Social Economy Well-Being Improvement Based on Quality Function Deployment Framework

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Abstract
Improving well-being is one of the essential components of social progress. However, the complexity of well-being, driven by the interweaving of cultural, physical, environmental, and natural elements, makes assessing and improving it a non-straightforward process. Assessing and improving well-being from both social and economic perspectives is continuously viewed by the Government of Malaysia as one of the essential components in the country's development plan. As such, the Malaysia Wellbeing Index (MyWI), which consists of 14 socio-economic well-being indicators, has been established to assess the nation's socio-economic well-being performance. Additionally, one of the core focuses of Malaysia's Shared Prosperity Vision 2030 is to ensure the continued well-being and prosperity of the nation. Furthermore, one of the key elements of the 12th Malaysia Plan (2021–2025) is social re-engineering. The 14 indicators of MyWI represent the focus areas or the "needs" for socio-economic well-being improvement. Meanwhile, the Shared Prosperity Vision 2030 and the 12th Malaysia Plan represent "how" socio-economic well-being could be further improved. However, the relation or correlation between the "Needs" and the "How" still remains ambiguous. Questions regarding which of the "How" would effectively address the "Need" also remain unclear. Based on the concept of Quality Function Deployment, this article proposes a new Socio-economic Well-being Actions Deployment (SEAD) framework as the methodology to identify socio-economic well-being improvement needs and prioritize socio-economic well-being improvement actions accordingly. The SEAD framework presents a theoretical contribution by expanding the theory of QFD beyond the domains of quality and manufacturing management. This paper presents a theoretical contribution by expanding the theory of Quality Function Deployment (QFD) beyond the domains of quality and manufacturing

management. It introduces the new Social-Economic Wellbeing Actions Deployment (SEAD) framework

Keywords: Social Economic Wellbeing, Quality Function Deployment, Improvement prioritization, House of Quality, Action Deployment

Introduction

Well-being refers to a constructive social, spiritual, and physical state that arises through relationships with people and places (Bou-Hamad et. al., 2021). It entails meeting and enhancing basic needs through conditions such as financial security, employment, health, accommodating personal relationships, community, and environment (Douwes, 2023). Well-being encompasses interrelated personal, interpersonal, and shared needs. It takes different and sometimes conflicting forms across various environments, times, and societies. Addressing it requires a balanced approach from both environmental and human perspectives (Graafland, 2020), including the integration of cultural, physical, environmental, and natural elements with the objective of achieving well-being (Van, 2021).

Hence, even though improving well-being is generally accepted as one of the essential components of social progress, the complexity of well-being, driven by the interweaving of cultural, physical, environmental, and natural elements, makes assessing and improving it a non-straightforward process. Instead, it requires consideration of multiple perspectives of well-being dimensions or indicators (Huang et al., 2017; Capone, 2020).

The Malaysia Social Economic Wellbeing Performance Indicators

The Malaysia Wellbeing Index (MyWI), established by the Economic Planning Unit (EPU), presents the most comprehensive measures of socio-economic well-being (Hamid et al., 2024). The introduction of MyWI aligns with the Malaysian government's objective of re-evaluating the nation's economic development model and improving the well-being of Malaysians by raising per capita income. Hence, MyWI is also viewed as a mechanism to monitor development progress based on government policies. There are three main objectives of the MyWI, which are:

a. To measure the well-being impact driven by development.
b. To serve as a complementary assessment mechanism for traditional economic measurement tools.
c. To serve as a platform to evaluate and monitor planned development.

MyWI is derived from the concept of a composite index with equal weight assigned to its components. It includes 14 indicators and 68 measures, encompassing aspects such as personal progress, a healthy lifestyle, opportunities and freedom to pursue education, and knowledge, as well as achieving a standard of living that exceeds basic and psychological needs.

