ERIA Discussion Paper Series

No. 529

Economics of Happiness and ASEAN's People-Centric Smart City

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ERIA

July 2024

Abstract: *The economics of happiness explores self-reported happiness or subjective well-being (SWB) by integrating economic methods with psychological approaches and utilising large-scale surveys across diverse countries. Originating in Easterlin's pivotal work in 1974, this field examines the intricate link between factors of life events and environments and SWB. It reveals that material attainments (e.g. income) do not increase people's SWB in the long run, whereas non-material attainments enhance SWB over time. In the context of urban development, non-material factors positively affecting SWB include active participation in communities and self-determination in one's life. In recent years, well-being has been a key measure for smart city initiatives, including the Association of Southeast Asian Nations (ASEAN) Smart Cities Network. To enhance people's SWB through active community participation and decision-making in community services and activities, we propose that ASEAN promote a people-centric smart city (PCSC) model. This model defines a city that engages and includes citizens at every phase of city planning to ensure inclusivity. To implement a PCSC effectively, a comprehensive approach is essential, involving surveying well-being elements, clarifying community goals, enhancing digital literacy, setting rules and key performance indicators, and engaging citizens proactively. Collaboration amongst various sectors is crucial. A PCSC is not confined to online platforms; face-to-face meetings promote inclusivity and prevent exclusivity.*

Keywords: Economics of happiness; Subjective well-being; People-centric smart city; ASEAN

JEL Classifications: I3, R5

1. Economics of Happiness: Expanding Interest Beyond Income to Non-Income Factors for People's Well-Being

The economics of happiness refers to studying well-being by integrating methods in economics with approaches in psychology (Graham, 2005). This methodology utilises surveys that capture the self-reported happiness, or subjective well-being (SWB), of large populations spanning various countries and continents. Additionally, it adopts broader interpretations of utility compared with standard economic models, emphasising the significance of non-economic factors in influencing overall well-being.

In the field of the economics of happiness, Easterlin's groundbreaking work (Easterlin, 1974) laid the foundation for investigating the complex relationship between economic factors and SWB. His research question was straightforward: does an increase in income raise SWB? His research led to two key results: (i) across people within a country, an increase in individuals' income positively influences their SWB, while (ii) across different countries or times, the impact on SWB at the aggregate level is weak.

Why do we see that a rise in a person's income is associated with a positive effect on their SWB within a country, whereas this influence on SWB at the macro level is relatively modest across countries or times? Easterlin posited that individuals assess their well-being by comparing their income with social standards within their society. People evaluate their SWB based not on their absolute income, but on relative income. Since social standards on income level in a specific society are formed based on the income levels of people living in that society, economic progress in a society raises social standards. Thus, the connection between individuals' living standards and their social standards remains relatively consistent within a society at a specific time. This explains why the strong association between income and SWB within a country (at the micro level) weakens when comparing societies (at the macro level) across different times or places. Despite the uncertainty and ambiguity in the relationship between income and SWB in international and temporal comparisons, Easterlin emphasised the need for a deeper understanding of how individuals evaluate their well-being and the role of social forces in shaping those judgements.

To deepen the question of how individuals assess their well-being and the influence of social forces, Easterlin (2003) later explored two contrasting hypotheses on the hedonic adaptation theory from the field of psychology. Hypothesis 1, the complete hedonic adaptation hypothesis, posits that life circumstances only temporarily impact SWB. The set point is genetically determined; even once happiness increases or decreases, it returns to this

set point (Costa and McCrae, 1988; Diener et al., 1993; Costa, McCrae, and Zonderman, 1987).[1] In contrast, hypothesis 2, the incomplete hedonic adaptation hypothesis, suggests that changes in life circumstances may have a persistent impact on SWB, with variation across life circumstances (Easterlin, 2003; Lucas, 2007; Graham, 2005).[2]

