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Social Innovation across Non-Profit Organizations: Analytical Hierarchical Approach

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Abstract:
This work aims to assess social innovation across Non-Profit Organizations of the United Arab Emirates. By exploring the criteria and sub-criteria of social innovation relevant to UAE NGOs. The work develops a hierarchical framework of social innovation using the Analytic Hierarchy Process (AHP) model. Needed data was collected from top directors and senior managers at NGOs in the UAE through personal interviews. All to recommend strategies for improving social innovation practices in NGOs of the UAE. The proposed framework should help NGOs and social innovators to improve their social innovative practices. Literature on social innovation in the UAE context is limited, and data was collected from NGOs in the UAE only. This work provides a comprehensive strategy for improving social innovation across NGOs of the UAE by contributing to the emerging field of social innovation literature.
Keywords – Social innovation, UAE, NGO, Non-profit, Emerging economies

1. Introduction

Innovation can be defined as an original, more effective, and a new idea or physical product that breaks into a market or society (Frankelius, 2009). The frameworks created to solve pressing societal issues and create welfare for civil society generate what is referred to as social innovations (SI) (Hulgård & Andersen, 2015). Social innovation processes should improve the social issues on hand while being a newly introduced idea to its users (Frazão, Carvalho, & Carlos, 2015).

Social innovation's value creation process is developed regarding social welfare, market value, and state to reach a functioning solution model for the issue on hand (Nordic Council of Ministers, 2015). Researchers (Grimm, Fox, Baines, & Albertson, 2013) believe that social innovation concepts could be categorized into two types; process-oriented and goal-oriented social innovation. While process-oriented social innovation revolves around solving societal issues, goal-oriented social innovation is implementing said new ideas.

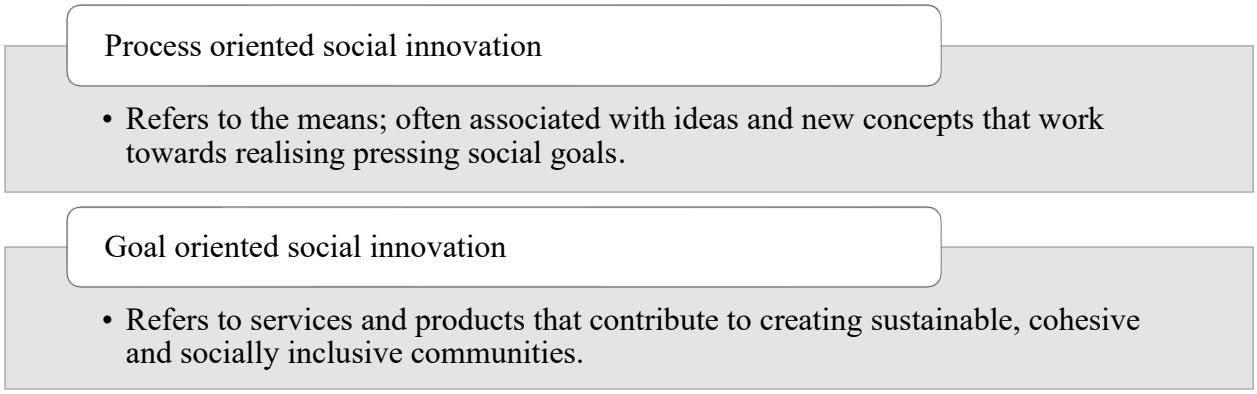

Figure 1- Types of Social Innovation (Grimm, Fox, Baines, & Albertson, 2013)

Organizations to create social value for society as a whole and don't set creating profit for their stockholders as their primary operational goal are referred to as non-profit organizations [NPOs] (Elfving & Howard, 2018). Non-governmental organizations are non-

profit organizations, and the term describes an NPO independent of governmental influence seeking to address social or political issues (Oxford University Press, 2019). NGOs also voice social concerns to higher authorities and encourage political participation to aid their respective cause (NGO community in conjunction with EXECOM, 2000).

This work aims to explore social innovation's role in NGOs alongside its relevant criteria and sub-criteria in general, focusing on the UAE context. There is a lack of sufficient literature that quantifies social innovation elements in NGOs generally (Lopes, Vieira, Barbosa, & Parente, 2017; Espina, Phan, & Markman, 2018), and in UAE specifically (Ryan & Daly, 2019). Also, limited relevant statistical databases are available on SI (Lopes, Vieira, Barbosa, & Parente, 2017). All of which signifies the need for this research paper.

