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Factors Affecting Sustainable Development of Night-Time Economy: Evidence from Hanoi, Vietnam

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Abstract: The sustainability development is studied and concerned by the scientists and policymakers, especially the sustainable development of the night-time economy. Therefore, the paper aimed to identify the factors affecting the night-time economy in Hanoi to achieve the sustainable development of this economy. The paper processed and analyzed the data using SPSS Statistics 26.0 software. The quantitative study included (1) testing the suitability of the scale for the variables using Cronbach's alpha, (2) analyzing the EFA factors to check the convergence of the observed variables and the separation between the independent variables, (3) checking the correlation to evaluate the problem of multicollinearity of the model, and (4) performing regression analysis to evaluate the impact of the factors on night-time economic development in Hanoi City. The results showed that the variables positively impacted night-time economic development in Hanoi, but the paper found differences in the levels of their impact. Among the four factors, factor 3 (promotion and sharing) had the strongest impact on night-time economic development, followed by factor 2 (infrastructure and safety), factor 1 (institutions and environment), and factor 4 (nature and resources). The empirical results helped the policymakers to promote the sustainability development of night-time economy in Hanoi, Vietnam.

Keywords: night-time economy (NTE); sustainable development (SD); promote and share (QB); infrastructure and safety (HT)

1. Introduction

The concept of the night-time economy appeared in the 1970s in the U.K. and began to develop in the 1990s. The night-time economy is the economic activities that occur from 6 p.m. until 6 a.m. the next day. The nature of the night-time economy and the trends in night-time consumption behavior widely vary between countries and even between different locations within a country. Chen et al noted the role of night-time economy for sustainability development in South Korea [11,21,22].

Night-time economic activities have been developing in many countries, which first developed in European cities such as Paris, Toulouse, Zurich and Amsterdam. Then, this type of economy rapidly developed in major Asian cities such as Tokyo, Chongqing, Beijing, and Bangkok. The night-time economy has many benefits, contributes to economic development, stimulates growth, and improves local population income in many countries. Li, M. et al also focused on the integrated region of China to the sustainability development [16,23,24].

In other country like China and Wales, the government has the policy to develop the night-time economy [17,21,22]. In Vietnam, the night-time economy has recently emerged and developed in various forms: pedestrian zones, shopping malls, food courts, convenience stores, night markets, bars, some art activities, and street entertainment. However, night-time economic activities only occur on a small scale and are spontaneously scattered in some cities and tourist centers such as Hanoi, Ho Chi Minh City, Da Nang, Hoi An, etc. As such, it has not become a model economy but has importantly contributed to the country's economic growth in recent years. Some facilities are

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allowed to open 24 hours per day; however, other business forms are subject to restrictions on opening times.

One of the main reasons the night-time economic activity in Vietnam and Hanoi is underdeveloped is the limited awareness of its importance and role. Many fears and reservations remain when designing policies for economic development at night. The legal and policy framework for promoting night-time economic development is almost nonexistent in Vietnam. Hanoi City has not planned construction space for night economic activities. Due to lack of planning, most night business establishments are close to residential areas; many restaurants and coffee shops that use high-powered music (bars and night clubs) are located right in residential areas, with the noise affecting people's lives in the surrounding area.

In Hanoi, studies that comprehensively and deeply evaluate the need, potential, measurability, orientation, and conditions for night-time economic development on a city-wide scale and for each industry, field, and each locality are lacking. In the initial context of the legal framework and policies for night-time economic development in Vietnam and Hanoi, as well as in the context of many countries introducing policies to promote the night economy, studies of night-time economic development in Hanoi are needed.

NTE contributes to economic growth, increases the revenue of a city or a country. The role for the economy shows that strong and vibrant development can bring many benefits in terms of growth, for a city or a country by attracting more. Workers and tourists come to use and enjoy variety goods and services provided by NTE [11,17,19,21].

NTE contributes to increased understanding of daytime economic trends, improving local infrastructure. Along with that, NTE is also a source of motivation in the regeneration and investment in infrastructure so that it can be used 24 hours a day. NTE helps improve the quality of infrastructure products and services such as transportation systems, roads, electricity, water, restaurants, shops, motels ... in the area [25,26].

The development of pre-market economic models can attract the tourism industry, leading to an increase in the share of tourism in total GDP and promoting economic restructuring. Stimulate the development of economic sectors: agriculture, industry, commerce and services. NTE helps to restructure the industry, create more jobs, rebuild and develop urban areas, encourage domestic consumption and generate tax revenue for the locality [11,17,19].

Although, NTE has brought many economic and social benefits as evidenced by the numbers above, however, the development of the NTE also entails many negative impacts if not well planned and managed.

