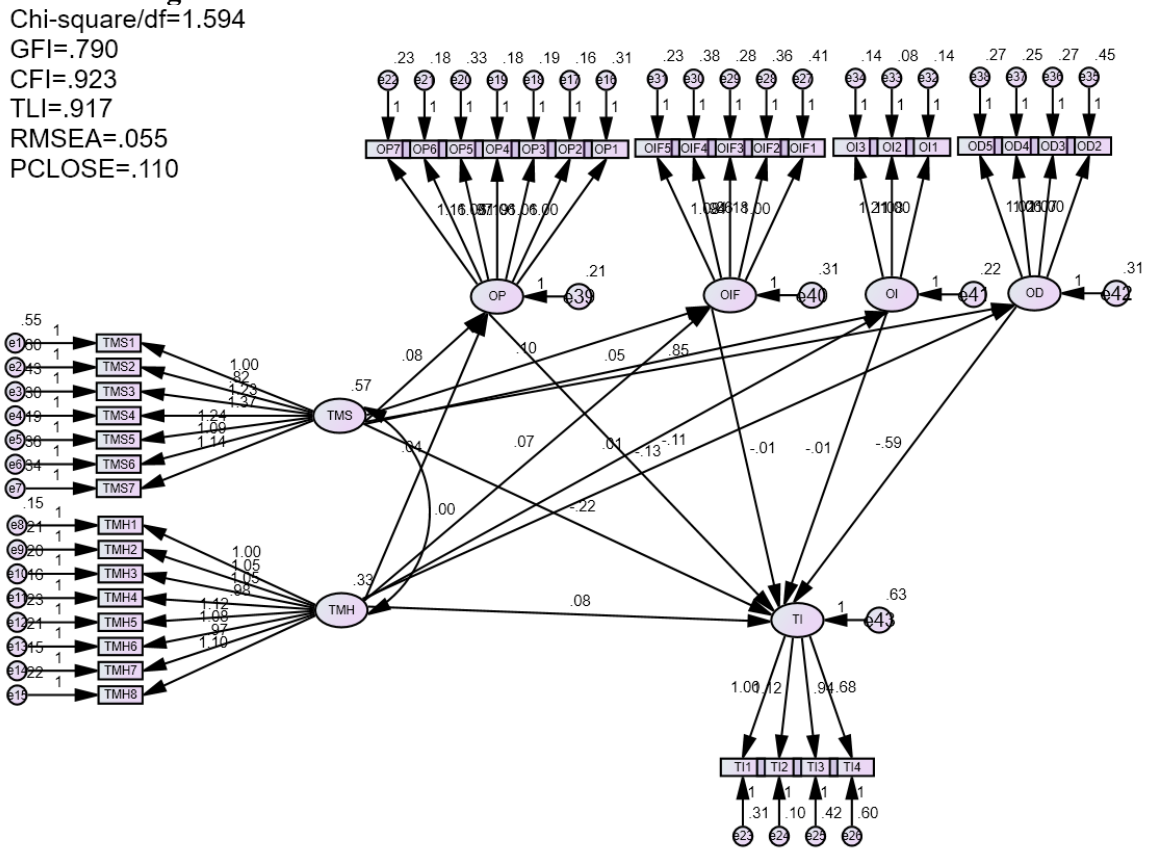
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.212	3.015	3.423	3.236
Saturated model	2.752	2.752	2.752	2.955
Independence model	27.602	26.909	28.305	27.612

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	273	283
Independence model	31	32

2.1. North region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OP	<---	TMS	.078	.048	1.646	.100	
OIF	<---	TMS	.103	.059	1.729	.084	
OI	<---	TMS	.054	.049	1.111	.267	
OD	<---	TMS	.851	.097	8.776	***	
OP	<---	TMH	.043	.062	.699	.485	
OIF	<---	TMH	.069	.077	.892	.373	
OI	<---	TMH	.008	.064	.130	.897	
OD	<---	TMH	-.106	.081	-1.308	.191	
TI	<---	TMS	-.224	.139	-1.609	.108	
TI	<---	TMH	.077	.108	.713	.476	
TI	<---	OP	-.131	.139	-.943	.346	
TI	<---	OIF	-.010	.118	-.088	.930	
TI	<---	OI	-.011	.135	-.078	.938	
TI	<---	OD	-.587	.129	-4.539	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.825	.095	8.642	***	
TMS3	<---	TMS	1.230	.109	11.310	***	
TMS4	<---	TMS	1.366	.112	12.234	***	
TMS5	<---	TMS	1.242	.099	12.560	***	
TMS6	<---	TMS	1.094	.098	11.199	***	
TMS7	<---	TMS	1.141	.100	11.462	***	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	1.048	.078	13.392	***	
TMH3	<---	TMH	1.049	.078	13.513	***	
TMH4	<---	TMH	.981	.071	13.888	***	
TMH5	<---	TMH	1.124	.083	13.588	***	
TMH6	<---	TMH	1.083	.079	13.687	***	
TMH7	<---	TMH	.970	.069	13.968	***	
TMH8	<---	TMH	1.104	.081	13.580	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.057	.119	8.897	***	
OP3	<---	OP	1.057	.122	8.690	***	
OP4	<---	OP	.972	.115	8.466	***	
OP5	<---	OP	1.187	.146	8.145	***	
OP6	<---	OP	1.062	.121	8.795	***	
OP7	<---	OP	1.157	.134	8.655	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.115	.054	20.692	***	
TI3	<---	TI	.943	.060	15.833	***	

			Estimate	S.E.	C.R.	P	Label
TI4	<---	TI	.677	.061	11.020	***	
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.181	.140	8.422	***	
OIF3	<---	OIF	.940	.115	8.147	***	
OIF4	<---	OIF	.857	.118	7.281	***	
OIF5	<---	OIF	1.082	.124	8.753	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.211	.101	12.035	***	
OI3	<---	OI	1.080	.093	11.566	***	
OD2	<---	OD	1.000				
OD3	<---	OD	1.060	.078	13.556	***	
OD4	<---	OD	1.072	.078	13.762	***	
OD5	<---	OD	1.020	.076	13.385	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
OP	<---	TMS	.129
OIF	<---	TMS	.139
OI	<---	TMS	.086
OD	<---	TMS	.756
OP	<---	TMH	.054
OIF	<---	TMH	.071
OI	<---	TMH	.010
OD	<---	TMH	-.072
TI	<---	TMS	-.165
TI	<---	TMH	.043
TI	<---	OP	-.059
TI	<---	OIF	-.006
TI	<---	OI	-.005
TI	<---	OD	-.487
TMS1	<---	TMS	.714
TMS2	<---	TMS	.627
TMS3	<---	TMS	.818
TMS4	<---	TMS	.885
TMS5	<---	TMS	.909
TMS6	<---	TMS	.810
TMS7	<---	TMS	.829
TMH1	<---	TMH	.834
TMH2	<---	TMH	.795
TMH3	<---	TMH	.800

			Estimate
TMH4	<---	TMH	.815
TMH5	<---	TMH	.803
TMH6	<---	TMH	.807
TMH7	<---	TMH	.818
TMH8	<---	TMH	.803
OP1	<---	OP	.635
OP2	<---	OP	.771
OP3	<---	OP	.747
OP4	<---	OP	.722
OP5	<---	OP	.687
OP6	<---	OP	.759
OP7	<---	OP	.743
TI1	<---	TI	.878
TI2	<---	TI	.964
TI3	<---	TI	.831
TI4	<---	TI	.666
OIF1	<---	OIF	.656
OIF2	<---	OIF	.740
OIF3	<---	OIF	.707
OIF4	<---	OIF	.614
OIF5	<---	OIF	.786
OI1	<---	OI	.782
OI2	<---	OI	.894
OI3	<---	OI	.802
OD2	<---	OD	.785
OD3	<---	OD	.864
OD4	<---	OD	.875
OD5	<---	OD	.856

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMS	<-->	TMH	.005	.033	.142	.887	

Correlations: (Group number 1—Default model)

			Estimate
TMS	<-->	TMH	.011

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMS	.571	.100	5.714	***	
TMH	.331	.046	7.139	***	
e39	.208	.044	4.762	***	
e40	.305	.064	4.792	***	
e41	.220	.035	6.192	***	
e42	.307	.052	5.866	***	
e43	.626	.084	7.426	***	
e1	.549	.059	9.375	***	
e2	.599	.062	9.602	***	
e3	.426	.048	8.796	***	
e4	.295	.038	7.857	***	
e5	.186	.026	7.194	***	
e6	.357	.040	8.863	***	
e7	.337	.039	8.693	***	
e8	.145	.017	8.472	***	
e9	.211	.024	8.841	***	
e10	.205	.023	8.803	***	
e11	.161	.019	8.676	***	
e12	.230	.026	8.779	***	
e13	.208	.024	8.746	***	
e14	.155	.018	8.646	***	
e15	.223	.025	8.782	***	
e16	.313	.034	9.124	***	
e17	.162	.020	8.117	***	
e18	.188	.022	8.379	***	
e19	.184	.021	8.603	***	
e20	.335	.038	8.851	***	
e21	.176	.021	8.254	***	
e22	.231	.027	8.418	***	
e23	.311	.040	7.679	***	
e24	.099	.032	3.094	.002	
e25	.417	.048	8.605	***	
e26	.603	.063	9.550	***	
e27	.414	.049	8.491	***	
e28	.361	.048	7.566	***	
e29	.277	.035	7.997	***	
e30	.380	.043	8.794	***	
e31	.226	.034	6.757	***	
e32	.140	.019	7.420	***	
e33	.081	.020	4.022	***	
e34	.144	.021	6.969	***	

	Estimate	S.E.	C.R.	P	Label
e35	.449	.052	8.626	***	
e36	.274	.037	7.456	***	
e37	.254	.035	7.193	***	
e38	.274	.036	7.645	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OD	.576
OI	.008
OIF	.025
OP	.020
TI	.403
OD5	.733
OD4	.766
OD3	.747
OD2	.617
OI3	.643
OI2	.800
OI1	.612
OIF5	.618
OIF4	.377
OIF3	.499
OIF2	.547
OIF1	.430
TI4	.444
TI3	.691
TI2	.930
TI1	.771
OP7	.552
OP6	.576
OP5	.472
OP4	.521
OP3	.558
OP2	.595
OP1	.404
TMH8	.644
TMH7	.668
TMH6	.651
TMH5	.645
TMH4	.663