Nine out of the 14 indicators assess social well-being (with 41 measures), while the remaining five indicators assess economic well-being (with 27 measures)—all aimed at achieving a level of social welfare aligned with national goals. The details of MyWI indicators and measures are shown in Table 1 (economic well-being indicators) and Table 2 (social well-being indicators).

Table 1
Economic Wellbeing Indicators

Economic Wellbeing Indicators	
Main indicators	**Number of measures**
Transportation	4
Communications	4
Educations	12
Income & Distribution	3
Working life	4

Table 2
Social Wellbeing Indicators

Social Wellbeing Indicators	
Main indicators	**Number of measures**
Housing	5
Leisure	4
Governance	4
Public Safety	2
Social Participation	4
Culture	4
Health	7
Environment	5
Family	6

Social Economic Wellbeing Improvement in Malaysia
Improving well-being from both social and economic perspectives is continuously viewed by the Government of Malaysia as one of the essential components in the country's development plan (Yong and Sia, 2021). As such, one of the core focuses of Malaysia's Shared Prosperity Vision 2030 is to ensure the continued well-being and prosperity of the nation.

Strategic Thrust 5 of the Shared Prosperity Vision 2030 focuses on social well-being in terms of welfare and social protection, particularly for the bottom 40% (B40) population. Additionally, among the three elements of the 12th Malaysia Plan (2021–2025), social re-engineering is one of the key focuses, alongside economic empowerment and environmental sustainability.

Shared Prosperity Vision 2030 (SPV 2030)
SPV 2030 aims to address poverty and social related issues by empowering economically disadvantaged groups. There are 6 strategies underlined in the Strategic Thrust 5 of Shared Prosperity Vision 2030, which are:
1. Improve the integration and comprehensiveness of social security system
2. Informal sectors' worker to mandatory contributes to the retirement scheme
3. Apply a more practical approach for the assessment of poverty line income
4. Enhance programs that related to financial awareness.
5. Revisit the criteria used to define B40

6.   Integration of information into one single database.

Proposal from The Twelve Malaysia Plan (2021-2025)
In line with the shared prosperity, the Twelfth Malaysia Plan (12MP RMKe-12) focuses on 3 elements, economic empowerment, environmental sustainability and social re-engineering to achieve a new development model for Malaysia's shared prosperity. Within the content of social re-engineering element, there are 24 actions identified in order to enhance societal values. The improvement of wellbeing is driven by enhancement on social security network, increase purchasing power of the population and develop a resilient community as shown in Figure 1.
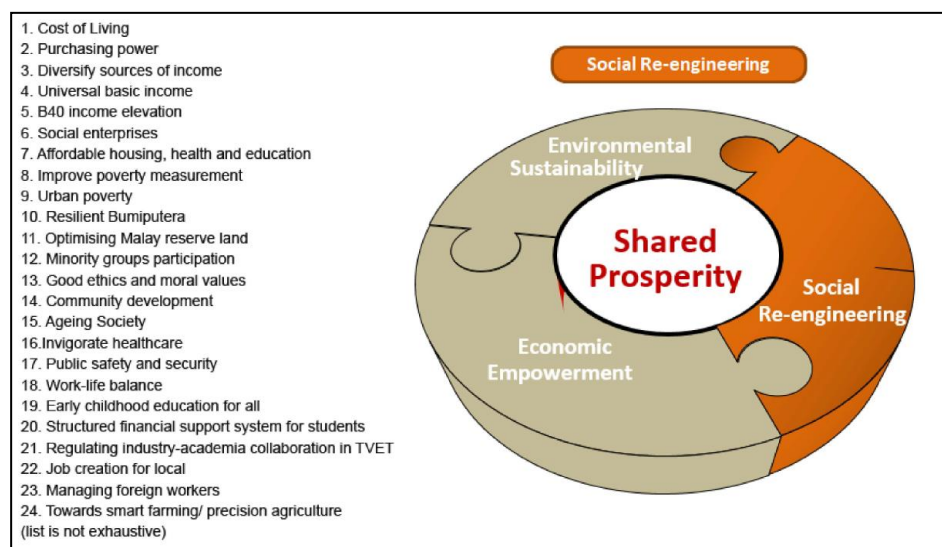