Drinking alcohol is seen as a feature of night activities in urban centers and this often leads to antisocial behavior, inappropriate behavior (such as: noisy, smashing, littering, etc.) ...) on the street. These behaviors can lead to fights and even damage to property and people. In addition, there are also concerns about drug trafficking and theft and robbery, which often take place in favorable conditions of night and crowded places. The problem is concentrating a large number of people pulling into the city center at night and occupying public spaces to serve the NTE activities. In addition, NTE activities are often accompanied by cash transactions, underground connections, and "semi-legal or illegal" transactions [19,21,22].

Therefore, there is the research gap about the determinants of night-time economy and the paper was performed to explain this problems. This paper aimed to identify the factors affect the sustainability development of night-time economy in Hanoi, Vietnam. The study contains 05 sections: section 1- introduction and section 2- literature review and section 3- data and methodology; section 4 is results; section 5- analysis of regression model. The last section is conclusion and recommendation.

2. Literature Review

Seijas considered the development and expansion of night-time economic activities, and encouraged planners, licensing experts, environmental management agencies, and chambers of commerce to introduce ideas for developing cities and towns at night [1]. Experiences and learning

from other countries and cities about the advantages and disadvantages of night-time economic development can be shared. From there, policies can be oriented; investors can be attracted to develop infrastructure and new types of services in cities and towns to develop a vibrant and safe night- and daytime economy.

The concept of the night economy first appeared in the 1980s, when Europe's industrial cities began to experience an identity crisis after transforming from production centers to consumption centers. . The night economy is said to have been conceived to pull these places back from the brink of ruin, the result of this process leading to changes in the use of some spatial dimensions. The trend is more favorable when warehouses are turned into bars, factories become dance floors. The phrase "Night Economy", in its most primitive form is used synonymously with the concept of "24 Hour City". The term got off to a bad start as it is closely associated with increased violence and great damage to city centers as bars, open longer than before; sell higher volumes of alcohol at low prices as in the studies of Hadfield et al. and Roberts [1,2,15,27].

The concept of the night-time economy was originally associated with people engaged in drinking and nightlife activities and was generally restricted to the "chaos economy". Over time, the term was developed to refer to the nocturnal economic activities most commonly represented by the activities of bars and clubs... as vehicles for regeneration creating inner-city areas [11,12,17]. On the other hand, the term night-time economy is also considered as "festivals, cultural initiatives aimed at bringing people back to the city, developing office and residential activities, combining or homogenizing in activities. activities of cultural center facilities... to promote the city as a vibrant cultural habitat, the idea of the city's nightlife, an area of fun, socialization, meeting at night [7–9,19]. Their study showed that the nightlife area is largely pedestrian activity, means of traffic, types of noise, different cultural behaviors and facilities that operate 24 hours a day, nightlife facilities such as bars, clubs, and sidewalk cafes summer… plays the role of connecting visitors to nightlife activities.

Fedeli studied the night-time economy of Glasgow, Scotland, which contributed GBP 2.19 billion (13.5% of the city center's GDP) and over 16,200 equivalent full-time jobs (10.8% of city employment) [3–5,21,22]. In 2016, Glasgow City Council's new urban strategy positioned Glasgow as the most innovative and progressive city in Europe. The strategy identified the importance of a vibrant night-time economy in terms of cultural reputation and tourist appeal [21–24].

Roberts and Turner considered Old Crompton Street in Soho, London, finding that the nightlife area mostly included pedestrians, vehicles, different kinds of sounds, noise, different cultural practices, and facilities that were open 24 h per day [2,7,8,21,22].

Zmyslony and Pawlusinski described the evolution of the relationship between tourism and the night-time economy (NTE) from 1946 to 2015 [6]. According to the study findings, technological, economic, and environmental factors trigger positive feedback, whereas negative political, social, and market feedback factors influence negative feedback. The selective literature review and the consideration of abstracts from the impact of other industries on the feedback loop were limitations of that study.

Volterra Partners indicated many opportunities for London's night-time economy [10]. Night Tube handles provides 2000 permanent jobs and 17,000 indirect jobs, improving the working time for people who live far away but work in the city center; providing longer operating time for bars, clubs, and restaurants; and reducing congestion at public bus stations. These features make London a more attractive place to work and visit, and attract more tourists to visit and spend more money.

Many researchers have studied the development of the night-time economy. Chen et al. studied the structural relationships among night tourism experience, brand satisfaction, and brand loyalty on cultural heritage nights in South Korea [11,25,26]. Fiori and Foroni noted the increase in sustainability economic development with models of hospitality and small and medium enterprises. They found companies need to develop night-time activities [12]. Flamini et al. found that the production of carbon from the night-time economy is less than that in day time by coffee shops, bars, and pubs in Vietnam [13]. Joo et al. examined the relationship between economic growth and foreign direct investment in the night-time economy. They found that the night-time economy positively affected economic growth [14]. Le et al. analyzed the relationship between the economic growth,

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environmental pollution, and foreign direct investment. They reported that the night-time economy has helped to reduce carbon dioxide emissions [15]. Li et al. studied integrated regions in China, concluding that the night-time economy has helped to develop and integrate the provinces of China [16]. Wang et al. examined the strategic development of the night-time economy in Anning County, Yunnan Province, China, which helped structure solutions to improve the night-time economy in Hanoi capital, Vietnam [17,27].