The empirical evidence presented in Easterlin (2003) supports hypothesis 1 for the material domain and hypothesis 2 for the non-material domain. Easterlin explained the difference by the idea that people's SWB is determined by the gap between people's aspirations and attainment – SWB increases when the gap between aspirations and attainment decreases and vice versa. He insisted that aspirations rise easily in the material domain due to the 'more is better' (Easterlin, 2003: 11176) sentiment. As income increases, desires also increase, keeping the level of SWB relatively constant. Furthermore, even when desires are achieved, desires rise further and further, neither getting closer to nor further away from goal attainment. In contrast, for the non-material domain, he showed that non-material life circumstances, such as family life and health, are more resistant to adaptation than material domains.[3] This is because it is easier to compare individuals' attainments with others in the material domain, leading to changes in aspirations influenced by social standards. Conversely, comparing non-material domains with others is hard, making it difficult to form new aspirations and resulting in a less likely increase in the gap between aspirations and achievement, which can increase SWB.[4] Summarising the discussion, material attainments improve individuals' SWB but are not long-lasting, whereas non-material attainments enhance their SWB in the long run. Therefore, to enhance community or national-level SWB, more emphasis should be placed on non-material domains.

[1] These studies compared the long-term SWB of people who have experienced major life changes from demographic factors such as income, divorce, death, job loss, and health, with those living in stable situations, and showed the equivalence of stability in both.

[2] Easterlin (2003) stated that marriage and health can persistently change set points from psychology studies. Lucas (2007) also showed that people who have experienced major diseases have lower set points. Graham (2005) followed these studies and stated that the set point can change, indicating that happiness can increase or decrease over a sustained period.

[3] Easterlin (2003) used cohort analysis to demonstrate that unhealthy individuals are not consistently happy over time and that the average levels of SWB remain relatively similar despite varying terms of marriage.

[4] Easterlin highlighted that life satisfaction tends to be lower when a person's disability is more noticeable to individuals who are familiar with the respondent. Additionally, in the context of the goods domain, cultural goods such as music, literature, and art exhibit less susceptibility to hedonic adaptation compared with 'comfort' goods like homes and cars.

Post-Easterlin (1974), an array of subjects related to SWB has been explored. Later in the late 1990s, the concept of happiness in economics underwent reconsideration. Broader measures beyond income were explored, leading to large-scale surveys. These surveys offer insights into various happiness factors including income, health, marital and employment status, and civic trust. While subjective indicators in surveys may have biases, remarkably consistent patterns have emerged, with psychological validity. A systematic literature review by Jain, Sharma, and Mahendru (2019) categorised studies into seven major themes: the conceptualisation of happiness, understanding oneself and one's body, human–human relationships, physical facilities, ecology, policy and governance, and the measurement of happiness.

Governments and international organisations are also increasingly focused on well-being.

The Organisation for Economic Co-operation and Development (OECD) launched its Social Indicators Programme in 1970 and published the OECD List of Social Indicators in 1982, which consisted of eight classifications and 33 individual indicators (Kuwahara, 2014). Since 1986, the OECD has been releasing social indicators, and from 2001 onwards, *Society at a Glance* has been published approximately every 2 years (OECD, n.d.-b). In 2011, the OECD introduced the Better Life Initiative, which included core products such as the OECD Better Life Index and How's Life? reports (OECD, n.d.-a). Furthermore, initiatives like the Guidelines on Measuring Subjective Well-being, launched in 2013, aim to address measurement gaps in dimensions such as life satisfaction (OECD, 2013). The United Nations Sustainable Development Solutions Network has published the World Happiness Report since 2012, ranking 156 countries based on citizens' self-perceived happiness (Helliwell et al., 2023). The OECD chose 11 topics for international comparison in well-being: housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, and work–life balance. The World Happiness Report by the United Nations Sustainable Development Solutions Network uses log GDP, social support, healthy life expectancy at birth, freedom to make life choices, generosity, and perceptions of corruption as the six explanatory factors.

Supporting Easterlin's view, conducting these studies and initiatives to identify non-material factors that are expected to lead to sustained increases in happiness and incorporating them into public policies can be concluded as beneficial.

2. Well-Being Derived from Community Activities and Self-Determination

Here, we focus on community activities and self-determination as non-material elements of what ultimately improves SWB in the context of urban planning.