Figure 1: The 12th Malaysia Plan (2021-2025) on Social Re-engineering

Social Economic Wellbeing Improvement "Needs" and "How"
The 14 indicators of MyWI represent the focus areas or the "needs" on social economic wellbeing improvement. Meantime, the 6 social wellbeing improvement strategic outlined in Thrust 5 of Shared Prosperity Vision 2030, and the 24 social re-engineering actions that mapped out the 12th Malaysia Plan representing "how" social economic wellbeing could be further improved.

However, the relation or correlation between the "Needs" and the "How" still remain ambiguous. questions of which of the "How" would address the "Need" effectively is still remain ambiguous. As an example, the question of which of the strategies, programs or actions outlined in SPV 2030 and RMKe-12 (i.e. the "How") would effectively address the issue of "Health" (i.e. the "Need") dimension of Malaysian Wellbeing Index (MyWI) is still vague.

Continuous social wellbeing improvement is a dynamic capability for a nation (Capone et. al., 2020, Ruggeri et. al., 2020). It is an ongoing effort to improve social economic wellbeing. However, the bigger challenge is how to ensure the improvement are prioritized correctly (Tan and Amran, 2012). Empirical finding reveals that firms that able to prioritize their objective and initiative correction outperform their competitor.   Hence, the success of social economic wellbeing improvement program is rest on how the improvement strategies,

actions or programs are prioritized accurately according to the importance level of social economic wellbeing needs.

However, prioritizing the social economic wellbeing strategies, programs and actions (i.e. the "how") according to the needs of social economic wellbeing is not an easy task due to the multi-relationship between the "needs" and "how", i.e. a "need" could be addressed by few "how"; and a "how" might also addresses few "need". Hence, the question of which "how" should be first implemented still remain unanswered. A continuous wellbeing improvement program with incorrect priority setting will not just deprives the nation of new economic opportunities that can be exploited, it also will causes a waste of nation's resources and time (Jurry et.al,, 2019).

The scenario discussed above (i.e. correlates "needs" and "how", as well as prioritization of "how") shares a common notion as the process of how to transform customer requirements into service or product's attributes and specification, which is commonly addressed by a quality tool namely Quality Function Deployment (QFD). QFD is a methodology used to define customers' needs and requirements systematically, assessing the relationship between customer requirements and product or process characteristics, prioritize quality focus and define product or process design specification. The approach is adopted by numbers of multinational companies such as Ford, General Motor, IBM, Toyota, Apply and AT&T (Piasecki et. al., 2024). Hence, this paper suggested that the concept of Quality Function Deployment could be adapted as methodology to address the complication of correlating social economic wellbeing improvement requirement (the "needs") and social economic wellbeing improvement action (the "how"), as well as to prioritize the improvement actions accordingly.

Quality Function Deployment
Quality Function Deployment is a structured quality improvement methodology used in quality management to transform qualitative based customer requirements into quantitative based quality specification (Wong et. al. 2024) The process of transformation involves a series of steps from identifying and prioritize customer requirement, exploring how the requirement could be met simultaneously, follows by development of quality specification (Rianmora abd Werawatganon, 2021). The transformation process is carried out based on a structured framework, namely House of Quality.

House of Quality
House of Quality is the key components of QFD, it is a structured analysis tool than convert or transform customer requirements to product of process design specification by assessing and prioritize the relationship of both (Bahia, Idan and Athab, 2023). A typical structure of House of Quality is shown in Figure 2.

The "What" Room (S1)
The "What" room implies the expectation and requirement of customers, or namely "voice of customer", it is positioned at the left of the framework. The information in "What" room is qualitative based and is gathered from the feedback of customers. The information of "What" room reflects the needs of customers, hence it is customers' requirements that need to be fulfilled for customers' satisfaction (Shvetsova, Park and Lee, 2021). As such, from product or

process design perspective, items in the "what" room address the question of "What are the customers' requirements that should be met ?".