Zang et al. considered the spatial expansion and correlation of urban agglomeration in the yellow river basin based on multisource night-time light data [18,19]. Rowe and Bavinton introduced the concept of night-time economy that appeared in the U.K. in the 1990, and described the cultural diversity of urban nightlife [9]. Although the night-time economy had developed in a positive direction, with diversified entertainment and employment for the locality, most night entertainment services focused on alcohol consumption [20].

In the U.K., the night-time industry contributes about 6% of the GDP, which is approximately GBP 66 billion, generating more than 1.25 million jobs. In particular, the city of London alone accounts for about 40% of the U.K.'s night-time industry, contributing GBP 26.4 billion and creating direct jobs for 723,000 workers. The fields that attract the most workers are restaurants and hotels (91,125 employees); health and public services (101,282 employees); transportation and warehouses (107,136 employees) [21,22].

3. Data and Methodology:

3.1. Data:

The research surveyed four selected groups of subjects: people, tourists, business establishments, and managers in Hanoi City, in which tourists were nationwide but have been on a night tour in Hanoi. The paper chose a nonrandom convenience sample. With the above sample size, the number of respondents was insufficient, so the paper selected districts with potential for night economic development including Hoan Kiem, Tay Ho, Dong Da, Nam Tu Liem, Ha Dong, and Gia Lam. The research obtained 463 usable surveys.

As the time for night-time economic activities, the paper considered 6 p.m. to 6 a.m. the next morning. The papers tudied the current night-time economic development situation in Hanoi in the period of 2016–2020 and propose development target orientation until 2030.

The sample size according to the initial design was 500 surveys, including:

- For households and business enterprises: 100 surveys;
- For residents and tourists: 300 surveys, randomly selected;
- For experts and scientists: 100 surveys (subjects were experts and scientists in departments and research institutes in Hanoi).

For statistical data processing, the paper collected 463 actual surveys: tourists, 147; people: 110; managers: 104; and business, 102.

3.2. Methodology

Qualitative Research

Qualitative research through the study are the secondary documents (reports of state agencies, the People's Committee of Hanoi City, projects on the development of the geotechnical economy of Vietnam and localities...), documents from seminars and interviews with scientists, business households and people. The research team organized 4 scientific seminars to collect opinions of experts in the process of implementing the project. The research team conducted in-depth interviews with 15 experts to build the scale and questionnaire. After conducting a focused group exchange, the authors adjusted and completed the scale, then conducted a formal survey and analyzed the data using quantitative research methods.

In-depth interview subjects include managers, experts, and people and business households.

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Research methods such as statistical analysis, comparison and simulation are also used to evaluate the current situation of urban economic development in Hanoi city.

Quantitative Research

The content of this method presented by the group of authors includes:

(1) Design the survey: The survey is designed with 4 groups of subjects: (1) Tourists; (2) People; (3) Managers and (4) Business establishments. Each type of ballot consists of two main parts.

(2) Select survey sample

About survey subjects: 4 groups of subjects were selected including residents, tourists, business establishments and managers. The scopes of the survey are people, businesses and managers in Hanoi City, while tourists are nationwide but have been to night tours in Hanoi. The size and method of sampling are select a non-random convenience sample. With the sample size as above, with the proportion of respondents to the survey may not reach 100%, the project has selected districts with potential for economic development including Hoan Kiem, Tay Ho, Dong Da, and South districts: Tu Liem, Ha Dong and Gia Lam districts.

The sample size according to the original design is 500 votes, including:

- For households and businesses: 100 votes.
- For residents and tourists: 300 votes, randomly selected.
- For experts and scientists: 100 votes (subjects are experts and scientists in departments and research institutes of Hanoi city).

In the process of statistical data processing, the total number of actual votes collected was 463, with the specific numbers as follows: Tourists: 147 votes; People: 110 votes; Manager: 104 votes and business 102 votes.

Data Analysis

The group cleaned up and retained 463 satisfactory votes. Data were processed and analyzed using SPSS Statistics software. The content of the quantitative research method implemented by the authors includes: (1) Testing the suitability of the scale for the variables using Cronbach's Alpha, (2) Analysis of EFA factors to check the convergence of the observed variables and the separation between the independent variables, (3) Check the correlation to evaluate the problem of multicollinearity of the model; (4) Regression analysis to assess the impact of factors on the development of the urban economy in the area of Hanoi.

The study processed and analyzed the data using SPSS Statistics 26.0 software. The quantitative study included (1) testing the suitability of the scale for the variables using Cronbach's alpha, (2) analyzing the EFA factors to check the convergence of the observed variables and the separation between the independent variables, (3) checking the correlation to evaluate the problem of multicollinearity of the model, and (4) performing regression analysis to evaluate the impact of the factors on night-time economic development in Hanoi City

To identify the factors affecting night-time economic development in Hanoi City, the paper built an overall correlation model:

$$ND = f(F1,F2,F3,F4)$$

where, ND is night-time economic development; F1…F4 are the factors determined after running the EFA test.