Community Activities

Yodo (2019) showed that people's participation in community activities increases SWB. Community activities here refer to efforts to protect and enhance local resources (e.g. clean-ups, crime prevention activities, and childcare support). The study investigated the relationship between participation in these activities and SWB by surveying people in Japan. The findings indicate that participation in community activities increases the level of SWB (on a 0–10 scale), and increasing the frequency of participation in community activities increases SWB by 0.374 points, equivalent to the effect of increasing annual household income.[5] Meier and Stutzer (2006) also showed that people who volunteer frequently are more likely to report greater life satisfaction than non-volunteers by surveying people in Germany.

The concept of community activities can be synonymous with social capital, defined as elements that enhance trust, concern for one's associates, and cooperation. A survey conducted in Japan in 2003 showed that the improvement of social capital is negatively correlated with the unemployment rate and criminal incidents, while positively correlated with the birth rate and life expectancy (Japanese Cabinet Office, 2003). Beyond enhancing SWB, community activities have the potential to affect objective indicators and can contain numerous positive elements for the community.

Self-determination

Nishimura and Yagi (2018) found that following health and relationships, self-determination has a stronger impact on SWB than income and education. Their survey of 20,000 Japanese people showed that making one's own life choices for education and employment increases SWB. Ryan and Deci (2000) also showed that self-determination leads to SWB from a psychological perspective. They showed that the achievement of intrinsic aspirations was positively correlated with well-being, while the achievement of extrinsic aspirations was not. Thus, even if the same goal is achieved, the contribution to

[5] Yodo's study (2019) took into account the possibility of reverse causality, that people who are happy are active in volunteering.

well-being is likely to change depending on whether it is achieved through self-determination.

In summary, in the context of urban planning, to improve people's SWB in a community, we should promote achieving a community with active participation in community activities and self-determination in people's lives. How can this be implemented? We suggest the people-centric smart city (PCSC) model.

3. Concept of the People-Centric Smart City

Before describing the PCSC, we outline the concept of a smart city. The emergence of the smart city concept is closely related to the development of urban initiatives that utilise information and communication technology (ICT) to solve urban problems, which have been conceptualised as a wired city, cyber city, digital city, etc. since around 1990 and have been encompassed by the term 'smart city' since around 2010. Although smart cities began with the use of ICT, their purpose is to improve people's lives. Therefore, the concept of a smart city has evolved beyond ICT to consider and address the needs of people and communities (Albino, Berardi, and Dangelico, 2015). As shown below, the definitions of smart cities vary, but recent international definitions highlight a shift towards a more holistic approach that is not only technologically advanced but also conducive to the sustainable and inclusive well-being of citizens, and so on.

The OECD defines smart cities as 'initiatives or approaches that effectively leverage digitalisation to boost citizen well-being and deliver more efficient, sustainable and inclusive urban services and environments as part of a collaborative, multi-stakeholder process' (OECD, 2019: 9).

The ISO (2019) defines a smart city as a:

> city that increases the pace at which it provides social, economic and environmental sustainability outcomes and responds to challenges such as climate change, rapid population growth, and political and economic instability by fundamentally improving how it engages society, applies collaborative leadership methods, works across disciplines and city systems, and uses data information and modern technologies to deliver better services and quality of life to those in the city (residents, businesses, visitors), now and for the foreseeable future, without unfair disadvantage of others or degradation of the natural environment.