Literature statistics in the fields of SI remain lacking in UAE; in general, data collection (Hijazi, 2014) and systematic evaluation (Ryan & Daly, 2019). Therefore, the main objectives of this work are as follows:

(1) To explore the criteria and sub-criteria of social innovation related to NGOs.
(2) To introduce a hierarchical framework of SI using the AHP model and propose a framework of SI.
(3) To quantify factors of social innovation related to NGOs.
(4) To recommend strategies for improving SI across organizations in general and NGOs in particular.

This work aims to serve as a reference for a variety of recipients who wish to contribute to improving NGO innovation frameworks and scholars interested in UAE's SI field and applications. It also highlights the importance of SI in the context of UAE and its role in Emirati society. The importance of this work stems from the lack of similar research efforts in the SI field across NGOs, especially in the context of the UAE. This work attempts to fill in some of the research gaps in said fields. It also introduces a hierarchical framework of social innovation using an AHP model as a tool. Furthermore, it broadens the SI and NGO statistical database in the UAE. Finally, it serves as a reference for interested parties and individuals in relevant research fields, entrepreneurs, innovators, and UAE society.

The paper is developed as follows: the literature review is discussed in section two f this paper, where the primary and sub-criteria of SI are explored—followed by an overview of the AHP method implemented, discussed in section 3. After that, in section 4, data collection is explained alongside the data generated in this work. Finally, section 5 comprises the work's conclusion, implications, and limitations.

2. Literature review:

Social innovation has a relatively brief history of focusing on academic inquiry (Lopes, Vieira, Barbosa, & Parente, 2017). It refers to new interventions, practices, approaches, and products or services developed to solve pressing societal issues (CST, 2000). Authors (Caulier-Grice, Davies, Patrick, & Norman, 2012) believe that there are two core dimensions to social innovation: the process dimension and the outcome or product dimension. Both dimensions result in the introduction of new solutions to pressing societal issues. Additionally, social innovation is also extended to NGOs and social enterprises that play a role in uplifting conditions of communities by helping the poor and underprivileged (Weerawardena, McDonald, & Mort, 2009) and facilitating community development (Wallace, 1999).

According to authors (Ims & Zsolnai, 2014) the success of social innovations is associated with having the primary objective set to societal and humanitarian goals and the not profit generation ones.

2.1 Factors of social innovation

2.1 (a) Environmental Dynamics

Changing business and social contexts, market competitively and complexness, and governmental regulations are environmental dynamics that affect NFPs (Mort & Weerawardena, 2006). Environmental dynamics have a significant toll on social innovations due to how vital knowledge management is in the third sector (Hill, & David, 2020). Proper knowledge management leads enterprises to be sensitive (Soniewicki, 2021). and responsive to various environmental changes (Lettieri, Borga, & Savoldelli, 2004). Responding to environmental dynamics and triggers facilitates innovation processes in production by creating solutions to social and environmental risks facing an enterprise (Spitzeck, Boechat, & Leão, 2013). With globalization, business and society are becoming more connected and interdependent through increased economic factors, integration, communication exchange, cultural diffusion, and travel (Jatuliavičienė & Kučinskienė, 2006).