The paper considered factors F1, F2, F3, and F4, to determine the strength of their impact, using a specific linear regression equation:

$$ND = b_0 + b_1F_1 + b_2F_2 + b_3F_3 + b_4F_4$$

In which: the dependence variable is ND- night time economy

The independence variables are F_1 – institutions and environment; F_2 – infrastructure and safe; F_3 – promotion and sharing; F_4 - nature and resources.

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Specifically, the following hypotheses are tested:

Hypothesis 1 (H1): *institutions and environment affects night-time economy.*

Hypothesis 2 (H2): *infrastructure and safety affect night-time economy.*

Hypothesis 3 (H3): *promotion and sharing affect night-time economy.*

Hypothesis 4 (H4): *nature and resources affect night-time economy.*

4. Results and Current Context of Night-Time Economy in Hanoi

4.1. Current Context of Night- Time Economy in Hanoi

Although, there are no specific reports and statistics on the contribution of the NTE to the socio-economic development of the country, but for a long time some night activities have become a feature of cultural activities, the life of a local community part of the locals and a must-see for tourists. Typically, there are night markets, nightlife activities and lively walking streets such as Hoan Kiem Lake area and Hanoi Old Quarter. Here, cuisine is always one of the characteristics of the KTBD. In addition to dining at restaurants, tourists nowadays also tend to eat at street vendors or small roadside eateries.

In Hanoi, the popular types of digital economy have actually been deployed such as night markets, nightlife streets, 24/24 convenience store chains, pedestrian streets or typical entertainment streets such as: Ta Hien (Hanoi) has contributed to attracting tourists to visit. Over the years, Hanoi has always been a safe destination and a stable political environment. Since 1999, Hanoi is the first city in the Asia-Pacific to be honored with the title of City for Peace by UNESCO. It is an honor and pride not only for the people of Hanoi, but also for the people of the whole country. Hanoi, through "a time of bombs and bullets" has entered "a time of peace" and development. Over the past 20 years, that title has still promoted its value, and Hanoi is mentioned by international friends as a particularly safe destination, especially for politicians.

NTE in Hanoi city, especially in Hoan Kiem, Ba Dinh and Tay Ho districts has been taking place for many years under the following forms: Walking spaces in the Old Quarter, walking spaces on Hoan Kiem Lake, nearby Dong Xuan night market, food streets of Tong Duy Tan, Hang Buom, Ta Hien (Hoan Kiem district), Mai Hac De, Trieu Viet Vuong... (Hai Ba Trung district); Convenience stores, cafes, bars, discos, karaoke and events, art and culture programs, indoor and outdoor entertainment, etc. at night. Especially on weekends from Friday to Sunday, some night activities have become a cultural feature, the life of a part of the local people and a must-see place for tourists. Schedule when coming to Hanoi, typically: culinary activities/services; shopping activities/services; tourism activities/services; cultural tourism activities/services, entertainment.

4.2. Scale Reliability

From the data collected from the survey questionnaires, the paper assessed the reliability of the scale of variables using Cronbach's alpha (reliability statistics). The paper analyzed and interpreted the results of the analysis as follows:

Natural Conditions and Resources for Economic Development at Night

The reliability of the factors of natural conditions and development resources of the night-time economy is shown in Table 1.

Table 1. Reliability of factors of natural conditions and resources of night economic development.

Variable Coding Variable	Coefficient of Total Variable Correlation	Cronbach's Alpha If Remove Variable

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Natural Condition and Night Economic Development Resources (TN) (Cronbach's Alpha = 0.796)		
TN1	0.654	0.736
TN2	0.698	0.715
TN3	0.774	0.790
TN4	0.159	0.277
TN5	0.678	0.722

(Sources: complied by author).

Based on the above table comments, the paper found that the Cronbach's alpha of the factor of natural conditions and resources for night economic development (TN) was greater than 0.7; however, the correlation coefficient of one of the component variables ("locality has many tourist attractions" (TN4)) with the total variable 0.277 was less than 0.3, showing that the variable did not contribute to the reliability of the scale. Therefore, the paper removed variable TN4 from the scale and performed the second test. The results are shown in Table 2.

Table 2. Results of second test of reliability of the factor of natural conditions and resources for economic development at night.

Variable Code	System Correlation Coefficient of Total Variable	Cronbach's Alpha If Remove Variable
Natural Condition and Night Economic Development Resources (TN) (Cronbach's Alpha = 0.877)		
TN1	0.641	0.877
TN2	0.774	0.826
TN3	0.823	0.806
TN5	0.710	0.852

(Sources: complied by author).

After removing variable TN4, the Cronbach's alpha of the group was higher than that of the first test (0.877). In addition, the correlation coefficient with the sum of the remaining variables was greater than 0.3, indicating that the group reliability was relatively good.