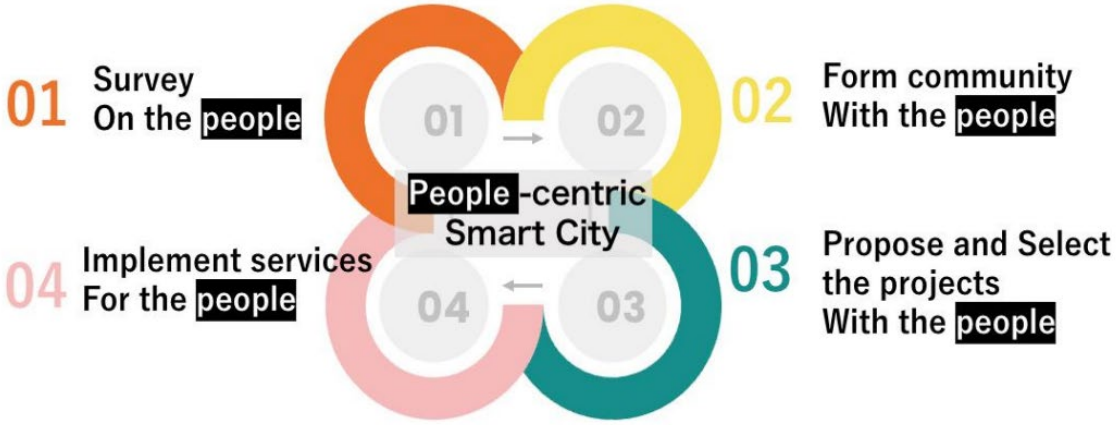
The Association of Southeast Asian Nations (ASEAN) uses the following definition: ‘A smart city in ASEAN harnesses technological and digital solutions as well as innovative non-technological means to address urban challenges, continuously improving people’s lives and creating new opportunities’ (ASEAN, 2018b: 2).

Moreover, the ASEAN Smart Cities Network incorporates the concept of well-being in some indicators, including ‘focusing on our people’ (ASEAN, 2018a: 1), the ‘well-being of people’ (ASEAN, 2018b: 3), and the ‘well-being of the citizens’ (Ministry of Land, Infrastructure, Transport and Tourism, 2022: 11).

Oikawa et al. (2023) followed these approaches. The necessity of promoting citizen-driven smart cities is highlighted, emphasising the importance of a citizen-driven approach that prioritises residents’ needs and desires, fosters social inclusion, and enhances ‘social capital’. While ASEAN cities face challenges in responding to digitisation and basic infrastructure development, they possess unique people-centred social characteristics, leading to a growing interest in citizen-driven urban planning. Therefore, respecting Asian values, achieving democratic, inclusive, and people-centric urban development is crucial.

Machida et al. (2024) termed such urban planning PCSC – a people-centred approach to urban development, defined as a city that engages and includes citizens at every phase of city planning to ensure inclusivity. As illustrated in Figure 1, the PCSC process follows the cycle of (1) survey on the people; (2) form community with the people; (3) propose and select the projects with the people; and (4) implement services for the people to improve the level of well-being. It is an approach to urban development that improves the level of happiness through citizen participation and self-actualisation.

Figure 1: Four Processes of the People-Centric Smart City



Source: Machida et al. (2024).

4. Supporting Results from a Study on People's Well-Being and Citizen Participation in ASEAN

To identify factors that contribute to the SWB of citizens as an ultimate goal, Machida et al. (2024) carried out a survey of citizens in ASEAN Member States. The study explored the elements of SWB by analysing key measures of citizens' happiness: happiness, satisfaction with the town, opinion to be reflected,[6] and participation in improving the community,[7] as well as the fundamental elements of daily life (53 items) that were deemed necessary in terms of the PCSC (Table 1) based on a previous Japanese quantitative survey conducted by Hakuhodo Inc.

[6] The measure of 'opinion to be reflected' indicates the extent to which people feel their opinions are reflected in town planning.

[7] 'Happiness' (well-being) was an objective measure as an ultimate goal of the PCSC. 'Satisfaction of town' and 'continue to live' were key measures to understand citizens' views on their city or town. 'Opinion to be reflected' and 'participation to improve community' were key measures to judge the willingness of citizens to achieve a PCSC.