	Estimate
TMH3	.640
TMH2	.633
TMH1	.695
TMS7	.688
TMS6	.657
TMS5	.826
TMS4	.783
TMS3	.670
TMS2	.393
TMS1	.510

Matrices (Group number 1—Default model)

Total Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	-.106	.851	.000	.000	.000	.000	.000
OI	.008	.054	.000	.000	.000	.000	.000
OIF	.069	.103	.000	.000	.000	.000	.000
OP	.043	.078	.000	.000	.000	.000	.000
TI	.133	-.735	-.587	-.011	-.010	-.131	.000
OD5	-.108	.868	1.020	.000	.000	.000	.000
OD4	-.113	.912	1.072	.000	.000	.000	.000
OD3	-.112	.902	1.060	.000	.000	.000	.000
OD2	-.106	.851	1.000	.000	.000	.000	.000
OI3	.009	.058	.000	1.080	.000	.000	.000
OI2	.010	.065	.000	1.211	.000	.000	.000
OI1	.008	.054	.000	1.000	.000	.000	.000
OIF5	.075	.111	.000	.000	1.082	.000	.000
OIF4	.059	.088	.000	.000	.857	.000	.000
OIF3	.065	.097	.000	.000	.940	.000	.000
OIF2	.081	.121	.000	.000	1.181	.000	.000
OIF1	.069	.103	.000	.000	1.000	.000	.000
TI4	.090	-.498	-.398	-.007	-.007	-.089	.677
TI3	.125	-.693	-.553	-.010	-.010	-.124	.943
TI2	.148	-.820	-.655	-.012	-.012	-.146	1.115
TI1	.133	-.735	-.587	-.011	-.010	-.131	1.000
OP7	.050	.091	.000	.000	.000	1.157	.000
OP6	.046	.083	.000	.000	.000	1.062	.000
OP5	.051	.093	.000	.000	.000	1.187	.000
OP4	.042	.076	.000	.000	.000	.972	.000

	TMH	TMS	OD	OI	OIF	OP	TI
OP3	.046	.083	.000	.000	.000	1.057	.000
OP2	.046	.083	.000	.000	.000	1.057	.000
OP1	.043	.078	.000	.000	.000	1.000	.000
TMH8	1.104	.000	.000	.000	.000	.000	.000
TMH7	.970	.000	.000	.000	.000	.000	.000
TMH6	1.083	.000	.000	.000	.000	.000	.000
TMH5	1.124	.000	.000	.000	.000	.000	.000
TMH4	.981	.000	.000	.000	.000	.000	.000
TMH3	1.049	.000	.000	.000	.000	.000	.000
TMH2	1.048	.000	.000	.000	.000	.000	.000
TMH1	1.000	.000	.000	.000	.000	.000	.000
TMS7	.000	1.141	.000	.000	.000	.000	.000
TMS6	.000	1.094	.000	.000	.000	.000	.000
TMS5	.000	1.242	.000	.000	.000	.000	.000
TMS4	.000	1.366	.000	.000	.000	.000	.000
TMS3	.000	1.230	.000	.000	.000	.000	.000
TMS2	.000	.825	.000	.000	.000	.000	.000
TMS1	.000	1.000	.000	.000	.000	.000	.000

Standardized Total Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	-.072	.756	.000	.000	.000	.000	.000
OI	.010	.086	.000	.000	.000	.000	.000
OIF	.071	.139	.000	.000	.000	.000	.000
OP	.054	.129	.000	.000	.000	.000	.000
TI	.075	-.542	-.487	-.005	-.006	-.059	.000
OD5	-.061	.647	.856	.000	.000	.000	.000
OD4	-.063	.662	.875	.000	.000	.000	.000
OD3	-.062	.654	.864	.000	.000	.000	.000
OD2	-.056	.594	.785	.000	.000	.000	.000
OI3	.008	.069	.000	.802	.000	.000	.000
OI2	.009	.077	.000	.894	.000	.000	.000
OI1	.008	.068	.000	.782	.000	.000	.000
OIF5	.056	.109	.000	.000	.786	.000	.000
OIF4	.043	.085	.000	.000	.614	.000	.000
OIF3	.050	.098	.000	.000	.707	.000	.000
OIF2	.052	.103	.000	.000	.740	.000	.000
OIF1	.046	.091	.000	.000	.656	.000	.000
TI4	.050	-.361	-.325	-.003	-.004	-.039	.666
TI3	.062	-.451	-.405	-.004	-.005	-.049	.831

	TMH	TMS	OD	OI	OIF	OP	TI
TI2	.072	-.523	-.470	-.005	-.005	-.057	.964
TI1	.066	-.476	-.428	-.004	-.005	-.052	.878
OP7	.040	.095	.000	.000	.000	.743	.000
OP6	.041	.098	.000	.000	.000	.759	.000
OP5	.037	.088	.000	.000	.000	.687	.000
OP4	.039	.093	.000	.000	.000	.722	.000
OP3	.040	.096	.000	.000	.000	.747	.000
OP2	.042	.099	.000	.000	.000	.771	.000
OP1	.034	.082	.000	.000	.000	.635	.000
TMH8	.803	.000	.000	.000	.000	.000	.000
TMH7	.818	.000	.000	.000	.000	.000	.000
TMH6	.807	.000	.000	.000	.000	.000	.000
TMH5	.803	.000	.000	.000	.000	.000	.000
TMH4	.815	.000	.000	.000	.000	.000	.000
TMH3	.800	.000	.000	.000	.000	.000	.000
TMH2	.795	.000	.000	.000	.000	.000	.000
TMH1	.834	.000	.000	.000	.000	.000	.000
TMS7	.000	.829	.000	.000	.000	.000	.000
TMS6	.000	.810	.000	.000	.000	.000	.000
TMS5	.000	.909	.000	.000	.000	.000	.000
TMS4	.000	.885	.000	.000	.000	.000	.000
TMS3	.000	.818	.000	.000	.000	.000	.000
TMS2	.000	.627	.000	.000	.000	.000	.000
TMS1	.000	.714	.000	.000	.000	.000	.000

Direct Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	-.106	.851	.000	.000	.000	.000	.000
OI	.008	.054	.000	.000	.000	.000	.000
OIF	.069	.103	.000	.000	.000	.000	.000
OP	.043	.078	.000	.000	.000	.000	.000
TI	.077	-.224	-.587	-.011	-.010	-.131	.000
OD5	.000	.000	1.020	.000	.000	.000	.000
OD4	.000	.000	1.072	.000	.000	.000	.000
OD3	.000	.000	1.060	.000	.000	.000	.000
OD2	.000	.000	1.000	.000	.000	.000	.000
OI3	.000	.000	.000	1.080	.000	.000	.000
OI2	.000	.000	.000	1.211	.000	.000	.000
OI1	.000	.000	.000	1.000	.000	.000	.000
OIF5	.000	.000	.000	.000	1.082	.000	.000

	TMH	TMS	OD	OI	OIF	OP	TI
OIF4	.000	.000	.000	.000	.857	.000	.000
OIF3	.000	.000	.000	.000	.940	.000	.000
OIF2	.000	.000	.000	.000	1.181	.000	.000
OIF1	.000	.000	.000	.000	1.000	.000	.000
TI4	.000	.000	.000	.000	.000	.000	.677
TI3	.000	.000	.000	.000	.000	.000	.943
TI2	.000	.000	.000	.000	.000	.000	1.115
TI1	.000	.000	.000	.000	.000	.000	1.000
OP7	.000	.000	.000	.000	.000	1.157	.000
OP6	.000	.000	.000	.000	.000	1.062	.000
OP5	.000	.000	.000	.000	.000	1.187	.000
OP4	.000	.000	.000	.000	.000	.972	.000
OP3	.000	.000	.000	.000	.000	1.057	.000
OP2	.000	.000	.000	.000	.000	1.057	.000
OP1	.000	.000	.000	.000	.000	1.000	.000
TMH8	1.104	.000	.000	.000	.000	.000	.000
TMH7	.970	.000	.000	.000	.000	.000	.000
TMH6	1.083	.000	.000	.000	.000	.000	.000
TMH5	1.124	.000	.000	.000	.000	.000	.000
TMH4	.981	.000	.000	.000	.000	.000	.000
TMH3	1.049	.000	.000	.000	.000	.000	.000
TMH2	1.048	.000	.000	.000	.000	.000	.000
TMH1	1.000	.000	.000	.000	.000	.000	.000
TMS7	.000	1.141	.000	.000	.000	.000	.000
TMS6	.000	1.094	.000	.000	.000	.000	.000
TMS5	.000	1.242	.000	.000	.000	.000	.000
TMS4	.000	1.366	.000	.000	.000	.000	.000
TMS3	.000	1.230	.000	.000	.000	.000	.000
TMS2	.000	.825	.000	.000	.000	.000	.000
TMS1	.000	1.000	.000	.000	.000	.000	.000

Standardized Direct Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	-.072	.756	.000	.000	.000	.000	.000
OI	.010	.086	.000	.000	.000	.000	.000
OIF	.071	.139	.000	.000	.000	.000	.000
OP	.054	.129	.000	.000	.000	.000	.000
TI	.043	-.165	-.487	-.005	-.006	-.059	.000
OD5	.000	.000	.856	.000	.000	.000	.000
OD4	.000	.000	.875	.000	.000	.000	.000

