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Abstract. Ho Chi Minh City is among the top cities in Vietnam with a high proportion of rural to urban migration. This strongly contributes to the economic growth of the city but challenges the infrastructure, social security services, health care, clean water, education, traffic, safety, and social order which negatively impacts the quality of life. The purpose of this study was to explore the life quality of rural to urban migrants in Ho Chi Minh City. A quantitative method was employed to confirm the measurement model and structural model. Probability sampling was applied for the field survey. The final data of 272 migrants have been analyzed, using Partial Least Squares Structural Equation Model (PLS-SEM). Social capital, a special resource of the vulnerable like rural to urban migrants has been investigated. This contributes to the theory that both social capital and quality of life have been approached multi-dimensionally. Bonding, bridging, and linking dimensions have all been approached to construct the social capital measurement model. Five aspects of life quality including work, housing, environment, finance, and social cohesion have been measured to reflect the quality of life multi-dimensionally. The research results showed the reliability and validity of the measurement model. The positive impact of social capital on quality of life has empirically been confirmed. The findings implied the prompt strategies for mobilizing social capital effectively and efficiently, including the exploitation of bonding, bridging, and linking to improve the quality of life.

Keywords: Ho Chi Minh City, PLS-SEM, Quality of Life, Social Capital, Migrant, Vietnam

1. Introduction

Migration is defined as the movement of persons from one geographical location or region to another (Sinha, 2005). This is a common and inevitable social phenomenon in the world and Vietnam is not an exception, especially since internal migration has increasingly attracted the attention of scholars and policymakers in developing countries (Gallagher, 2015). Studies on internal migration have highly appreciated the positive contributions of migration to increasing opportunities for advancement for migrants and their families, thereby contributing to poverty reduction and development, promoting the process of urbanization, and solving the problem of labor and employment (Lucas, 1997). In general, migrants have both positive and negative impacts on the economy of their destination. Migrants strongly contribute to the economic growth of their destination by providing labor at low wages. However, migration also creates a source of several development problems such as pressure on infrastructure, social security services, health care, clean water, education, traffic, and even issues of safety, security, and social order (Liang & Guo, 2015). Migrants also face many difficulties and barriers in accessing and enjoying these services in order to improve their quality of life (UNFPA, 2010).

Ho Chi Minh City is considered an engine to drive Vietnam's economic growth as the largest contributor to the state budget (27% of total budget revenue), contributing an average of 22% - 24% of the country's GDP (Onishi, 2020). According to Dezan Shira & Assocates (2018), Ho Chi Minh City has been recorded as having the highest labor productivity as well as the monthly average salary in Vietnam (38% higher than the national average), which attracted the largest number of migrants with an average of 30% of its population (Taylor, 2011). Therefore, ensuring and improving the quality of life, especially for migrants to Ho Chi Minh City, is a matter of concern for policymakers. A plethora of previous studies have provided empirical evidence that improved quality of life brings many benefits not only to each individual but also to the whole society such as better performance, success, productivity, and creativity (Lyubomirsky et al., 2005; Wahl et al., 2009; Helliwell et al., 2019). Therefore, quality of life or happy life is targeted by mankind on this planet.

Social capital and quality of life have recently got great interest from the research community (Murgaš, Petrovič & Tirpáková, 2022; Zhang, Hong, & Ma, 2022). It has been widely recognized in many recent studies for its positive impact on quality of life and social well-being (Han, Lee, & Kwon, 2022). However, the concepts of quality of life and social capital are multidimensional, complex, and