Table 1: Fundamental Elements of Daily Life

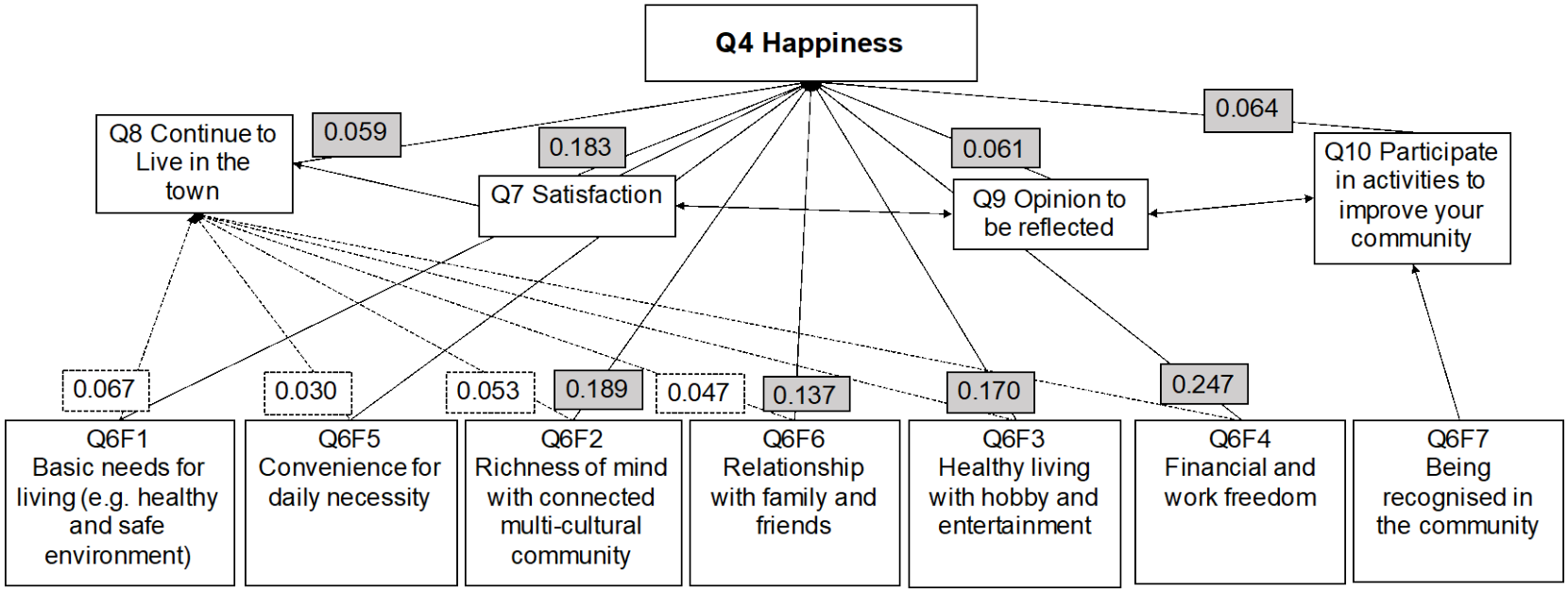
Category	Elements
Living environment	Clean air, no air pollution
	Clean water, drinkable water
	City safety
	Good public transportation
	No road congestion
	Flexible transportation options to suit my needs
	Clean and beautiful city
	Obedience of rules and discipline in the city
	Walkable city
	Nature and greenery
	Good facilities and stores within walking distance
Housing	Comfortable house/place to live
Economic activity, income	Work wherever I like
	Good access to work
	Financially well-off
	Meaningful work/job
	A good work–life balance
Consumption	Ease of shop for daily necessities
	Financial freedom to buy what I want
	Affordability of goods to enjoy my life
Food	Food safety
	Accessibility of healthy food
	Variety of restaurants and eating out
Education	Good education for children
	Good childcare support
Medical care	Good medical facilities
	Comfortable living environment for older persons
Local government	Local policies are reliable
	Good government services
	Safety net to support the socially vulnerable
Family	Good relationship with family
	Good relationships with friends
Community	Feel connected to others in the community
	People in the community help each other
	Have good friends on social media

Category	Elements
	Being recognised by others as a successful person
Physical health	Physical health
Mental health	Mental health
	Religiously correct way of life
Freedom	A wide range of life choices
	Freedom to challenge what I want to do
	Freedom to express my beliefs
	Have free time to do what I love
Self-fulfilment	Continuous learning throughout my life
	Meaningful life and a purpose in life
Cultural life	Enjoy/pursue my hobbies
	Enjoy exercise and sports
	Ample recreational facilities
	Discover new things and cultures
Generosity	Can be myself as I am
	A society that allows others to be themselves
	A culture of mutual respect without interfering with each other
	A culture of mutual appreciation

Source: Machida et al. (2024), based on Hakuhodo Inc. (2020), 'Area HABIT Survey'; and 'Survey on Smart Cities That Citizens Want to Continue to Live In'. Unpublished.