The "Importance Rating" Room (S2)
The "Importance Rating" or room S2 reflect the priority of customer requirements. The priority rating or also called as weighting factor is normally generated based on result of customers or market survey (de Oliveira et. al., 2020). Additionally, the weighting factor present a picture on the effort, time and expenses that required to meet the customers' requirement.
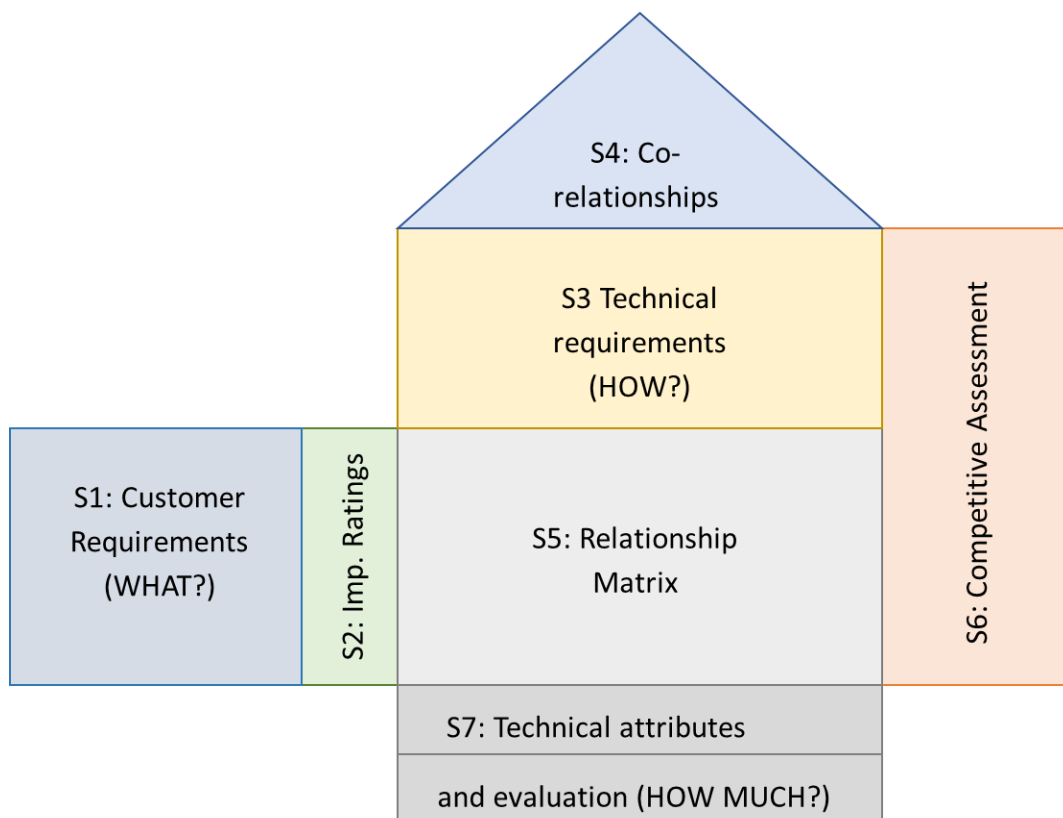

Figure 2: House of Quality

The "How" Room (S3)
The "How" rooms address the question of "How can the customer requirements (i.e. room S1) be met by the design of process, product or service?" Hence, items listed in "How" room reflect the design characteristics and requirements of the process, product or service that under study (Xu and Zhang, 2021). Principally, each "What" identified in S1 must be addressed by the items in "How" room. In addition, items in "How" room must be actionable, quantifiable or measurable.