contextual base. Diversified approaches depending on research goals have been found in the literature. No unanimous consent on the dimensions of these two concepts has been reached (Yamauchi et al., 2008; Häyry,1991). Social capital was first introduced in 1916, referring to goodwill, friendship, sympathy, and social interaction between individuals and families (Hanifan, 1916). By the 1980s, social capital's importance was recognized in social science research (Coleman, 1988; Putnam et al., 1993; Helliwell and Putnam, 1995; Granovetter, 1995). Bourdieu (1983), a French sociologist and philosopher, was among the first authors to analyze the topic of social capital systematically in the early 1980s. Portes (1998) argues that social capital is the sum of potential or real resources, derived from the possession of a solid network of acquaintances, more or less organizational, or associational. Putnam (1993, 2000) extended social capital as the characteristics of social organization such as trust, normative behaviors, and social networks. These characteristics are the foundation of cooperation, enabling members to act more effectively in pursuit of common goals. Therefore, it can be said that social capital is a multi-dimensional, multi-form concept, and depending on the purpose, approach, and survey method, researchers determine the content of social capital differently. Anyway, social capital should be considered the fourth source of capital for individuals and communities, besides other traditional capital sources such as natural capital, physical capital, and human capital (Hamdan, Yusof, & Marzukhi, 2014).

In short, a plethora of previous research has approached social capital and quality of life uni-dimensionally. Therefore, the construct operationalization has not properly reflected the actual measurement. In addition, social capital and quality of life are constructs that much rely on the context. This study attempts to measure both social capital and quality of life study of the rural to urban migrants in Ho Chi Minh City, Vietnam. It then explores the impact of social capital on quality of life from a multi-dimensional perspective. Our contribution can be listed in three ways. Firstly, we explored the multi-dimensions as well as the indicators of both social capital and quality of life in the context of Vietnam. Secondly, we provided empirical evidence on the positive impact of social capital on the quality of life multi-dimensionally. Finally, we enriched the study of behavioral economics, through the analysis of the importance-performance of the PLS-SEM model on the impact of social capital on the quality of life of migrants to Ho Chi Minh City, Vietnam. As a result, proper policies to mobilize proper types of social capital for quality of life enhancement have been implied.

The study is organized as follows. Following the introduction in section 1, section 2 shows the literature review. Section 3 discusses the sources of data as well as the method employed in the study. Section 4 presents the results of this study, while section 5 concludes.

2. Literature Review

Quality of life (QOL) is a fairly broad concept that has attracted much discussion and interest from the research community. QOL is certainly a multi-faceted concept that is frequently used though unanimous consent on its definition is still debatable. There are many different views on the quality of life depending on the level of development of each country and the research perspective. Felce and Perry(1995) measured the overall subjective assessment of life while Boehnke (2003) extended this concept to individual happiness with broad and multidimensional emotions. It was also defined as satisfaction with life's factors, which are considered the most important to each individual (Marans, 2011). This term has been used to describe how good life is rated for each individual and society as a whole (Theofilou, 2013). QOL was evaluated through the satisfaction level of individuals with work and relationships in society and can be understood as a result of physical, mental, and social well-being and satisfaction. According to Theofilou (2013), there are many different criteria to measure and evaluate the quality of life, including per capita or household income, poverty index, education and skill level, health, and other factors such as health services and living conditions. Each criterion shows the nature and levels of quality of life from different angles. Specifically, the greater the score of these criteria, the higher the quality of life and vice versa.

Indicators measuring the quality of life are also very different in many previous studies. Abdul-Hakim, Ismail & Abdul-Razak (2010) measured quality of life by 10 domains as follows: (1) working environment, (2) communication and transportation; (3) health; (4) education; (5) housing; (6) environment; (7) family life; (8) social participation; (9) public safety; and (10) culture and leisure. Adedeji et al. (2021) generalized quality of life with eight dimensions covering: (1) subjective quality of life, (2) satisfaction with health, (3) energy and fatigue, (4) financial resources, (5) satisfaction with sleep and rest, (6) self-esteem, (7) personal relationship, and (8) home environment. Santos et al., (2007) when surveying the quality of life of Porto residents, proposed 21 items related to the quality of life. Although there are differences in the measures, overall quality of life is measured by key dimensions such as work and finance, housing and living