Infrastructure for Night-Time Economic Development

The reliability of the infrastructure factor for night-time economic development is shown in Table 3.

Table 3. Infrastructure for development of night-time economy (HT).

Variable Coding	Total Correlation	Coefficient Cronbach's Alpha for Variable Type
Infrastructure for Night Economic Development (HT) (Cronbach's Alpha = 0.898)		
HT1	0.734	0.882
HT2	0.853	0.763
HT3	0.814	0.872
HT4	0.781	0.866

(Sources: complied by author).

Table 3 shows that the Cronbach's alpha for the factor of infrastructure for night economic development (HT) was greater than 0.8. The correlation coefficients of the component variables in the

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total variable were all greater than 0.3. The minimum reported value was 0.734 (HT1), and the highest reported value was 0.814 (HT2). The infrastructure factor for night-time economic development had a Cronbach's alpha of 0.898 (>0.8), indicating a very good scale. Thus, the paper concluded that the variables belonging to the infrastructure factor for night economic development (HT) were all very reliable.

4.1.3. Safety When Using Economic Services at Night

The reliability of the factor safety when using economic services at night (AT) is shown in Table 4.

Table 4. Safety when using night economic services (AT).

Variable Code	Total Correlation	Cronbach's Alpha If Remove Variable
Safety When Using Night-Time Economic Services (AT) (Cronbach's Alpha = 0.940)		
AT1	0.836	0.928
AT2	0.852	0.927
AT3	0.814	0.930
AT4	0.908	0.923
AT5	0.899	0.924
AT6	0.865	0.926
AT7	0.869	0.926
AT8	0.357	0.965

(Sources: complied by author).

Table 4 shows that the Cronbach's alpha of safety factor when using night-time economic services (AT) was greater than 0.9, indicating that the scale was very good. The correlation coefficients of the component variables within the total variable were all greater than 0.3. The minimum reported value and the highest reported value were 0.357 (AT8) and 0.908 (AT4), respectively. Based on this finding, the paper concludes that the safety factor when using night-time economic services (AT) had very high reliability.

Environmental Issues of Night-Time Service Locations

The reliability of the environmental factors factor for night-time economic service businesses (MT) is shown in Table 5.

Table 5 shows that the Cronbach's alpha of the factor of environmental problems caused by night-time economic service business (MT) was greater than 0.9, indicating the high reliability of the factor. The correlation coefficients of the component variables within the total variable were all greater than 0.3. The highest and lowest values were 0.849 (MT3) and 0.804 (MT1), respectively. Based on this, the paper concluded that the factor of environmental problems at nighttime economic service businesses (MT) was very reliable.

Table 5. Environmental issues caused by night-time economic service business locations (MT).

Variable Code	Total Correlation	Cronbach's Alpha
Environmental Problems at Economic Services Night (MT) (Cronbach's Alpha = 0.923)		
MT1	0.804	0.906
MT2	0.828	0.898
MT3	0.849	0.891
MT4	0.806	0.905

(Sources: complied by author).

Promotion of Night-Time Economic Services and International Integration

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The reliability of promotion of night-time economic services and international integration (QB) is shown in Table 6.

Table 6. Promotion of night-time economic services and international integration (QB).

Variable Code	Total Correlation	Coefficient Cronbach's Alpha If Remove Variable
Promoting Night Economic Services and International Integration (QB) (Cronbach's Alpha = 0.923)		
QB1	0.780	0.910
QB2	0.858	0.895
QB3	0.825	0.901
QB4	0.781	0.910
QB5	0.761	0.914

(Sources: complied by author).

Table 6 shows that the Cronbach's alpha of the factor *promoting night economic services and international integration was* greater than 0.8 (0.923), which indicated that the scale was very good. The correlation coefficients of the component variables with the total variable were all greater than 0.7. As such, the paper concluded that the variables belonging to this factor all contributed high reliability to the scale.

Development of Sharing and Digital Economies

The reliability of the factor of the development of the sharing and digital economies (CS) is shown in Table 7.

Table 7. Development of sharing and digital economies (CS).

Variable Code	Total Correlation	Cronbach's Alpha
Development of Shared and Digital Economies (CS) (Cronbach's Alpha = 0.908)		
CS1	0.756	0.890
CS2	0.780	0.885
CS3	0.796	0.881
CS4	0.774	0.886
CS5	0.736	0.894

(Sources: complied by author).

Table 7 shows that the Cronbach's alpha of *the development of the sharing and digital economies* was greater than 0.8 (0.908), indicating that the scale was very good. The correlation coefficients of the component variables within the total variable were both greater than 0.7. The paper concluded that the variables belonging to the factor *of the development of the sharing and digital economies* all contributed very high reliability to the scale.

4.1.7. Institutions and Policies for Night-Time Economic Development

The reliability of the factor of *institutions and policies for night-time economic development* is shown in Table 8.