	TMH	TMS	OD	OI	OIF	OP	TI
OD3	.000	.000	.864	.000	.000	.000	.000
OD2	.000	.000	.785	.000	.000	.000	.000
OI3	.000	.000	.000	.802	.000	.000	.000
OI2	.000	.000	.000	.894	.000	.000	.000
OI1	.000	.000	.000	.782	.000	.000	.000
OIF5	.000	.000	.000	.000	.786	.000	.000
OIF4	.000	.000	.000	.000	.614	.000	.000
OIF3	.000	.000	.000	.000	.707	.000	.000
OIF2	.000	.000	.000	.000	.740	.000	.000
OIF1	.000	.000	.000	.000	.656	.000	.000
TI4	.000	.000	.000	.000	.000	.000	.666
TI3	.000	.000	.000	.000	.000	.000	.831
TI2	.000	.000	.000	.000	.000	.000	.964
TI1	.000	.000	.000	.000	.000	.000	.878
OP7	.000	.000	.000	.000	.000	.743	.000
OP6	.000	.000	.000	.000	.000	.759	.000
OP5	.000	.000	.000	.000	.000	.687	.000
OP4	.000	.000	.000	.000	.000	.722	.000
OP3	.000	.000	.000	.000	.000	.747	.000
OP2	.000	.000	.000	.000	.000	.771	.000
OP1	.000	.000	.000	.000	.000	.635	.000
TMH8	.803	.000	.000	.000	.000	.000	.000
TMH7	.818	.000	.000	.000	.000	.000	.000
TMH6	.807	.000	.000	.000	.000	.000	.000
TMH5	.803	.000	.000	.000	.000	.000	.000
TMH4	.815	.000	.000	.000	.000	.000	.000
TMH3	.800	.000	.000	.000	.000	.000	.000
TMH2	.795	.000	.000	.000	.000	.000	.000
TMH1	.834	.000	.000	.000	.000	.000	.000
TMS7	.000	.829	.000	.000	.000	.000	.000
TMS6	.000	.810	.000	.000	.000	.000	.000
TMS5	.000	.909	.000	.000	.000	.000	.000
TMS4	.000	.885	.000	.000	.000	.000	.000
TMS3	.000	.818	.000	.000	.000	.000	.000
TMS2	.000	.627	.000	.000	.000	.000	.000
TMS1	.000	.714	.000	.000	.000	.000	.000

Indirect Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	.000	.000	.000	.000	.000	.000	.000

	TMH	TMS	OD	OI	OIF	OP	TI
OI	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
TI	.056	-.511	.000	.000	.000	.000	.000
OD5	-.108	.868	.000	.000	.000	.000	.000
OD4	-.113	.912	.000	.000	.000	.000	.000
OD3	-.112	.902	.000	.000	.000	.000	.000
OD2	-.106	.851	.000	.000	.000	.000	.000
OI3	.009	.058	.000	.000	.000	.000	.000
OI2	.010	.065	.000	.000	.000	.000	.000
OI1	.008	.054	.000	.000	.000	.000	.000
OIF5	.075	.111	.000	.000	.000	.000	.000
OIF4	.059	.088	.000	.000	.000	.000	.000
OIF3	.065	.097	.000	.000	.000	.000	.000
OIF2	.081	.121	.000	.000	.000	.000	.000
OIF1	.069	.103	.000	.000	.000	.000	.000
TI4	.090	-.498	-.398	-.007	-.007	-.089	.000
TI3	.125	-.693	-.553	-.010	-.010	-.124	.000
TI2	.148	-.820	-.655	-.012	-.012	-.146	.000
TI1	.133	-.735	-.587	-.011	-.010	-.131	.000
OP7	.050	.091	.000	.000	.000	.000	.000
OP6	.046	.083	.000	.000	.000	.000	.000
OP5	.051	.093	.000	.000	.000	.000	.000
OP4	.042	.076	.000	.000	.000	.000	.000
OP3	.046	.083	.000	.000	.000	.000	.000
OP2	.046	.083	.000	.000	.000	.000	.000
OP1	.043	.078	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000

	TMH	TMS	OD	OI	OIF	OP	TI
TMS1	.000	.000	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1—Default model)

	TMH	TMS	OD	OI	OIF	OP	TI
OD	.000	.000	.000	.000	.000	.000	.000
OI	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
TI	.031	-.377	.000	.000	.000	.000	.000
OD5	-.061	.647	.000	.000	.000	.000	.000
OD4	-.063	.662	.000	.000	.000	.000	.000
OD3	-.062	.654	.000	.000	.000	.000	.000
OD2	-.056	.594	.000	.000	.000	.000	.000
OI3	.008	.069	.000	.000	.000	.000	.000
OI2	.009	.077	.000	.000	.000	.000	.000
OI1	.008	.068	.000	.000	.000	.000	.000
OIF5	.056	.109	.000	.000	.000	.000	.000
OIF4	.043	.085	.000	.000	.000	.000	.000
OIF3	.050	.098	.000	.000	.000	.000	.000
OIF2	.052	.103	.000	.000	.000	.000	.000
OIF1	.046	.091	.000	.000	.000	.000	.000
TI4	.050	-.361	-.325	-.003	-.004	-.039	.000
TI3	.062	-.451	-.405	-.004	-.005	-.049	.000
TI2	.072	-.523	-.470	-.005	-.005	-.057	.000
TI1	.066	-.476	-.428	-.004	-.005	-.052	.000
OP7	.040	.095	.000	.000	.000	.000	.000
OP6	.041	.098	.000	.000	.000	.000	.000
OP5	.037	.088	.000	.000	.000	.000	.000
OP4	.039	.093	.000	.000	.000	.000	.000
OP3	.040	.096	.000	.000	.000	.000	.000
OP2	.042	.099	.000	.000	.000	.000	.000
OP1	.034	.082	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000

	TMH	TMS	OD	OI	OIF	OP	TI
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	91	1036.312	650	.000	1.594
Saturated model	741	.000	0		
Independence model	38	5735.254	703	.000	8.158

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.042	.790	.760	.693
Saturated model	.000	1.000		
Independence model	.253	.260	.220	.246

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.819	.805	.924	.917	.923
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.925	.758	.854
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	386.312	302.502	478.037
Saturated model	.000	.000	.000
Independence model	5032.254	4794.163	5276.898

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	5.208	1.941	1.520	2.402
Saturated model	.000	.000	.000	.000
Independence model	28.820	25.288	24.091	26.517

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.055	.048	.061	.110
Independence model	.190	.185	.194	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1218.312	1262.675	1518.459	1609.459
Saturated model	1482.000	1843.238	3926.053	4667.053
Independence model	5811.254	5829.779	5936.590	5974.590

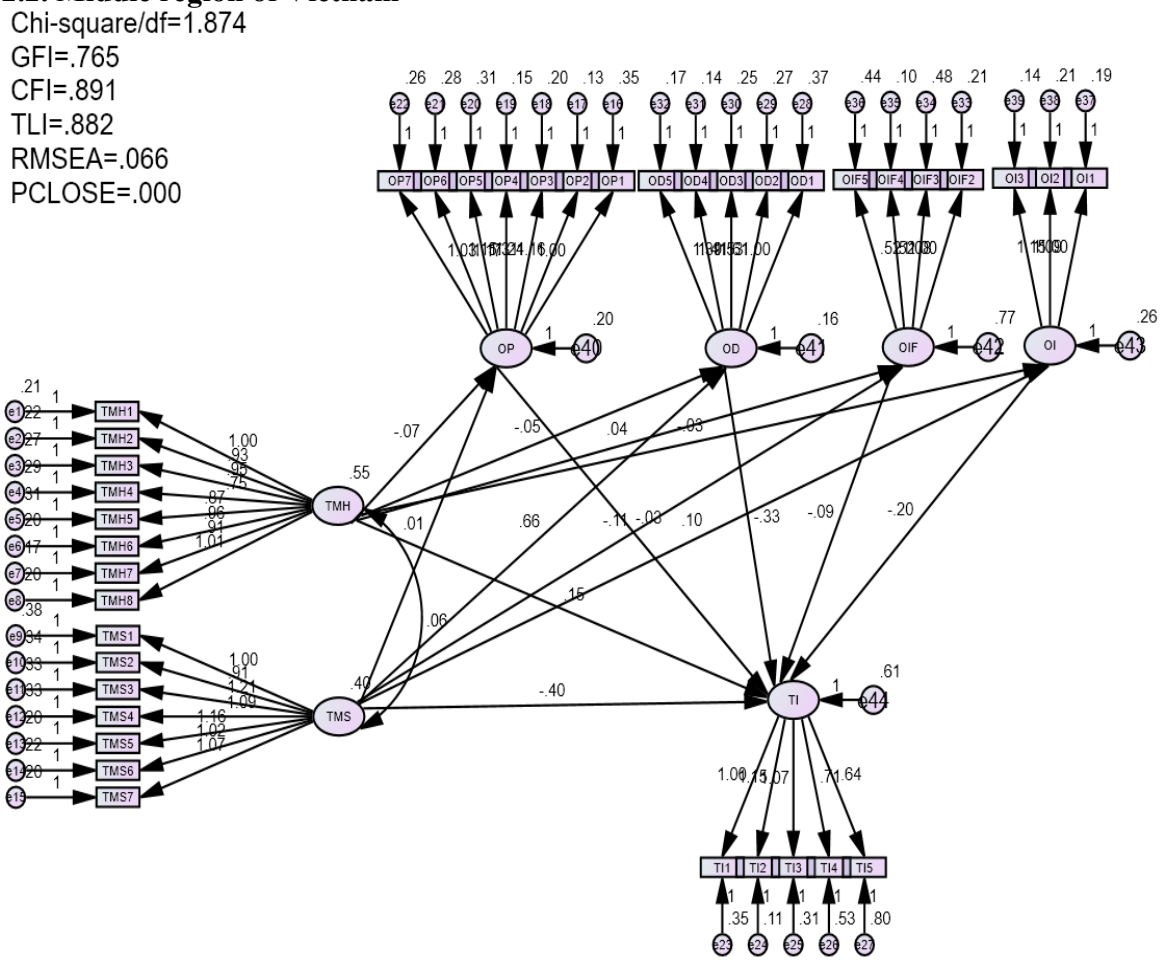
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	6.122	5.701	6.583	6.345
Saturated model	7.447	7.447	7.447	9.263
Independence model	29.202	28.006	30.432	29.295

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	137	142
Independence model	27	28