environment, and social cohesion among individuals in the community (Rogge & Van Nijverseel, 2019). In this study, QOL has been measured through questions about people's perception of some aspects of quality of life: (1) work, (2) housing, (3) environment, (4) finance, and (5) social cohesion. These are the five most important factors for the quality of life of migrants. Migrants to a new place of residence need sufficient social capital to secure a stable and satisfactory job so that they can pursue a better quality of life (Chen, Yu, Gong, Wang, & Elliott, 2018; Lange, 201). Work is the first consideration of migration choice (Sabates, 2000; Hoppe & Fujishiro, 2015). Housing needs are also the top priority of people (Lin & Zhu, 2010). Housing is not only important for each individual and family but also one of the criteria for assessing the development of society and people's living standards (Zhao, 2004; Mercer, 2011). This factor is confirmed to be related to the quality of life's people, especially immigrants (Adedeji & Bullinger, 2019). In understanding QOF, finance is crucial. According to Boehnke (2003) and Zhao (2004), people with good financial conditions (high income) are more likely to spend, purchase equipment for life, and are more likely to be satisfied with their quality of life. Schmidt et al. (2006) and Adedeji et al. (2021) also confirmed the impact of financial factors on quality of life. Social cohesion is also considered by many scientists in their research. Boeknke (2003) argued that family and social relationships could help a lot when the individual encountered unfavorable conditions while Zhao (2004) added that friendly neighbors as an important factor affecting the quality of life. In terms of environment, the quality of air, water, and noise has been explored (Abdul-Hakim, Ismail & Abdul-Razak; 2010; Seidman & Standring, 2010).

Theory and previous studies defined and explained the concept of social capital quite diverse and its definition is still debatable. However, the researchers agreed on the following points: Firstly, social capital was associated with the "social structure and network" including close relationships (Hanifan, 1916; Bourdieu, 1983; Coleman, 1988; Putnam & Helliwell, 1995; Porter, 2000). Secondly, social capital was one of the "resources". According to Bourdieu (1983), it was an actual resource or potential resource whereas Lin (2017) defined it as a resource in the social network. Portes (2000) also used the concept of resources to express social capital. Third, social capital was characterized as capital with an investment return (Bourdieu, 1983). Lin (2017) clarified its ability to invest in relationships and expected profits. Social capital was also extended to include trust and reciprocity (Fukuyama, 1996). In conclusion, social capital is a resource based on structure and social networks. It is created through personal relationships

based on coordination, cooperation, and trust. And the more social capital accumulates, the more beneficial future activities can be reached. However, social capital must be accumulated in social norms (informal institutions) and legal systems (formal institutions) to ensure benefits among the parties. To accumulate social capital, it is necessary to base it on norms and law to create conditions for coordination and cooperation for the benefit of all. Social capital can also be considered as personal resources and individuals need to determine where they are in the network and how to mobilize resources for their needs.

Social capital is classified into three functions: bonding, bridging, and linking. Bonding social capital refers to the relationship of family members with each other, it helps to bring together people with similar demographic characteristics, attitudes, and available information and resources. Bonding social capital exists between 'alike people who are 'in it together and who typically have strong close relationships such as family members, close friends, and neighbors. (Claridge, 2018). Relating to the structural aspect, this is a strong, close network. For the cognitive aspect, social capital is associated with trust. Bridging social capital refers to the connection between people who have similarities in financial and power characteristics. This type of social capital was linked in a horizontal direction. According to Burt (2002), structural gaps in the network can benefit individuals in accumulating social capital by bridging these gaps. Bridging social capital is characterized by general trust in the cognitive aspect. This view was shared by Granovetter (2018) when emphasizing the importance of weak ties. In short, bridging social capital get individuals to go ahead while bonding social capital can only help people survive. Linking social capital refers to the relationships of people with heterogeneity, characterized by vertical direction. Evans & Syrett (2007) added both horizontal and vertical relationships. Thus linking social capital refers to relations between individuals and groups in different social strata in a hierarchy of power, social status, and wealth (Woolcock, 2001). This type of social capital served as a leveraged resource for development.

Quality of life can be approached in Maslow's perspective by fulfilling human needs objectively through resources, facilities, and opportunities provided by the environment, on one hand, and an individual's subjective perception, assessment, and satisfaction on the other hand. The hierarchy goes from the bottom to the top, including physiological (food and clothing), safety (job security), love and belonging needs (friendship), esteem, and self-actualization. Maslow believed that the truly happy person would reach these eight needs (Ventegodt et al., 2003;

Tay, & Diener, 2011; Abdul-Hakim, Ismail & Abdul-Razak, 2010). Previous studies have provided evidence for Maslow's theory, especially emphasizing the effect of social capital on quality of life when fulfilling for "quantity" of life in terms of material needs (Murgas et al., 2022).