The Co-relationship Matrix Room (S4)
The co-relationship matrix room or room S4 assess the interrelationships among the design requirements (Gudkova et. al., 2021). The main purpose of the co-relation matrix is to identifies how each of the design requirement items support (positive) or conflict (negative) with other design requirements. Hence, the co-relationship can be ranged from a strong

negative interaction (represent by "—") to a strong positive interaction (represent by "++"). Design requirement that negatively co-related with other requirements needs special attention on specification setting in order to minimize the trade-off.

The Correlation Matrix Room (S5)

The correlation matrix or room S5 defines the correlation between customer needs and the design requirement of product, process or services, or, correlates how the "Hows" satisfy the "Whats" (Xu and Zhang, 2021). Hence, Room S5 address the question of "what is the strength of the correlation between the customer requirement and design requirements. Generally, the correlations can be ranged from weak (rating 1), moderate (rating 3), to strong (rating 9).

The Competitor Room (S6)

The Competitor Room is positioned at the right side of the framework. The room evaluate competitor's capability on meeting the customers' requirement (S1). The best-in-class competitors should be selected for the evaluation (Vijaya and Prabhu, 2021). The analysis result presents the strengths and weaknesses of competitors, and identify the potential improvement opportunity. Hence, The Competitor Room is also commonly named as "Competitor Assessment Room".

The Priority Room (S7)

For each of the "How" (S3), the correlation strength identified in the Co-relationship Matrix Room (room S4) is multiplied by the importance ranking number defined in Room S2 in order to generate the priority score (Gudkova et. al., 2021),. Subsequently, the sum of the priority score for each of the "How" (S3) is reported in the Priority Room (S7). The sum of score represents the priority of "How", or which of the "How" should be the main focus

Social Economic Wellbeing Actions Deployment Framework

Social economic wellbeing indicators are multi-dimensional based, which including dimensions of income, poverty and social exclusion, employment and access to good quality jobs, access to a decent education and training, health and access to healthcare, the state of housing and the availability of care services. The concern is for each dimension, the action required for improvement carries certain degree of uniqueness, hence, a single improvement action might not able to address all the indicators, As such, a structured prioritization framework is required for social economic wellbeing improvement. Hence, this proposed research adapts the concept of Quality Function Deployment and structure of House of Quality to develop a framework for prioritization of social economic wellbeing improvement actions. The proposed framework is named as Social economic wellbeing Actions Deployment framework (SEAD). The proposed framework is shown in Figure 3.
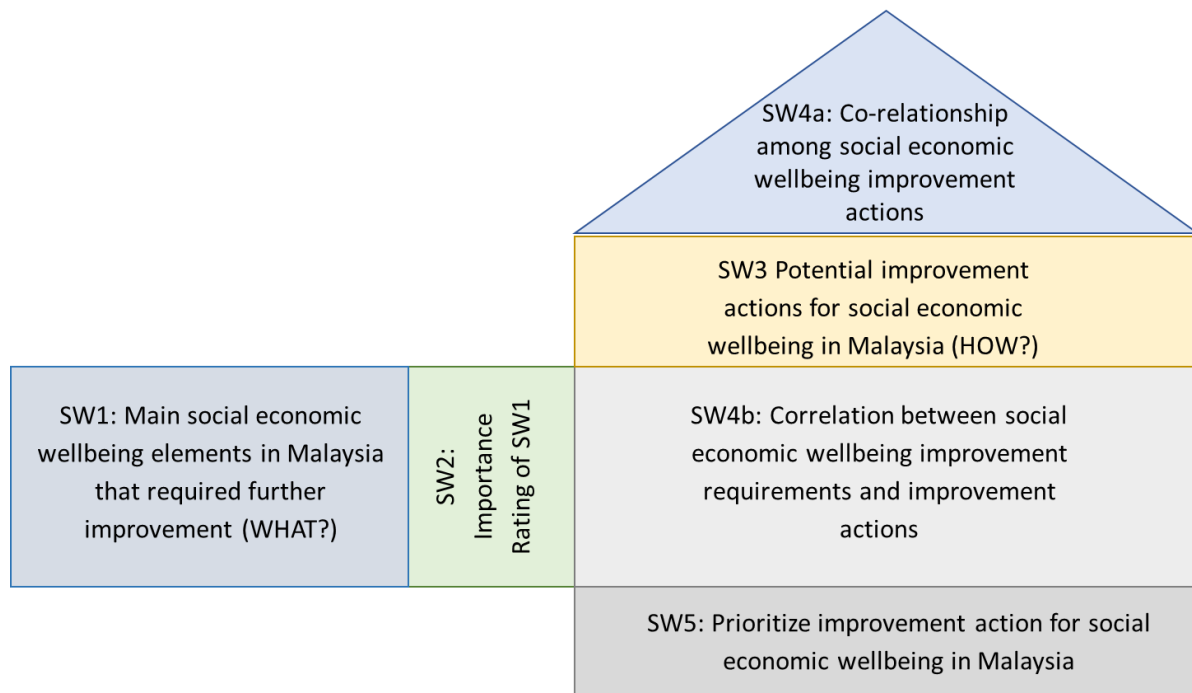
Figure 3: Social economic wellbeing Actions Deployment (SEAD) framework