Table 8. Institutions and policies for economic development night.

Variable Coding	Total Correlation	Coefficient Cronbach's Alpha If Remove Variable

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Institution and Night-Time Economic Development Policy (TC) (Cronbach's Alpha = 0.944)		
TC1	0.832	0.939
TC2	0.880	0.923
TC3	0.874	0.925
TC4	0.882	0.923

(Sources: complied by author).

Table 8 shows that the Cronbach's alpha of *institutions and policies of night-time economic development (TC)* was greater than 0.8. The correlation coefficients of the variables within the TC were all greater than 0.3. The minimum reported value was 0.832 (TC1), and the highest reported value was 0.882 (TC4). The *institutional and policy factors for night-time economic development* had a Cronbach's alpha of 0.944 (>0.8), indicating a very good scale. Thus, the paper concluded that the variables belonging to the TC both contributed very high reliability to the scale.

4.1.8. Night Economic Development

The reliability of the factor *of night-time economic development* (ND) is shown in Table 9.

Table 9. Night-time economic development (ND).

Variable Code	Total Variable Correlation Coefficient	Cronbach's Alpha of Variable Type
Night-Time Economy Development (ND) (Cronbach's Alpha = 0.932)		
ND1	0.666	0.930
ND2	0.841	0.919
ND3	0.784	0.922
ND4	0.793	0.921
ND5	0.744	0.925
ND6	0.818	0.919
ND7	0.745	0.926
ND8	0.764	0.923

(Sources: complied by author).

The Cronbach's alpha of night-*time economic development* was greater than 0.8 (0.932), which indicated that the scale was very good. The correlation coefficients of the variables were good. The correlation coefficients of the components of the variable were all greater than 0 0.6. The paper therefore concluded that the variables belonging to *night-time economic development* all contribute very high reliability to the scale.

4.3. Exploratory Factor Analysis (EFA)

From the results of the reliability of the scale, the paper included 42 officially observed variables in the 7 groups of factors in the next step. First, the paper simultaneously included all variables in exploratory factor analysis (EFA) in accordance with the principle of EFA, ignoring the relationship between dependent and independent variables. On that basis, the paper used the principal axis factoring extraction method combined with promax rotation to more accurately reflect the data structure. The results of the analysis are presented in Table 10.

Table 10. Results of KMO test of observed variables.

Kaiser–Meyer–Olkin Measure of Sampling Adequacy		0.958
Bartlett's Test of Sphericity	Approx. Chi-Square	17146.485
	df	561

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	Sig.	0.000

(Sources: complied by author).

The paper removed the scales that did not meet the requirement, which reduced the set of observed variables into factors that accurately reflected the measurement components of each variable in the EFA discovery factor model. With a selected observed sample size of 463, to ensure the practical results reflected the most meaningful results, the paper chose a factor loading of 0.55. The results are summarized below, where the paper presents the exploratory factor analysis conditions that satisfied the following criteria:

Criterion 1: Kaiser–Meyer–Olkin (KMO) coefficient standard: $0.5 \leq KMO \leq 1$ indicates an appropriate sample size. The results in Table 10 show that the KMO was 0.958, indicating a suitable sample size in accordance with the collected data.

Criterion 2: The paper used Bartlett's test to check whether the observed variables in the group of factors were correlated with each other. If so, the level of statistical significance would be satisfied (Sig. < 0.050). The results showed that Sig = 0.000, which indicated that the factors in the model were correlated with each other and had statistical significance.

Criterion 3: Factor loading > 0.5 is the indicator showing the correlation between the observed variables and the group of factors, where the higher the loading, the stronger the correlation, and vice versa. A load factor greater than or equal to 0.5 indicates that the observed variable has practical significance.

Table 11 shows that, in the AT8 scale, QB1, QB2, and QB3 did not have load factors, so the paper removed these scales and ran the EFA a second time. In this second run, the paper included the remaining 38 observed variables in the analysis. The steps were the same as the in the first run. Table 10 shows that the KMO was 0.958, which is significant. The paper found that the factor analysis sample was consistent with the collected data; however, the observed variables AT4 and AT7 had two loading coefficients, so the paper removed them and ran the EFA procedure again.

Table 11. Results of rotation matrix of observed variables (EFA). .

	Factor			
	1	2	3	4
TN1		0.564		
TN2				0.827
TN3				0.843
TN5				0.663
HT1		0.718		
HT2		0.733		
HT3		0.659		
HT4		0.736		
AT1		0.725		
AT2		0.739		
AT3		0.704		
AT4	0.579	0.650		
AT5		0.700		
AT6	0.670			
AT7	0.669	0.551		
AT8				
MT1	0.692			
MT2	0.753			
MT3	0.781			
MT4	0.765			
QB1				

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QB2			
QB3			
QB4		0.683	
QB5	0.559		
CS1		0.696	
CS2		0.666	
CS3		0.785	
CS4		0.818	
CS5		0.745	
TC1	0.658		
TC2	0.687		
TC3	0.626		
TC4	0.626		

(Source: SPSS 26.0 analysis).