Social capital is one of the key determinants to improving the living conditions of the entire community, and contributing to improving the quality of life (RezaeiNiaraki et al., 2019; Gao et al., 2018) whereas lack of social capital in the community causes instability in basic living conditions, the lowest needs in the Maslow's hierarchy are not guaranteed, the higher needs cannot be gained (Lane et al., 2019). More especially for immigrants, social capital in the destination is a decisive factor in their quality of life (Afulani & Asunka, 2015; Adedeji & Bullinger, 2019; Adedeji et al., 2021). Additionally, linking social capital was recognized as a mediator, and friendship network size as a moderator (Liu, Pan & Wu, 2020). Immigrants in their destination need work and housing to earn income to pay for the necessities of life. As their finances become more stable, they take care of the next needs of the environment and social cohesion. Therefore, social capital plays a very important role in ensuring the quality of life of immigrants (Arpino & de Valk, 2018).

Based on previous studies review, the qualitative research result got the summary of the measurements of key variables in the study as listed in Table 1. In general, the wording of the measured items is modified to adapt to the context of Vietnam.

Table 1: Measurement of quality of life and social capital

No.	Code	Description
1	QL	Quality of life
2	QL1	Work
3	QL2	Housing
4	QL3	Environment
5	QL4	Finance
6	QL5	Social cohesion
7	SC	Social capital
8	BO	Horizontal ties between similar people
9	BR	Horizontal ties between dissimilar people

10	LI	Vertical ties between different people

3. Research Methodology

The study conducted a survey of dwellers in Ho Chi Minh City. The minimum sample size of 147 observations was defined based on Cohen (1992) at the significance level of 5%, given the maximum number of 5 arrows pointing at a construct, min R^2 of 0.1 (Hair et al., 2014). Ho Chi Minh City was considered a magnet for economic migration from rural to urban with an average annual rate of 200,000 people (Vo et al., 2020). The city was officially organized into 22 districts divided into 3 groups: 16 urban districts, 5 semi-urban districts, and 1 city (Vietnamese National Assembly, 2020). This study focused on migrant workers in Ho Chi Minh City. The random sampling method with the target group was applied in this study with the following steps:

Step 1: The two districts with the largest concentration of migrants in the city were randomly selected for the survey.

Step 2: In each district selected in step 1, 2 wards were selected by random drawing from a numbered list of wards. A total of 4 wards were selected

Step 3: In each ward, two neighborhood groups were selected by random drawing from the numbered list of neighborhood groups. A total of 8 groups were selected.

Step 4: At each residential group, two roads were selected by random drawing from the list of numbered roads. A total of 16 roads were selected.

At each road, 20 houses/ addresses were selected by random drawing from a numbered list of houses/ addresses. A total of 320 addresses were selected for the survey.

The 320 questionnaires consisting of 8 observed variables as in table 1 were delivered to the respondents. Likert scale with seven levels are applied: (1) Totally disagree; (2) Strongly disagree; (3) Disagree; (4) Neutral; (5) Agree; (6) Strongly agree; (7) Totally agree, used in this study for all observed variables in the composition. Of these, 280 responses were returned with a rate of 87.5%. After screening the data, 272 valid observations were available for analysis.

Structural Equation Modeling (SEM) has been developed for a long time and plays an increasingly important role in academic and management science practice. There are two popular approaches for estimating SEM: CB-SEM (Covariance-based SEM) and PLS-SEM (Partial least squares SEM). PLS-SEM model has been evaluated in two steps: (1) measurement model, and (2) structural model (Nguyen, Luan, & Khoa, 2021). The assessment of the formative

measurement model in this study involves the statistical significance and relevance of the indicator weights (Hair et al., 2017). Upon reaching the satisfactory evaluation of the measurement model, structural analysis with bootstrapping has been assessed. The coefficients for the relationships between the constructs were estimated in this step.