2.2. Middle region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OP	<---	TMH	-.068	.047	-1.437	.151	
OD	<---	TMH	-.047	.044	-1.071	.284	
OIF	<---	TMH	.040	.090	.447	.655	
OI	<---	TMH	-.029	.055	-.520	.603	
OP	<---	TMS	.014	.055	.260	.795	
OD	<---	TMS	.658	.084	7.794	***	
OIF	<---	TMS	-.113	.106	-1.061	.289	
OI	<---	TMS	.103	.066	1.572	.116	
TI	<---	TMS	-.403	.151	-2.660	.008	
TI	<---	TMH	.147	.083	1.776	.076	
TI	<---	OP	-.027	.137	-.195	.845	
TI	<---	OD	-.333	.161	-2.063	.039	
TI	<---	OIF	-.093	.069	-1.355	.175	

			Estimate	S.E.	C.R.	P	Label
TI	<---	OI	-.199	.124	-1.609	.108	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.933	.063	14.849	***	
TMH3	<---	TMH	.948	.067	14.086	***	
TMH4	<---	TMH	.754	.063	11.885	***	
TMH5	<---	TMH	.868	.068	12.821	***	
TMH6	<---	TMH	.965	.062	15.484	***	
TMH7	<---	TMH	.911	.058	15.631	***	
TMH8	<---	TMH	1.006	.064	15.835	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	.906	.094	9.665	***	
TMS3	<---	TMS	1.210	.109	11.062	***	
TMS4	<---	TMS	1.092	.102	10.681	***	
TMS5	<---	TMS	1.161	.098	11.863	***	
TMS6	<---	TMS	1.016	.091	11.170	***	
TMS7	<---	TMS	1.071	.092	11.600	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.156	.130	8.915	***	
OP3	<---	OP	1.238	.143	8.652	***	
OP4	<---	OP	1.174	.132	8.863	***	
OP5	<---	OP	1.305	.159	8.207	***	
OP6	<---	OP	1.146	.143	8.022	***	
OP7	<---	OP	1.032	.133	7.785	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.148	.065	17.741	***	
TI3	<---	TI	1.069	.069	15.528	***	
TI4	<---	TI	.711	.068	10.399	***	
TI5	<---	TI	.642	.079	8.148	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.605	.140	11.450	***	
OD3	<---	OD	1.405	.125	11.219	***	
OD4	<---	OD	1.532	.128	11.976	***	
OD5	<---	OD	1.393	.119	11.668	***	
OIF2	<---	OIF	1.000				
OIF3	<---	OIF	.519	.061	8.446	***	
OIF4	<---	OIF	1.081	.068	15.901	***	
OIF5	<---	OIF	.519	.059	8.776	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.150	.110	10.472	***	
OI3	<---	OI	1.089	.102	10.630	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
OP	<---	TMH	-.112
OD	<---	TMH	-.061
OIF	<---	TMH	.034
OI	<---	TMH	-.041
OP	<---	TMS	.020
OD	<---	TMS	.723
OIF	<---	TMS	-.081
OI	<---	TMS	.127
TI	<---	TMS	-.284
TI	<---	TMH	.121
TI	<---	OP	-.013
TI	<---	OD	-.214
TI	<---	OIF	-.091
TI	<---	OI	-.115
TMH1	<---	TMH	.850
TMH2	<---	TMH	.829
TMH3	<---	TMH	.803
TMH4	<---	TMH	.718
TMH5	<---	TMH	.756
TMH6	<---	TMH	.850
TMH7	<---	TMH	.854
TMH8	<---	TMH	.861
TMS1	<---	TMS	.720
TMS2	<---	TMS	.700
TMS3	<---	TMS	.799
TMS4	<---	TMS	.772
TMS5	<---	TMS	.856
TMS6	<---	TMS	.807
TMS7	<---	TMS	.837
OP1	<---	OP	.608
OP2	<---	OP	.818
OP3	<---	OP	.781
OP4	<---	OP	.811
OP5	<---	OP	.723
OP6	<---	OP	.701
OP7	<---	OP	.673
TI1	<---	TI	.837
TI2	<---	TI	.952
TI3	<---	TI	.866

			Estimate
TI4	<---	TI	.660
TI5	<---	TI	.543
OD1	<---	OD	.688
OD2	<---	OD	.873
OD3	<---	OD	.853
OD4	<---	OD	.919
OD5	<---	OD	.892
OIF2	<---	OIF	.886
OIF3	<---	OIF	.551
OIF4	<---	OIF	.950
OIF5	<---	OIF	.568
OI1	<---	OI	.767
OI2	<---	OI	.794
OI3	<---	OI	.838

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH	<-->	TMS	.056	.036	1.548	.122	

Correlations: (Group number 1—Default model)

			Estimate
TMH	<-->	TMS	.119

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMH	.552	.075	7.397	***	
TMS	.405	.070	5.758	***	
e40	.200	.044	4.545	***	
e41	.163	.031	5.186	***	
e42	.771	.103	7.514	***	
e43	.265	.045	5.889	***	
e44	.612	.087	7.047	***	
e1	.212	.025	8.472	***	
e2	.218	.025	8.709	***	
e3	.273	.031	8.936	***	
e4	.294	.031	9.377	***	
e5	.311	.034	9.219	***	
e6	.198	.023	8.474	***	
e7	.170	.020	8.412	***	

	Estimate	S.E.	C.R.	P	Label
e8	.196	.023	8.321	***	
e9	.376	.041	9.187	***	
e10	.345	.037	9.274	***	
e11	.335	.039	8.659	***	
e12	.327	.037	8.882	***	
e13	.199	.025	7.909	***	
e14	.224	.026	8.584	***	
e15	.198	.024	8.215	***	
e16	.346	.037	9.344	***	
e17	.134	.017	7.699	***	
e18	.198	.024	8.225	***	
e19	.146	.019	7.823	***	
e20	.315	.036	8.763	***	
e21	.276	.031	8.915	***	
e22	.262	.029	9.072	***	
e23	.349	.042	8.348	***	
e24	.110	.029	3.786	***	
e25	.309	.040	7.763	***	
e26	.533	.056	9.511	***	
e27	.803	.082	9.741	***	
e28	.373	.039	9.469	***	
e29	.270	.034	8.063	***	
e30	.247	.029	8.386	***	
e31	.145	.022	6.692	***	
e32	.168	.022	7.638	***	
e33	.214	.042	5.066	***	
e34	.479	.050	9.648	***	
e35	.099	.043	2.273	.023	
e36	.439	.046	9.612	***	
e37	.189	.026	7.146	***	
e38	.208	.032	6.493	***	
e39	.135	.026	5.268	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI	.017
OIF	.007
OD	.515
OP	.012
TI	.247

	Estimate
OI3	.702
OI2	.631
OI1	.588
OIF5	.323
OIF4	.902
OIF3	.304
OIF2	.784
OD5	.795
OD4	.845
OD3	.728
OD2	.762
OD1	.474
TI5	.295
TI4	.435
TI3	.750
TI2	.907
TI1	.700
OP7	.452
OP6	.491
OP5	.523
OP4	.657
OP3	.610
OP2	.670
OP1	.369
TMS7	.701
TMS6	.651
TMS5	.733
TMS4	.596
TMS3	.639
TMS2	.491
TMS1	.519
TMH8	.741
TMH7	.730
TMH6	.722
TMH5	.572
TMH4	.516
TMH3	.645
TMH2	.687
TMH1	.722

Matrices (Group number 1—Default model)

Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.103	-.029	.000	.000	.000	.000	.000
OIF	-.113	.040	.000	.000	.000	.000	.000
OD	.658	-.047	.000	.000	.000	.000	.000
OP	.014	-.068	.000	.000	.000	.000	.000
TI	-.632	.166	-.199	-.093	-.333	-.027	.000
OI3	.113	-.031	1.089	.000	.000	.000	.000
OI2	.119	-.033	1.150	.000	.000	.000	.000
OI1	.103	-.029	1.000	.000	.000	.000	.000
OIF5	-.058	.021	.000	.519	.000	.000	.000
OIF4	-.122	.043	.000	1.081	.000	.000	.000
OIF3	-.058	.021	.000	.519	.000	.000	.000
OIF2	-.113	.040	.000	1.000	.000	.000	.000
OD5	.917	-.066	.000	.000	1.393	.000	.000
OD4	1.008	-.072	.000	.000	1.532	.000	.000
OD3	.925	-.066	.000	.000	1.405	.000	.000
OD2	1.056	-.076	.000	.000	1.605	.000	.000
OD1	.658	-.047	.000	.000	1.000	.000	.000
TI5	-.406	.107	-.128	-.060	-.214	-.017	.642
TI4	-.449	.118	-.142	-.066	-.237	-.019	.711
TI3	-.676	.178	-.213	-.099	-.356	-.029	1.069
TI2	-.726	.191	-.229	-.107	-.382	-.031	1.148
TI1	-.632	.166	-.199	-.093	-.333	-.027	1.000
OP7	.015	-.070	.000	.000	.000	1.032	.000
OP6	.016	-.078	.000	.000	.000	1.146	.000
OP5	.019	-.088	.000	.000	.000	1.305	.000
OP4	.017	-.080	.000	.000	.000	1.174	.000
OP3	.018	-.084	.000	.000	.000	1.238	.000
OP2	.016	-.078	.000	.000	.000	1.156	.000
OP1	.014	-.068	.000	.000	.000	1.000	.000
TMS7	1.071	.000	.000	.000	.000	.000	.000
TMS6	1.016	.000	.000	.000	.000	.000	.000
TMS5	1.161	.000	.000	.000	.000	.000	.000
TMS4	1.092	.000	.000	.000	.000	.000	.000
TMS3	1.210	.000	.000	.000	.000	.000	.000
TMS2	.906	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	1.006	.000	.000	.000	.000	.000
TMH7	.000	.911	.000	.000	.000	.000	.000
TMH6	.000	.965	.000	.000	.000	.000	.000

	TMS	TMH	OI	OIF	OD	OP	TI
TMH5	.000	.868	.000	.000	.000	.000	.000
TMH4	.000	.754	.000	.000	.000	.000	.000
TMH3	.000	.948	.000	.000	.000	.000	.000
TMH2	.000	.933	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000