The paper ran the EFA a total of 26 times. Table 12 shows the remaining 36 observed variables and the results of the third EFA run.

Table 12. Results of KMO test of observed variables (3rd run). .

KMO Measure of Sampling Adequacy		0.954
Bartlett's Test of Sphericity	Approx. Chi-Square	13101.903
	df	378
	Sig.	0.000

(Source: SPSS 26.0 analysis).

Criterion 1: KMO coefficient: $0.5 \leq KMO \leq 1$ is considered an appropriate sample size. The results in Table 12 show that the KMO value was 0.954, indicating a significant factor analysis model in accordance with the collected data.

Criterion 2: The paper used Bartlett's test to check whether the observed variables in the group of factors were correlated with each other in the population. If so, the level of statistical significance would be satisfied (Sig. < 0.050). The results showed that Sig = 0.000, indicating that the factors in the model were correlated with each other and had statistical significance.

Criterion 3: A factor loading > 0.5 is the indicator of the correlation between the observed variables and the group of factors, where the higher the load coefficient, the stronger the correlation, and vice versa. A load factor greater than or equal to 0.5 shows that the observed variable has practical significance. The results of the rotation matrix table (Table 13) show that the observed variables of each factor group had convergent values, showing a high level of significance, with loading coefficients all greater than 0.5.

Criterion 4: The paper used the eigenvalue is to determine the number of factor groups in EFA. The factor group condition is retained in the analytical model if and only if the eigenvalue is ≥1.

Criterion 5: Total variance explained shows how many percent of the extracted factors groups and how much percentage of the observed variables is lost. If this coefficient ≥ 50%, then the EFA model is suitable, the total variance extracted = 74.042% ≥ 50% confirms that the EFA model is suitable and the extracted factor is 74.042% of the variation of the important variables close.

Table 13. Results of rotation matrix of observed variables (EFA). .

	Factor			
	1	2	3	4
TN1		0.565		
TN2				0.838
TN3				0.849

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TN5				0.673
HT1		0.728		
HT2		0.743		
HT3		0.668		
HT4		0.751		
AT1		0.728		
AT2		0.743		
AT3		0.714		
AT5		0.691		
AT6	0.644			
MT1	0.714			
MT2	0.768			
MT3	0.794			
MT4	0.787			
QB4			0.626	
QB5	0.590			
CS1			0.667	
CS2			0.641	
CS3			0.804	
CS4			0.835	
CS5			0.744	
TC1	0.695			
TC2	0.717			
TC3	0.664			
TC4	0.665			

(Source: SPSS 26.0 analysis).

From the analysis of the EFA results, the paper found the following: the observed variables satisfied the conditions, the selected scales had very higher reliability, and the variables were convergent. The study model included in the next analysis included:

Factor 1 (F1): Institution and environment included variable: AT6, MT1, MT2, MT3, MT4, QB5, TC1, TC2, TC3, and TC4. This factor reflects policy support of and environmental issues facing night-time economic development.

Factor 2 (F2): Infrastructure and safety included the following variables: TN1; HT1, HT2, HT3, HT4, AT1, AT2, AT3, and AT5. This factor reflects the infrastructure and conditions required to ensure security and for the development of the night-time economy.

Factor 3 (F3): Promotion and sharing included variables QB4, CS1, CS2, CS3, CS4, and CS5. F3 reflects the promotion of the sharing economy in the context of the digital economy.

Factor 4 (F4): Nature and resources included variables TN2, TN3, and TN4.

5. Analysis of Regression Models

5.1. Analysis of Tests

The regression coefficients and test results are shown in Table 14.

The paper conducted a level test. In accordance with the model, the results showed that the R^2 was 0.837, and the test coefficient was statistically significant. The adj R-squared = 0.837 indicates that 83.70% of the change in F1- institution and environment, F2- infrastructure, F3- promotion and sharing, F4- nature and resource can explain the sustainability development of nigh-time economy in Hanoi, Vietnam.

The paper confirmed the model was suitable and the variables were significant with the constant residual variance test (Spearman's test).

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Table 14. Factor regression results.

Variable	Unnormalized Regression Coefficients		Standardized Regression Coefficients	t	Sig.
	Beta	Standard Error	Beta		
Constant	$20{,}112 \times 10^{-17}$	0.044		0.000	1
Institution and environment	0.152	0.044	0.152	3.449	0.001
Infrastructure and safety	0.157	0.044	0.157	3.571	0.000
Promotion and sharing	0.238	0.044	0.238	5.400	0.019
Nature and resources	0.099	0.044	0.099	2.243	0.025

(Source: SPSS 26.0 analysis).

5.2. Discussion of Regression Results

The paper identified variables with a positive influence on night-time economic development in Hanoi City; These results show that, if promotion and sharing increases by 1%, then nigh-time economy in Hanoi will increase by 0.23%.