PLS-SEM will be a better choice for analyzes without theoretical support, analyses that explore the relationship between variables, and analyses that focus on predicting variables, key target variables, and analyses looking for key driver variables whereas CB-SEM was more prominent than PLS-SEM in terms of theory testing, theory confirmation, or comparison of alternative theories (Kim, Kim, Hong, & Ko, 2019; Mutahar et al., 2021; Sarstedt, Hair Jr, & Ringle, 2022). Recently, PLS-SEM has gained popularity and has become one of the main methods in the field of management science research. "Let the data talk" is a priority thing when analyzing social capital which has flexibility in conceptual measurement. PLS-SEM can be applied flexibly in analyzes that explore the relationship, explain the relationship, or predict the impact of social capital on other factors, in this study is quality of life. Kline, R. B. (2015) shows there are five steps in SEM: (1) model specification, (2) identification, (3) parameter estimation, (4) model evaluation, and (5) model modification. These results were similar to previous study by Williams, B., et al., (2010), Crockett, S. A. (2012), and Matthews, L. (2017).

4. Research Results

Table 2 showed that the proportion of male and female migrant workers was quite equal, at 50.7% and 49.3% respectively. Thus, the gender difference that always existed in migration flows from rural to urban areas has been gradually narrowed. The majority of migrant workers to Ho Chi Minh City come from the southern provinces, with the rate up to 58.8%. Following the South, the Central region ranked second with more than 30%. Workers from the North who migrated to Ho Chi Minh City accounted for the smallest proportion, nearly 10%. According to Nguyen-Hoang & Mc Peak (2010), there was a negative correlation between distance and migration. The analysis of this survey data also confirmed that proximity was one of the priorities when choosing a destination for migrant workers. The age of migrant workers was quite young, the average age is 31 years. Considering the overall survey sample, the majority of migrant workers to Ho Chi Minh City were single (50%). Migrant workers had an average of 15,68

years of schooling. The results of the analysis of survey data on income revealed that most of them got an average monthly income of over 5 million-10 million.

Construct reliability has been confirmed. In theory, the higher Cronbach's Alpha, the more reliable the measurement is. The threshold of ≥ 0.3 was set for corrected Item - Total Correlation (Nunnally, J., 1978; Hair et al., 2011). In this study, Cronbach's Alpha criterium was met with values of over 0.7 and no measurement variables have a corrected Item - Total correlation less than 0.3.

Table 2: Data Description.

Description	Mean or %
Gender	
- Male	50.7
- Female	49.3
Departure from	
- North	9.6
- Central	31.6
- South	58.8
Age (years)	31.0
Education (years)	15.68
Marital status	
- Single	50.0
- Married	46.7
- Others	3.3
Income (VND)	
- Under 1.3 million	0.7
- From 1.3 million-3 million	4.0
- Over 3 million-5 million	19.9
- Over 5 million-10 million	41.9
- Over 10 million- 18 million	19.9
- Over 18 million-under 32 million	6.3
- Over 32 million	7.3

Hair et al. (2017) also suggested that the outer loading factor should be greater than or equal to 0.708. Table 3 showed that outer loadings are higher than this threshold.

Table 3: Bootstrapping test of the reflective model.

	Quality of Life	Social Capital
BO		0.913
BR		0.913
LI		0.879
QL1	0.869	
QL2	0.785	
QL3	0.744	
QL4	0.823	
QL5	0.856	