Standardized Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.127	-.041	.000	.000	.000	.000	.000
OIF	-.081	.034	.000	.000	.000	.000	.000
OD	.723	-.061	.000	.000	.000	.000	.000
OP	.020	-.112	.000	.000	.000	.000	.000
TI	-.446	.137	-.115	-.091	-.214	-.013	.000
OI3	.106	-.035	.838	.000	.000	.000	.000
OI2	.101	-.033	.794	.000	.000	.000	.000
OI1	.097	-.032	.767	.000	.000	.000	.000
OIF5	-.046	.019	.000	.568	.000	.000	.000
OIF4	-.077	.032	.000	.950	.000	.000	.000
OIF3	-.045	.019	.000	.551	.000	.000	.000
OIF2	-.072	.030	.000	.886	.000	.000	.000
OD5	.644	-.054	.000	.000	.892	.000	.000
OD4	.664	-.056	.000	.000	.919	.000	.000
OD3	.617	-.052	.000	.000	.853	.000	.000
OD2	.631	-.053	.000	.000	.873	.000	.000
OD1	.497	-.042	.000	.000	.688	.000	.000
TI5	-.242	.074	-.062	-.049	-.116	-.007	.543
TI4	-.294	.090	-.076	-.060	-.141	-.009	.660
TI3	-.386	.119	-.099	-.079	-.185	-.012	.866
TI2	-.425	.131	-.109	-.087	-.204	-.013	.952
TI1	-.373	.115	-.096	-.076	-.179	-.011	.837
OP7	.014	-.075	.000	.000	.000	.673	.000
OP6	.014	-.078	.000	.000	.000	.701	.000
OP5	.015	-.081	.000	.000	.000	.723	.000
OP4	.016	-.091	.000	.000	.000	.811	.000
OP3	.016	-.087	.000	.000	.000	.781	.000
OP2	.016	-.091	.000	.000	.000	.818	.000
OP1	.012	-.068	.000	.000	.000	.608	.000
TMS7	.837	.000	.000	.000	.000	.000	.000
TMS6	.807	.000	.000	.000	.000	.000	.000
TMS5	.856	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OIF	OD	OP	TI
TMS4	.772	.000	.000	.000	.000	.000	.000
TMS3	.799	.000	.000	.000	.000	.000	.000
TMS2	.700	.000	.000	.000	.000	.000	.000
TMS1	.720	.000	.000	.000	.000	.000	.000
TMH8	.000	.861	.000	.000	.000	.000	.000
TMH7	.000	.854	.000	.000	.000	.000	.000
TMH6	.000	.850	.000	.000	.000	.000	.000
TMH5	.000	.756	.000	.000	.000	.000	.000
TMH4	.000	.718	.000	.000	.000	.000	.000
TMH3	.000	.803	.000	.000	.000	.000	.000
TMH2	.000	.829	.000	.000	.000	.000	.000
TMH1	.000	.850	.000	.000	.000	.000	.000

Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.103	-.029	.000	.000	.000	.000	.000
OIF	-.113	.040	.000	.000	.000	.000	.000
OD	.658	-.047	.000	.000	.000	.000	.000
OP	.014	-.068	.000	.000	.000	.000	.000
TI	-.403	.147	-.199	-.093	-.333	-.027	.000
OI3	.000	.000	1.089	.000	.000	.000	.000
OI2	.000	.000	1.150	.000	.000	.000	.000
OI1	.000	.000	1.000	.000	.000	.000	.000
OIF5	.000	.000	.000	.519	.000	.000	.000
OIF4	.000	.000	.000	1.081	.000	.000	.000
OIF3	.000	.000	.000	.519	.000	.000	.000
OIF2	.000	.000	.000	1.000	.000	.000	.000
OD5	.000	.000	.000	.000	1.393	.000	.000
OD4	.000	.000	.000	.000	1.532	.000	.000
OD3	.000	.000	.000	.000	1.405	.000	.000
OD2	.000	.000	.000	.000	1.605	.000	.000
OD1	.000	.000	.000	.000	1.000	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.642
TI4	.000	.000	.000	.000	.000	.000	.711
TI3	.000	.000	.000	.000	.000	.000	1.069
TI2	.000	.000	.000	.000	.000	.000	1.148
TI1	.000	.000	.000	.000	.000	.000	1.000
OP7	.000	.000	.000	.000	.000	1.032	.000
OP6	.000	.000	.000	.000	.000	1.146	.000
OP5	.000	.000	.000	.000	.000	1.305	.000

	TMS	TMH	OI	OIF	OD	OP	TI
OP4	.000	.000	.000	.000	.000	1.174	.000
OP3	.000	.000	.000	.000	.000	1.238	.000
OP2	.000	.000	.000	.000	.000	1.156	.000
OP1	.000	.000	.000	.000	.000	1.000	.000
TMS7	1.071	.000	.000	.000	.000	.000	.000
TMS6	1.016	.000	.000	.000	.000	.000	.000
TMS5	1.161	.000	.000	.000	.000	.000	.000
TMS4	1.092	.000	.000	.000	.000	.000	.000
TMS3	1.210	.000	.000	.000	.000	.000	.000
TMS2	.906	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	1.006	.000	.000	.000	.000	.000
TMH7	.000	.911	.000	.000	.000	.000	.000
TMH6	.000	.965	.000	.000	.000	.000	.000
TMH5	.000	.868	.000	.000	.000	.000	.000
TMH4	.000	.754	.000	.000	.000	.000	.000
TMH3	.000	.948	.000	.000	.000	.000	.000
TMH2	.000	.933	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000

Standardized Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.127	-.041	.000	.000	.000	.000	.000
OIF	-.081	.034	.000	.000	.000	.000	.000
OD	.723	-.061	.000	.000	.000	.000	.000
OP	.020	-.112	.000	.000	.000	.000	.000
TI	-.284	.121	-.115	-.091	-.214	-.013	.000
OI3	.000	.000	.838	.000	.000	.000	.000
OI2	.000	.000	.794	.000	.000	.000	.000
OI1	.000	.000	.767	.000	.000	.000	.000
OIF5	.000	.000	.000	.568	.000	.000	.000
OIF4	.000	.000	.000	.950	.000	.000	.000
OIF3	.000	.000	.000	.551	.000	.000	.000
OIF2	.000	.000	.000	.886	.000	.000	.000
OD5	.000	.000	.000	.000	.892	.000	.000
OD4	.000	.000	.000	.000	.919	.000	.000
OD3	.000	.000	.000	.000	.853	.000	.000
OD2	.000	.000	.000	.000	.873	.000	.000
OD1	.000	.000	.000	.000	.688	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.543

	TMS	TMH	OI	OIF	OD	OP	TI
TI4	.000	.000	.000	.000	.000	.000	.660
TI3	.000	.000	.000	.000	.000	.000	.866
TI2	.000	.000	.000	.000	.000	.000	.952
TI1	.000	.000	.000	.000	.000	.000	.837
OP7	.000	.000	.000	.000	.000	.673	.000
OP6	.000	.000	.000	.000	.000	.701	.000
OP5	.000	.000	.000	.000	.000	.723	.000
OP4	.000	.000	.000	.000	.000	.811	.000
OP3	.000	.000	.000	.000	.000	.781	.000
OP2	.000	.000	.000	.000	.000	.818	.000
OP1	.000	.000	.000	.000	.000	.608	.000
TMS7	.837	.000	.000	.000	.000	.000	.000
TMS6	.807	.000	.000	.000	.000	.000	.000
TMS5	.856	.000	.000	.000	.000	.000	.000
TMS4	.772	.000	.000	.000	.000	.000	.000
TMS3	.799	.000	.000	.000	.000	.000	.000
TMS2	.700	.000	.000	.000	.000	.000	.000
TMS1	.720	.000	.000	.000	.000	.000	.000
TMH8	.000	.861	.000	.000	.000	.000	.000
TMH7	.000	.854	.000	.000	.000	.000	.000
TMH6	.000	.850	.000	.000	.000	.000	.000
TMH5	.000	.756	.000	.000	.000	.000	.000
TMH4	.000	.718	.000	.000	.000	.000	.000
TMH3	.000	.803	.000	.000	.000	.000	.000
TMH2	.000	.829	.000	.000	.000	.000	.000
TMH1	.000	.850	.000	.000	.000	.000	.000

Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
TI	-.229	.020	.000	.000	.000	.000	.000
OI3	.113	-.031	.000	.000	.000	.000	.000
OI2	.119	-.033	.000	.000	.000	.000	.000
OI1	.103	-.029	.000	.000	.000	.000	.000
OIF5	-.058	.021	.000	.000	.000	.000	.000
OIF4	-.122	.043	.000	.000	.000	.000	.000
OIF3	-.058	.021	.000	.000	.000	.000	.000

	TMS	TMH	OI	OIF	OD	OP	TI
OIF2	-.113	.040	.000	.000	.000	.000	.000
OD5	.917	-.066	.000	.000	.000	.000	.000
OD4	1.008	-.072	.000	.000	.000	.000	.000
OD3	.925	-.066	.000	.000	.000	.000	.000
OD2	1.056	-.076	.000	.000	.000	.000	.000
OD1	.658	-.047	.000	.000	.000	.000	.000
TI5	-.406	.107	-.128	-.060	-.214	-.017	.000
TI4	-.449	.118	-.142	-.066	-.237	-.019	.000
TI3	-.676	.178	-.213	-.099	-.356	-.029	.000
TI2	-.726	.191	-.229	-.107	-.382	-.031	.000
TI1	-.632	.166	-.199	-.093	-.333	-.027	.000
OP7	.015	-.070	.000	.000	.000	.000	.000
OP6	.016	-.078	.000	.000	.000	.000	.000
OP5	.019	-.088	.000	.000	.000	.000	.000
OP4	.017	-.080	.000	.000	.000	.000	.000
OP3	.018	-.084	.000	.000	.000	.000	.000
OP2	.016	-.078	.000	.000	.000	.000	.000
OP1	.014	-.068	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OIF	OD	OP	TI
OI	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OIF	OD	OP	TI
TI	-.162	.016	.000	.000	.000	.000	.000
OI3	.106	-.035	.000	.000	.000	.000	.000
OI2	.101	-.033	.000	.000	.000	.000	.000
OI1	.097	-.032	.000	.000	.000	.000	.000
OIF5	-.046	.019	.000	.000	.000	.000	.000
OIF4	-.077	.032	.000	.000	.000	.000	.000
OIF3	-.045	.019	.000	.000	.000	.000	.000
OIF2	-.072	.030	.000	.000	.000	.000	.000
OD5	.644	-.054	.000	.000	.000	.000	.000
OD4	.664	-.056	.000	.000	.000	.000	.000
OD3	.617	-.052	.000	.000	.000	.000	.000
OD2	.631	-.053	.000	.000	.000	.000	.000
OD1	.497	-.042	.000	.000	.000	.000	.000
TI5	-.242	.074	-.062	-.049	-.116	-.007	.000
TI4	-.294	.090	-.076	-.060	-.141	-.009	.000
TI3	-.386	.119	-.099	-.079	-.185	-.012	.000
TI2	-.425	.131	-.109	-.087	-.204	-.013	.000
TI1	-.373	.115	-.096	-.076	-.179	-.011	.000
OP7	.014	-.075	.000	.000	.000	.000	.000
OP6	.014	-.078	.000	.000	.000	.000	.000
OP5	.015	-.081	.000	.000	.000	.000	.000
OP4	.016	-.091	.000	.000	.000	.000	.000
OP3	.016	-.087	.000	.000	.000	.000	.000
OP2	.016	-.091	.000	.000	.000	.000	.000
OP1	.012	-.068	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	93	1287.709	687	.000	1.874
Saturated model	780	.000	0		
Independence model	39	6240.250	741	.000	8.421