If infrastructure and safety increases by 1%, then nigh-time economy in Hanoi will increase by 0.157%.

If institute and environment increases by 1%, then nigh-time economy in Hanoi will increase by 0.152%.

If natural and resources increases by 1%, then nigh-time economy in Hanoi will increase by 0.099%.

Therefore, the levels of impact differed. Of the four factors proposed from the model, F3 (promotion and sharing) had *the strongest impact on*, followed by F2 (infrastructure and safety), F1 (institutions and environment), and F4 (nature and resources). The normalized regression coefficient showed the contribution of each factor to the night-time economic development in Hanoi (Table 15).

Table 15. Contribution of each factor to development of night-time economy in Hanoi.

$$ND = b_0 + 0.152F_1 + 0.157F_2 + 0.238F_3 + 0.099F_4$$

Independent Variable	Absolute Value	%
Institution and environment	0.152	23.53%
Infrastructure and safety	0.157	24.30%
Promote and sharing	0.238	36.84%
Natural and resources	0.099	15.33%
Total	0.646	100.00%

(Source: SPSS 26.0 analysis).

Thus, the importance of the factors ranked in order from highest to lowest was: promotion and sharing; infrastructure and safety; institutions and the environment; nature and resources.

6. Conclusion and Recommendation

During the research and implementation of the study with the obtained results, some conclusions can be drawn as follows:

Firstly, through an overview study of the geospatial economy, the study has focused on clarifying the theoretical and practical basis of the NTE an overview of the theories related to the NTE. In order to develop the urban economy in general and the night tourism industry in particular,

many factors must be included: resources, infrastructure, facilities, political security, social safety, and people's awareness and politics books to support the development of technical skills.

Second, assess the potential and actual status of the development of the urban economy in the area of Hanoi city. NTE of Hanoi city includes specific business activities in trade, services, tourism such as food, art, music, festivals; events... most of them start operating in the time frame from 18:00 pm. to 24 hours, some services are piloted until 02 am.

Economically: economic activities contribute to diversifying entertainment and commercial activities for the locality, contributing to creating jobs for laborers, creating income sources for many business establishments, attracting foreign investment, invest in tourism, increase revenue for the state. Social aspect: CCA activities aim to promote the culture of behavior in the community of local people, create a new look in urban architecture, connect local authorities with residents and tourists, and solve problems more jobs for workers.

Currently, the NTE of Hanoi city does not have any agency or department in charge of managing nighttime operations. The management of the land economy is carried out by vertical agencies similar to daytime economic activities, including departments and agencies and the People's Committees of districts.

Thirdly, through analysis of the current situation and lessons learned on the development of regional and foreign markets for Hanoi city, the study has set an orientation on prioritizing types of night-time development services such as: entertainment services at night (entertainment area, river sightseeing by boats, trams, cyclos, bicycles...); Supermarket, shop, night market; Restaurants, street eateries; Coffee and beverage service; Bars and discos; Massage and beauty services…

Fourthly, in terms of space, it is necessary to focus on developing NTE areas in the districts: Hoan Kiem, Ba Dinh, Hai Ba Trung, Tay Ho, Dong Da, Cau Giay, Hoang Mai, Nam Tu Liem, and Son Tay, Soc Son district, Dong Anh. However, the level of development focus and the types of economic development of the regions are different and the priority is different. In addition, the paper also proposes specific models of the urban economy of Hanoi city: (1) Model of Walking Street "Downtown" Hanoi; (2) Model of night food area; (3) Model of performing arts space; (4) Model of general service business area.

Fifth, in the context of the world economy and the domestic economy are facing many negative impacts with the trend of decreasing growth rate due to trade conflicts, global climate change, and the ongoing Covid-19 pandemic. Vietnam's economy is increasingly integrated into the world economy, so it is also influenced in many ways by the fluctuations of the world. Vietnam will face many difficulties and challenges. However, besides that, Vietnam still has favorable factors for the development of geo-economics. Based on the views of the Prime Minister in Decision No. 1129/QD-TTg and the viewpoints of the research group on the development of pre-existing economies in Hanoi, the research team proposed six groups of solutions for the geo-economic map in Hanoi city: (1) Solutions for perfecting institutions and policies for the development of geo-economics in the area of Hanoi city; (2) Solutions on the organization of the management apparatus for the development of the pre-market economy (decentralization, decentralization, etc.); (3) Solutions to raise awareness about the development of the pre-market economy; (4) Solutions on social order and safety for the development of the pre-market in Hanoi city; (5) Solutions on investment in infrastructure for the development of the urban economy in the area of Hanoi city; and (6) Other solutions related to the development of geo-economics in Hanoi city.

This paper has some limitations such as the authors don't refer the other impacts to the sustainability development of night-time economy in Hanoi, Vietnam due to the lack of time and the survey is not enough large to answer the research questions. The authors hope that the other research can study these issues at Hanoi, Vietnam in the future.

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