As shown in Figure 3, the proposed Social economic wellbeing Actions Deployment framework(SEAD), or House of Social economic wellbeing improvement framework consist of 5 Social economic Wellbeing room (SW rooms).Social economic Wellbeing room 1 (SW1) of SEAD explores the main social economic wellbeing elements in Malaysia that required further improvement. To achieve this, SW1 involves process of reviewing Social economic wellbeing reports or Social economic wellbeing indicators and indexes, with the ultimate to identify social economics wellbeing elements in Malaysia that underperformed. The importance rating of the underperformed social economics wellbeing elements will be assessed and ranked accordingly in Social economic Wellbeing room 2 (SW2). The ranking process should be qualitative based by interviewing experts of social economic wellbeing. The bigger the number, the higher the ranking is.

Social economic Wellbeing room 3 (SW3) outlines the possible improvements action for social economic wellbeing, such as "build 200,000 affordable houses". The process also should involve a face to face interview with experts of social economic wellbeing. The subsequent step of the proposed Social economic wellbeing Actions Deployment framework (SEAD), or House of Social economic wellbeing improvement framework is to establish the correlation between social economic wellbeing improvement requirements and improvement actions. The process required interview with the experts of social economic wellbeing, as well as assessment of the agreement among experts statistically.

The last step of SEAD is to derive the important number of how and subsequently prioritize improvement action for social economic wellbeing in Malaysia. The important number is analysis quantitatively via descriptive analysis based on the concept used in QFD or house of quality and verified by QFD experts. The importance ranking should be reviewed by a group of social economic wellbeing expert to finalize the priority of improvement.

Significance of the Research and Direction for Future Research

This paper presents a theoretical contribution by expanding the theory of Quality Function Deployment (QFD) beyond the domains of quality and manufacturing management. It introduces the new Social-Economic Wellbeing Actions Deployment (SEAD) framework, which transforms social-economic wellbeing (SEW) needs into actionable SEW improvement strategies and prioritizes them accordingly.

The SEAD framework provides a novel understanding of the relationship between needs and improvement actions in the context of social-economic wellbeing. By introducing the concept of social-economic wellbeing improvement through identifying and prioritizing actions, the framework makes a significant contribution to the knowledge in this field.

This research also benefits society, the economy, and the nation by assisting state and central governments' economic planning units, as well as non-profit organizations (NGOs), in identifying areas of social-economic wellbeing that require improvement and prioritizing corresponding actions effectively.

However, the SEAD framework requires further validation through both qualitative and quantitative research before it can serve as a guideline for strategic planning and execution of SEW improvements as part of the RMKe-12 and SPV2030 initiatives.

Acknowledgements

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