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.044	.765	.734	.674
Saturated model	.000	1.000		
Independence model	.212	.261	.223	.248

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.794	.777	.892	.882	.891
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.927	.736	.826
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	600.709	503.491	705.726
Saturated model	.000	.000	.000
Independence model	5499.250	5250.495	5754.549

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	6.439	3.004	2.517	3.529
Saturated model	.000	.000	.000	.000
Independence model	31.201	27.496	26.252	28.773

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.066	.061	.072	.000
Independence model	.193	.188	.197	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1473.709	1520.209	1780.916	1873.916
Saturated model	1560.000	1950.000	4136.578	4916.578
Independence model	6318.250	6337.750	6447.079	6486.079

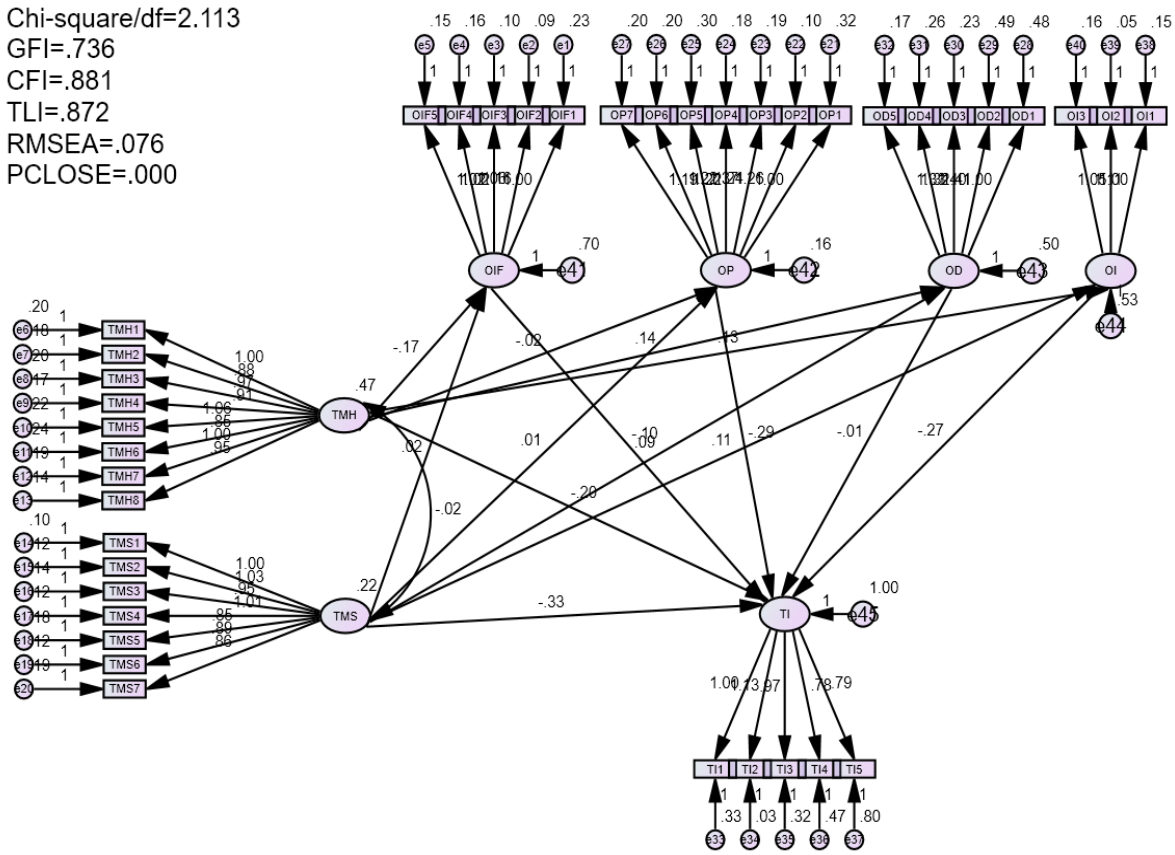
ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	7.369	6.882	7.894	7.601
Saturated model	7.800	7.800	7.800	9.750
Independence model	31.591	30.347	32.868	31.689

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	117	121
Independence model	26	27

2.3. South region of Vietnam



Regression Weights: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
OIF	<---	TMH	.167	.092	1.818	.069	
OP	<---	TMH	.021	.045	.454	.650	
OD	<---	TMH	-.137	.079	-1.736	.082	
OI	<---	TMH	-.135	.080	-1.682	.093	
OIF	<---	TMS	.021	.136	.158	.875	
OP	<---	TMS	.013	.067	.187	.852	
OD	<---	TMS	.087	.116	.749	.454	
OI	<---	TMS	.113	.119	.949	.343	
TI	<---	TMH	.198	.112	1.760	.078	
TI	<---	TMS	-.330	.164	-2.014	.044	
TI	<---	OIF	-.103	.088	-1.165	.244	
TI	<---	OP	-.292	.194	-1.503	.133	
TI	<---	OD	-.007	.106	-.065	.948	
TI	<---	OI	-.268	.104	-2.578	.010	

			Estimate	S.E.	C.R.	P	Label
OIF1	<---	OIF	1.000				
OIF2	<---	OIF	1.164	.055	21.039	***	
OIF3	<---	OIF	1.021	.050	20.252	***	
OIF4	<---	OIF	1.062	.056	18.805	***	
OIF5	<---	OIF	1.018	.054	18.739	***	
TMH1	<---	TMH	1.000				
TMH2	<---	TMH	.881	.062	14.103	***	
TMH3	<---	TMH	.973	.067	14.536	***	
TMH4	<---	TMH	.910	.063	14.554	***	
TMH5	<---	TMH	1.064	.072	14.819	***	
TMH6	<---	TMH	.848	.067	12.732	***	
TMH7	<---	TMH	.996	.067	14.881	***	
TMH8	<---	TMH	.948	.062	15.392	***	
TMS1	<---	TMS	1.000				
TMS2	<---	TMS	1.034	.078	13.301	***	
TMS3	<---	TMS	.948	.078	12.206	***	
TMS4	<---	TMS	1.014	.077	13.120	***	
TMS5	<---	TMS	.849	.082	10.393	***	
TMS6	<---	TMS	.894	.073	12.178	***	
TMS7	<---	TMS	.857	.083	10.371	***	
OP1	<---	OP	1.000				
OP2	<---	OP	1.260	.149	8.468	***	
OP3	<---	OP	1.243	.157	7.892	***	
OP4	<---	OP	1.218	.153	7.950	***	
OP5	<---	OP	1.372	.180	7.632	***	
OP6	<---	OP	1.216	.156	7.791	***	
OP7	<---	OP	1.191	.153	7.782	***	
OD1	<---	OD	1.000				
OD2	<---	OD	1.407	.125	11.244	***	
OD3	<---	OD	1.316	.108	12.177	***	
OD4	<---	OD	1.396	.115	12.174	***	
OD5	<---	OD	1.335	.106	12.574	***	
TI1	<---	TI	1.000				
TI2	<---	TI	1.130	.048	23.321	***	
TI3	<---	TI	.973	.055	17.822	***	
TI4	<---	TI	.783	.056	13.954	***	
TI5	<---	TI	.792	.069	11.498	***	
OI1	<---	OI	1.000				
OI2	<---	OI	1.046	.051	20.674	***	
OI3	<---	OI	1.107	.060	18.469	***	

Standardized Regression Weights: (Group number 1—Default model)

			Estimate
OIF	<---	TMH	.136
OP	<---	TMH	.035
OD	<---	TMH	-.132
OI	<---	TMH	-.127
OIF	<---	TMS	.012
OP	<---	TMS	.015
OD	<---	TMS	.058
OI	<---	TMS	.072
TI	<---	TMH	.129
TI	<---	TMS	-.148
TI	<---	OIF	-.083
TI	<---	OP	-.111
TI	<---	OD	-.005
TI	<---	OI	-.186
OIF1	<---	OIF	.868
OIF2	<---	OIF	.957
OIF3	<---	OIF	.942
OIF4	<---	OIF	.912
OIF5	<---	OIF	.911
TMH1	<---	TMH	.837
TMH2	<---	TMH	.819
TMH3	<---	TMH	.835
TMH4	<---	TMH	.836
TMH5	<---	TMH	.845
TMH6	<---	TMH	.767
TMH7	<---	TMH	.847
TMH8	<---	TMH	.864
TMS1	<---	TMS	.826
TMS2	<---	TMS	.819
TMS3	<---	TMS	.771
TMS4	<---	TMS	.811
TMS5	<---	TMS	.683
TMS6	<---	TMS	.769
TMS7	<---	TMS	.682
OP1	<---	OP	.579
OP2	<---	OP	.846
OP3	<---	OP	.749
OP4	<---	OP	.758
OP5	<---	OP	.711