The estimation of the path coefficient is based on the regression of each dependent variable and its predictors (Hair et al., 2017). Multicollinearity among the independent variables shall not guarantee the best estimators of path coefficients. VIF results showed the independence between predictors because all coefficients were in the acceptable range (VIF <5). In the PLS-SEM analysis, the explanatory power of the structural model was evaluated by the structural path and the coefficient R-square of the dependent variable. The analysis results show that the R-square value is 0.270 and the R-square adjusted value is 0.267. This means a 26.7% change in the ratio of QoL (work, housing, environment, finance, social cohesion) is explained by social capital variables (bonding, bridging, and linking), 63.3% could not be explained because other factors which have not been included in the model. The findings are reasonable, in addition to social capital, many other factors affect the quality of life such as income, socio-economic conditions, infrastructure, health care, etc. The effect of predictors is tested by the effect of f Square (Hair et al., 2013). The results show that all factors have a relative influence of 37%. PLS-SEM relies on non-parametric bootstrap analysis to check for coefficient significance instead of using the parametric significance test in the regression analysis (Hair et al., 2017). In this study, the non-parametric bootstrapping technique was tested for 272 observations, with 5000 repetitions to ensure the requirement of testing the linear structural model (see Fig.1). The research result shows that P -values of the effect are equal to 0.000 < 0.05, so this effect is statistically significant.
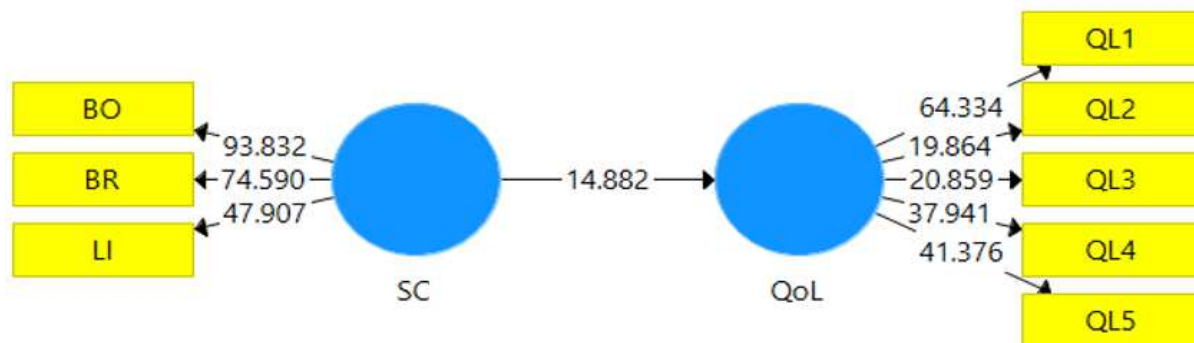
Fig. 1. Bootstrapping

In this study, social capital was functionally measured with the composition of bonding, bridging, and linking. Quality of life was approached at both material and non-matrial dimensions. The findings provided empirical evidence on the role of social capital in improving life quality. The results of the study are consistent with previous studies (RezaeiNiaraki et al., 2019; Adedeji & Bullinger, 2019; Adedeji et al., 2021). Stable jobs and residents help rural to urban migrants ensure the essential conditions of life. Financial conditions, living environment, and social connections benefit them in terms of integrating into the community, accessing the physical conditions of the destination, and improving their quality of life (Arpino & de Valk, 2018; Tay, & Diener, 2011). This result implies that improving social capital in both open and closed networks is one of the solutions to improve the quality of life of rural to urban migrants in Ho Chi Minh City. However, this study cannot focus only on structural capital (networks) while ignoring the cognitive one (trust). Higher trust results in a higher quality of life received (Halim, 2017). In addition, An & Phuong (2021) found that social trust has recently decreased in Vietnam due to the increase in participation in less-mobilized and separate groups. Therefore, future research should focus on the cognitive aspect of social capital to explore its impact on life quality.

5. Conclusion

This research has applied the Delphi technique and PLS-SEM model to confirm the measurement model of social capital and quality of life of rural to urban migrants in Vietnam. In addition, the study has further reaffirmed the role of social capital on the quality of life of migrants to Ho Chi Minh City. Based on quantified data, it can be asserted that social capital is a good explanatory factor for satisfaction and quality of life. Various dimensions of social capital including

bonding, bridging, and linking have a significant impact on five quality of life indicators: work, housing, environment, finance, and social cohesion. The research findings have contributed to both academic and practical aspects. The multi-dimensional measurement models of social capital in the context of Ho Chi Minh City, Vietnam can be applied in future research to explore its value to individual achievements. Moreover, quality of life can be improved under scarce resources by effectively and efficiently employing social capital. However, it is worth noting the inclusion of the cognitive aspect of social capital in the future study for the case of Vietnam because social trust has recently decreased. Further analysis of cognitive social capital is expected to benefit the poor because there is evidence of their low trust and low quality of life (Halim, 2017).

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