Figure 2 presents the results of a path model estimation that investigates the factors linked to happiness in the entire ASEAN region. In the key measures (upper elements in Figure 2), continuing life satisfaction, opinions being reflected, and participation in activities to improve your community are all directly associated with happiness. This aligns with studies emphasising the importance of self-determination and community for happiness.

Figure 2: ASEAN – Path Model to Identify Factors for Citizens' Happiness



F = factor, Q = question.
Source: Machida et al. (2024)

Amongst the seven factors (bottom of Figure 2), richness of mind with a connected multicultural community, relationship with family and friends, healthy living with hobbies and entertainment, and financial and work freedom are directly linked to happiness. Richness of mind with a connected multicultural community and relationship with family and friends also correlate with the willingness to continue to live in the town. In contrast, basic needs for living (e.g. a healthy and safe environment) and convenience of daily necessities directly contribute to the willingness to continue to live in the town but not necessarily to happiness.

The elements of convenience of daily necessities involve infrastructure and services, including the natural environment, transportation, and government services. Similarly, basic needs for living encompass facilities such as restaurants and stores. While these elements are crucial for sustaining life in a location, they do not inherently enhance happiness.

The factors connected to happiness predominantly involve non-material aspects, such as enjoying hobbies, maintaining connections with family and friends, and having the freedom to express one's opinions.

This outcome aligns with the earlier section's perspective, suggesting that non-material aspects are less likely to create a hedonic adaptation effect and more likely to contribute to happiness. Although urban development emphasises conveniences such as daily necessities and basic infrastructure, this analysis underscores the importance of focusing on factors promoting community and self-determination for people's happiness.

The estimation results also show that financial and work freedom is directly linked to happiness. From an urban development perspective, this analysis underscores that community and self-determination are equally crucial factors to consider alongside income in enhancing people's happiness.

5. Policy Recommendations

Unlike technology-driven approaches that emphasise efficiency and convenience, the PCSC prioritises the psychological well-being of individuals. This perspective is particularly pronounced in Europe, where the emphasis on protecting personal information, privacy, liveability, and overall well-being is paramount.

For instance, Spain has successfully implemented the PCSC model through Decidim. Developed in 2016 in Barcelona, Decidim is a digital platform fostering citizens' participation in various processes, including the city's strategic urban plan. Citizens can

express opinions, vote, monitor progress, attend meetings, and propose solutions, creating a community-driven approach to addressing urban challenges.

In the village of Yamakoshi in Niigata Prefecture, urban development leverages the Yamakoshi Decentralized Autonomous Organization project. This initiative distributes non-fungible tokens (NFTs) inspired by the local specialty, nishikigoi (coloured carp), globally. NFT holders, including both actual residents and digital citizens on the Discord platform, can propose, discuss, and vote on ideas for revitalising the village. This innovative approach allows residents and digital citizens worldwide to collaborate, pooling resources to implement real projects. As of September 2023, despite Yamakoshi's modest population (800 people), 1,600 digital villagers hold NFTs, indicating a new community in urban development.

Promoting community building through such platforms emerges as a crucial policy for ASEAN. Aligning with the ASEAN Smart Cities Network's focus on people's well-being indicators, the PCSC model, with its emphasis on community and self-determination, will contribute to improving the SWB of ASEAN's people. Countries such as Thailand and Singapore have already implemented such strategies. In Singapore, the Smart Nation Builder initiative employs a 12-metre-long mobile truck, visiting community centres to allow citizens to experience government-driven apps and provide feedback. In Thailand, the emphasis on people–public–private–partnership underscores communication and collaboration across various sectors.

To implement the PCSC effectively, a comprehensive approach is necessary. This includes surveying well-being elements in each country, clarifying community formation purposes, improving digital literacy, setting rules and key performance indicators, and actively appealing to citizens before implementation. Collaboration amongst industry, government, academia, and human resources development is crucial. Community formation is not limited to online platforms; face-to-face meetings are another example of the PCSC that can be implemented, ensuring inclusivity and preventing exclusivity, whether online or offline.

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