			Estimate
OP6	<---	OP	.734
OP7	<---	OP	.732
OD1	<---	OD	.716
OD2	<---	OD	.821
OD3	<---	OD	.888
OD4	<---	OD	.888
OD5	<---	OD	.919
TI1	<---	TI	.879
TI2	<---	TI	.990
TI3	<---	TI	.875
TI4	<---	TI	.770
TI5	<---	TI	.682
OI1	<---	OI	.883
OI2	<---	OI	.960
OI3	<---	OI	.896

Covariances: (Group number 1—Default model)

			Estimate	S.E.	C.R.	P	Label
TMH	<-->	TMS	.021	.025	.845	.398	

Correlations: (Group number 1—Default model)

			Estimate
TMH	<-->	TMS	.065

Variances: (Group number 1—Default model)

	Estimate	S.E.	C.R.	P	Label
TMH	.475	.066	7.146	***	
TMS	.222	.032	6.884	***	
e41	.705	.093	7.613	***	
e42	.160	.038	4.233	***	
e43	.497	.088	5.667	***	
e44	.526	.068	7.747	***	
e45	1.002	.130	7.730	***	
e1	.235	.026	8.898	***	
e2	.090	.014	6.336	***	
e3	.096	.013	7.293	***	
e4	.164	.020	8.274	***	
e5	.153	.018	8.305	***	
e6	.202	.024	8.608	***	

	Estimate	S.E.	C.R.	P	Label
e7	.180	.021	8.773	***	
e8	.195	.023	8.633	***	
e9	.170	.020	8.627	***	
e10	.216	.025	8.529	***	
e11	.239	.026	9.108	***	
e12	.186	.022	8.505	***	
e13	.145	.017	8.281	***	
e14	.103	.013	7.879	***	
e15	.116	.015	7.979	***	
e16	.136	.016	8.519	***	
e17	.118	.015	8.085	***	
e18	.182	.020	9.067	***	
e19	.122	.014	8.530	***	
e20	.187	.021	9.072	***	
e21	.317	.034	9.316	***	
e22	.101	.014	7.060	***	
e23	.194	.023	8.448	***	
e24	.177	.021	8.366	***	
e25	.296	.034	8.739	***	
e26	.203	.024	8.574	***	
e27	.197	.023	8.584	***	
e28	.481	.052	9.216	***	
e29	.486	.057	8.567	***	
e30	.235	.031	7.451	***	
e31	.265	.035	7.458	***	
e32	.167	.026	6.384	***	
e33	.327	.038	8.673	***	
e34	.030	.022	1.397	.162	
e35	.321	.037	8.736	***	
e36	.467	.049	9.501	***	
e37	.801	.083	9.680	***	
e38	.151	.020	7.546	***	
e39	.051	.015	3.376	***	
e40	.161	.023	7.089	***	

Squared Multiple Correlations: (Group number 1—Default model)

	Estimate
OI	.020
OD	.020
OP	.002

	Estimate
OIF	.019
TI	.096
OI3	.803
OI2	.921
OI1	.780
TI5	.465
TI4	.593
TI3	.765
TI2	.979
TI1	.772
OD5	.844
OD4	.789
OD3	.789
OD2	.674
OD1	.513
OP7	.536
OP6	.538
OP5	.505
OP4	.574
OP3	.561
OP2	.715
OP1	.336
TMS7	.465
TMS6	.592
TMS5	.467
TMS4	.658
TMS3	.594
TMS2	.671
TMS1	.682
TMH8	.747
TMH7	.717
TMH6	.588
TMH5	.714
TMH4	.698
TMH3	.697
TMH2	.671
TMH1	.701
OIF5	.829
OIF4	.832
OIF3	.887
OIF2	.915

	Estimate
OIF1	.754

Matrices (Group number 1—Default model)

Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.113	-.135	.000	.000	.000	.000	.000
OD	.087	-.137	.000	.000	.000	.000	.000
OP	.013	.021	.000	.000	.000	.000	.000
OIF	.021	.167	.000	.000	.000	.000	.000
TI	-.367	.212	-.268	-.007	-.292	-.103	.000
OI3	.125	-.149	1.107	.000	.000	.000	.000
OI2	.118	-.141	1.046	.000	.000	.000	.000
OI1	.113	-.135	1.000	.000	.000	.000	.000
TI5	-.290	.167	-.212	-.005	-.231	-.081	.792
TI4	-.287	.166	-.210	-.005	-.228	-.080	.783
TI3	-.357	.206	-.260	-.007	-.284	-.100	.973
TI2	-.414	.239	-.303	-.008	-.329	-.116	1.130
TI1	-.367	.212	-.268	-.007	-.292	-.103	1.000
OD5	.116	-.182	.000	1.335	.000	.000	.000
OD4	.121	-.191	.000	1.396	.000	.000	.000
OD3	.114	-.180	.000	1.316	.000	.000	.000
OD2	.122	-.192	.000	1.407	.000	.000	.000
OD1	.087	-.137	.000	1.000	.000	.000	.000
OP7	.015	.024	.000	.000	1.191	.000	.000
OP6	.015	.025	.000	.000	1.216	.000	.000
OP5	.017	.028	.000	.000	1.372	.000	.000
OP4	.015	.025	.000	.000	1.218	.000	.000
OP3	.016	.025	.000	.000	1.243	.000	.000
OP2	.016	.026	.000	.000	1.260	.000	.000
OP1	.013	.021	.000	.000	1.000	.000	.000
TMS7	.857	.000	.000	.000	.000	.000	.000
TMS6	.894	.000	.000	.000	.000	.000	.000
TMS5	.849	.000	.000	.000	.000	.000	.000
TMS4	1.014	.000	.000	.000	.000	.000	.000
TMS3	.948	.000	.000	.000	.000	.000	.000
TMS2	1.034	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.948	.000	.000	.000	.000	.000
TMH7	.000	.996	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TMH6	.000	.848	.000	.000	.000	.000	.000
TMH5	.000	1.064	.000	.000	.000	.000	.000
TMH4	.000	.910	.000	.000	.000	.000	.000
TMH3	.000	.973	.000	.000	.000	.000	.000
TMH2	.000	.881	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000
OIF5	.022	.170	.000	.000	.000	1.018	.000
OIF4	.023	.177	.000	.000	.000	1.062	.000
OIF3	.022	.170	.000	.000	.000	1.021	.000
OIF2	.025	.194	.000	.000	.000	1.164	.000
OIF1	.021	.167	.000	.000	.000	1.000	.000

Standardized Total Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.072	-.127	.000	.000	.000	.000	.000
OD	.058	-.132	.000	.000	.000	.000	.000
OP	.015	.035	.000	.000	.000	.000	.000
OIF	.012	.136	.000	.000	.000	.000	.000
TI	-.164	.138	-.186	-.005	-.111	-.083	.000
OI3	.065	-.113	.896	.000	.000	.000	.000
OI2	.070	-.121	.960	.000	.000	.000	.000
OI1	.064	-.112	.883	.000	.000	.000	.000
TI5	-.112	.094	-.127	-.003	-.076	-.056	.682
TI4	-.126	.107	-.143	-.004	-.085	-.064	.770
TI3	-.143	.121	-.163	-.004	-.097	-.072	.875
TI2	-.162	.137	-.184	-.005	-.110	-.082	.990
TI1	-.144	.122	-.164	-.004	-.097	-.073	.879
OD5	.053	-.121	.000	.919	.000	.000	.000
OD4	.051	-.117	.000	.888	.000	.000	.000
OD3	.051	-.117	.000	.888	.000	.000	.000
OD2	.047	-.108	.000	.821	.000	.000	.000
OD1	.041	-.095	.000	.716	.000	.000	.000
OP7	.011	.026	.000	.000	.732	.000	.000
OP6	.011	.026	.000	.000	.734	.000	.000
OP5	.011	.025	.000	.000	.711	.000	.000
OP4	.011	.027	.000	.000	.758	.000	.000
OP3	.011	.026	.000	.000	.749	.000	.000
OP2	.013	.030	.000	.000	.846	.000	.000
OP1	.009	.020	.000	.000	.579	.000	.000
TMS7	.682	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TMS6	.769	.000	.000	.000	.000	.000	.000
TMS5	.683	.000	.000	.000	.000	.000	.000
TMS4	.811	.000	.000	.000	.000	.000	.000
TMS3	.771	.000	.000	.000	.000	.000	.000
TMS2	.819	.000	.000	.000	.000	.000	.000
TMS1	.826	.000	.000	.000	.000	.000	.000
TMH8	.000	.864	.000	.000	.000	.000	.000
TMH7	.000	.847	.000	.000	.000	.000	.000
TMH6	.000	.767	.000	.000	.000	.000	.000
TMH5	.000	.845	.000	.000	.000	.000	.000
TMH4	.000	.836	.000	.000	.000	.000	.000
TMH3	.000	.835	.000	.000	.000	.000	.000
TMH2	.000	.819	.000	.000	.000	.000	.000
TMH1	.000	.837	.000	.000	.000	.000	.000
OIF5	.011	.124	.000	.000	.000	.911	.000
OIF4	.011	.124	.000	.000	.000	.912	.000
OIF3	.011	.128	.000	.000	.000	.942	.000
OIF2	.011	.130	.000	.000	.000	.957	.000
OIF1	.010	.118	.000	.000	.000	.868	.000

Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.113	-.135	.000	.000	.000	.000	.000
OD	.087	-.137	.000	.000	.000	.000	.000
OP	.013	.021	.000	.000	.000	.000	.000
OIF	.021	.167	.000	.000	.000	.000	.000
TI	-.330	.198	-.268	-.007	-.292	-.103	.000
OI3	.000	.000	1.107	.000	.000	.000	.000
OI2	.000	.000	1.046	.000	.000	.000	.000
OI1	.000	.000	1.000	.000	.000	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.792
TI4	.000	.000	.000	.000	.000	.000	.783
TI3	.000	.000	.000	.000	.000	.000	.973
TI2	.000	.000	.000	.000	.000	.000	1.130
TI1	.000	.000	.000	.000	.000	.000	1.000
OD5	.000	.000	.000	1.335	.000	.000	.000
OD4	.000	.000	.000	1.396	.000	.000	.000
OD3	.000	.000	.000	1.316	.000	.000	.000
OD2	.000	.000	.000	1.407	.000	.000	.000
OD1	.000	.000	.000	1.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OP7	.000	.000	.000	.000	1.191	.000	.000
OP6	.000	.000	.000	.000	1.216	.000	.000
OP5	.000	.000	.000	.000	1.372	.000	.000
OP4	.000	.000	.000	.000	1.218	.000	.000
OP3	.000	.000	.000	.000	1.243	.000	.000
OP2	.000	.000	.000	.000	1.260	.000	.000
OP1	.000	.000	.000	.000	1.000	.000	.000
TMS7	.857	.000	.000	.000	.000	.000	.000
TMS6	.894	.000	.000	.000	.000	.000	.000
TMS5	.849	.000	.000	.000	.000	.000	.000
TMS4	1.014	.000	.000	.000	.000	.000	.000
TMS3	.948	.000	.000	.000	.000	.000	.000
TMS2	1.034	.000	.000	.000	.000	.000	.000
TMS1	1.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.948	.000	.000	.000	.000	.000
TMH7	.000	.996	.000	.000	.000	.000	.000
TMH6	.000	.848	.000	.000	.000	.000	.000
TMH5	.000	1.064	.000	.000	.000	.000	.000
TMH4	.000	.910	.000	.000	.000	.000	.000
TMH3	.000	.973	.000	.000	.000	.000	.000
TMH2	.000	.881	.000	.000	.000	.000	.000
TMH1	.000	1.000	.000	.000	.000	.000	.000
OIF5	.000	.000	.000	.000	.000	1.018	.000
OIF4	.000	.000	.000	.000	.000	1.062	.000
OIF3	.000	.000	.000	.000	.000	1.021	.000
OIF2	.000	.000	.000	.000	.000	1.164	.000
OIF1	.000	.000	.000	.000	.000	1.000	.000

Standardized Direct Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.072	-.127	.000	.000	.000	.000	.000
OD	.058	-.132	.000	.000	.000	.000	.000
OP	.015	.035	.000	.000	.000	.000	.000
OIF	.012	.136	.000	.000	.000	.000	.000
TI	-.148	.129	-.186	-.005	-.111	-.083	.000
OI3	.000	.000	.896	.000	.000	.000	.000
OI2	.000	.000	.960	.000	.000	.000	.000
OI1	.000	.000	.883	.000	.000	.000	.000
TI5	.000	.000	.000	.000	.000	.000	.682
TI4	.000	.000	.000	.000	.000	.000	.770

	TMS	TMH	OI	OD	OP	OIF	TI
TI3	.000	.000	.000	.000	.000	.000	.875
TI2	.000	.000	.000	.000	.000	.000	.990
TI1	.000	.000	.000	.000	.000	.000	.879
OD5	.000	.000	.000	.919	.000	.000	.000
OD4	.000	.000	.000	.888	.000	.000	.000
OD3	.000	.000	.000	.888	.000	.000	.000
OD2	.000	.000	.000	.821	.000	.000	.000
OD1	.000	.000	.000	.716	.000	.000	.000
OP7	.000	.000	.000	.000	.732	.000	.000
OP6	.000	.000	.000	.000	.734	.000	.000
OP5	.000	.000	.000	.000	.711	.000	.000
OP4	.000	.000	.000	.000	.758	.000	.000
OP3	.000	.000	.000	.000	.749	.000	.000
OP2	.000	.000	.000	.000	.846	.000	.000
OP1	.000	.000	.000	.000	.579	.000	.000
TMS7	.682	.000	.000	.000	.000	.000	.000
TMS6	.769	.000	.000	.000	.000	.000	.000
TMS5	.683	.000	.000	.000	.000	.000	.000
TMS4	.811	.000	.000	.000	.000	.000	.000
TMS3	.771	.000	.000	.000	.000	.000	.000
TMS2	.819	.000	.000	.000	.000	.000	.000
TMS1	.826	.000	.000	.000	.000	.000	.000
TMH8	.000	.864	.000	.000	.000	.000	.000
TMH7	.000	.847	.000	.000	.000	.000	.000
TMH6	.000	.767	.000	.000	.000	.000	.000
TMH5	.000	.845	.000	.000	.000	.000	.000
TMH4	.000	.836	.000	.000	.000	.000	.000
TMH3	.000	.835	.000	.000	.000	.000	.000
TMH2	.000	.819	.000	.000	.000	.000	.000
TMH1	.000	.837	.000	.000	.000	.000	.000
OIF5	.000	.000	.000	.000	.000	.911	.000
OIF4	.000	.000	.000	.000	.000	.912	.000
OIF3	.000	.000	.000	.000	.000	.942	.000
OIF2	.000	.000	.000	.000	.000	.957	.000
OIF1	.000	.000	.000	.000	.000	.868	.000

Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OP	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
TI	-.037	.014	.000	.000	.000	.000	.000
OI3	.125	-.149	.000	.000	.000	.000	.000
OI2	.118	-.141	.000	.000	.000	.000	.000
OI1	.113	-.135	.000	.000	.000	.000	.000
TI5	-.290	.167	-.212	-.005	-.231	-.081	.000
TI4	-.287	.166	-.210	-.005	-.228	-.080	.000
TI3	-.357	.206	-.260	-.007	-.284	-.100	.000
TI2	-.414	.239	-.303	-.008	-.329	-.116	.000
TI1	-.367	.212	-.268	-.007	-.292	-.103	.000
OD5	.116	-.182	.000	.000	.000	.000	.000
OD4	.121	-.191	.000	.000	.000	.000	.000
OD3	.114	-.180	.000	.000	.000	.000	.000
OD2	.122	-.192	.000	.000	.000	.000	.000
OD1	.087	-.137	.000	.000	.000	.000	.000
OP7	.015	.024	.000	.000	.000	.000	.000
OP6	.015	.025	.000	.000	.000	.000	.000
OP5	.017	.028	.000	.000	.000	.000	.000
OP4	.015	.025	.000	.000	.000	.000	.000
OP3	.016	.025	.000	.000	.000	.000	.000
OP2	.016	.026	.000	.000	.000	.000	.000
OP1	.013	.021	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000
OIF5	.022	.170	.000	.000	.000	.000	.000
OIF4	.023	.177	.000	.000	.000	.000	.000
OIF3	.022	.170	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
OIF2	.025	.194	.000	.000	.000	.000	.000
OIF1	.021	.167	.000	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1—Default model)

	TMS	TMH	OI	OD	OP	OIF	TI
OI	.000	.000	.000	.000	.000	.000	.000
OD	.000	.000	.000	.000	.000	.000	.000
OP	.000	.000	.000	.000	.000	.000	.000
OIF	.000	.000	.000	.000	.000	.000	.000
TI	-.016	.009	.000	.000	.000	.000	.000
OI3	.065	-.113	.000	.000	.000	.000	.000
OI2	.070	-.121	.000	.000	.000	.000	.000
OI1	.064	-.112	.000	.000	.000	.000	.000
TI5	-.112	.094	-.127	-.003	-.076	-.056	.000
TI4	-.126	.107	-.143	-.004	-.085	-.064	.000
TI3	-.143	.121	-.163	-.004	-.097	-.072	.000
TI2	-.162	.137	-.184	-.005	-.110	-.082	.000
TI1	-.144	.122	-.164	-.004	-.097	-.073	.000
OD5	.053	-.121	.000	.000	.000	.000	.000
OD4	.051	-.117	.000	.000	.000	.000	.000
OD3	.051	-.117	.000	.000	.000	.000	.000
OD2	.047	-.108	.000	.000	.000	.000	.000
OD1	.041	-.095	.000	.000	.000	.000	.000
OP7	.011	.026	.000	.000	.000	.000	.000
OP6	.011	.026	.000	.000	.000	.000	.000
OP5	.011	.025	.000	.000	.000	.000	.000
OP4	.011	.027	.000	.000	.000	.000	.000
OP3	.011	.026	.000	.000	.000	.000	.000
OP2	.013	.030	.000	.000	.000	.000	.000
OP1	.009	.020	.000	.000	.000	.000	.000
TMS7	.000	.000	.000	.000	.000	.000	.000
TMS6	.000	.000	.000	.000	.000	.000	.000
TMS5	.000	.000	.000	.000	.000	.000	.000
TMS4	.000	.000	.000	.000	.000	.000	.000
TMS3	.000	.000	.000	.000	.000	.000	.000
TMS2	.000	.000	.000	.000	.000	.000	.000
TMS1	.000	.000	.000	.000	.000	.000	.000
TMH8	.000	.000	.000	.000	.000	.000	.000
TMH7	.000	.000	.000	.000	.000	.000	.000
TMH6	.000	.000	.000	.000	.000	.000	.000

	TMS	TMH	OI	OD	OP	OIF	TI
TMH5	.000	.000	.000	.000	.000	.000	.000
TMH4	.000	.000	.000	.000	.000	.000	.000
TMH3	.000	.000	.000	.000	.000	.000	.000
TMH2	.000	.000	.000	.000	.000	.000	.000
TMH1	.000	.000	.000	.000	.000	.000	.000
OIF5	.011	.124	.000	.000	.000	.000	.000
OIF4	.011	.124	.000	.000	.000	.000	.000
OIF3	.011	.128	.000	.000	.000	.000	.000
OIF2	.011	.130	.000	.000	.000	.000	.000
OIF1	.010	.118	.000	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	95	1531.655	725	.000	2.113
Saturated model	820	.000	0		
Independence model	40	7544.963	780	.000	9.673

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.113	.736	.701	.650
Saturated model	.000	1.000		
Independence model	.229	.246	.207	.234

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.797	.782	.882	.872	.881
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.929	.741	.819
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	806.655	698.006	923.039
Saturated model	.000	.000	.000
Independence model	6764.963	6489.962	7046.474

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	7.855	4.137	3.580	4.734
Saturated model	.000	.000	.000	.000
Independence model	38.692	34.692	33.282	36.136

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.076	.070	.081	.000
Independence model	.211	.207	.215	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	1721.655	1772.240	2033.076	2128.076
Saturated model	1640.000	2076.623	4328.054	5148.054
Independence model	7624.963	7646.262	7756.088	7796.088

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	8.829	8.272	9.426	9.088
Saturated model	8.410	8.410	8.410	10.649
Independence model	39.102	37.692	40.546	39.212

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	101	104
Independence model	22	23