2.1 (b) Sustainability

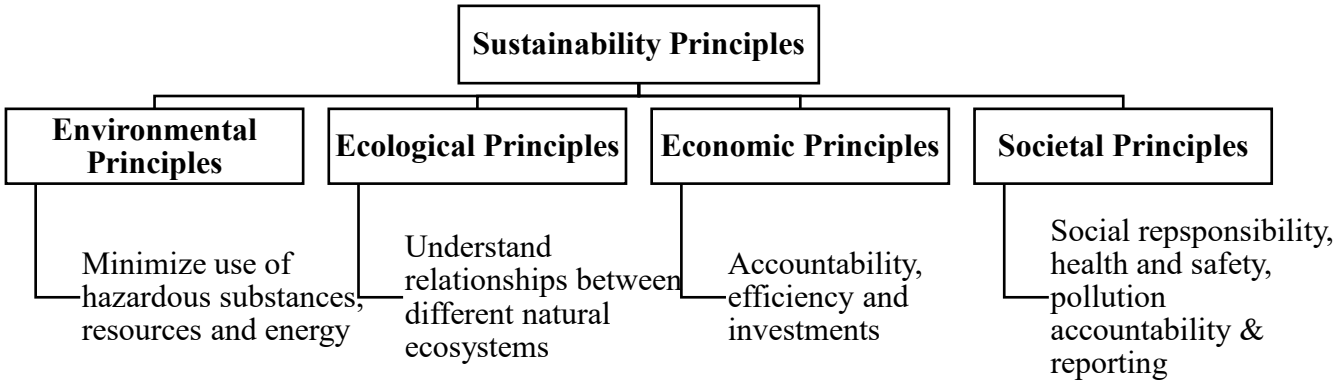

Figure 2- Sustainability Principles (Glavic & Lukman, 2007)

Sustainability is a broad concept with related terms that authors (Glavic & Lukman, 2007) categorized under four main principles, as shown in **Figure 2**. The application of socially innovative solutions works with the two aspects of social enterprise sustainability (Burkett, 2010). First, sustainable innovations create lower costs leading to financial sustainability and could, in turn, lead to a competitive advantage (Karasek, 2020). Second, it addresses the social mission aspect by appeasing societal demands for more green development. Adhering to sustainability notions within social enterprises brings them closer to achieving a suitable

position in the 'triple bottom line' of the People, Planet, and Profit model (Wyness, Jones, & Klapper, 2015).

2.1 (c) Innovativeness

Innovation is defined as an original, more effective, and new idea that breaks into the market or society (Frankelius, 2009), turning an idea into a solution that creates value from the customer's perspective (Skillicorn, 2016). Innovation occurs through more effective products, technology, processes, services, and business models for government and society (Mosquera, Soares, & Cid, 2021). The impact of innovativeness in products and services reflects overall business performance (Bastian & Tucci, 2017). It introduces a new concept or product to the market with varying success levels and new risks. The success of innovation is crucial to employee endorsement and commitment (Autio & Thomas, 2007). The World cannot innovate without the vow and decent performance of companies (Hamel & Prahalad, 1994; Hull & Luxmore, 2007).

2.1 (d) Social Entrepreneurship

Social entrepreneurship is being used to categorize a wide range of social activities; it's also often confused for social activism and social service due to its vaguely defined boundaries. Authors (Martin & Osberg , 2007) argue that social entrepreneurship is identified by three factors: (a) recognizing an inherently unjust equilibrium that, although it is stable, produces a segment of society that is excluded, marginalized, or suffering due to its lack of political support and influence or financial means to attain transformational gains of its own. (b) recognizing an opportunity in said inequitable equilibrium and then developing a socially valuable initiative to bring a solution that would challenge the equilibrium by direct action, creative elements. (c) creating a new equilibrium that is both stable and just, which frees caged potential or contributes to easing the suffering of the marginalized segment of society, and it would result in a better future for the said segment and the society as a whole in the long run through the creation of a stable ecosystem revolving around the newly forged equilibrium. Various organizations may express social entrepreneurship as a vast array of economic, educational, research, welfare, social, and spiritual activities (Leadbeater, 1997).

2.1 (e) Pro-activeness

Social innovations are not developed only to attend but to propagate in the market (Sullivan-Mort & Weerawardena, 2001). Pro-activeness and predictive modeling are also essential to the innovation process. It is recommended for effective organizations to follow proactive strategies in innovating processes (Sullivan-Mort & Weerawardena, 2001). The importance of proactive approaches in innovations development is highlighted in earlier studies on innovation management (Sandberg, 2007). Authors (Kaplan, 1999; Rice, O'Connor, Peters, & Morone, 1998) emphasize the role of proactiveness in viewing uncertainties as opportunities for innovativeness within organizational strategy formulation approaches, which is the

opposite of the traditional approach that focuses on the overall reduction of uncertainties. (Hyysalo, 2004) sets emphasis on forward-thinking strategic planning and how it goes hand in hand with proactiveness when both opportunities and uncertainties arise and how they are dealt with in the context of innovation-development processes.

Table 1 – Main & sub-criteria of the proposed framework

Main Criteria	Sub Criteria	References
Environmental Dynamics	Social change, Impact of government, Accountability issues & Corporate governance	(Mort & Weerawardena, 2006) (Lettieri, Borga, & Savoldelli, 2004) (Thomas, Shenkar, & Clarke, 1994) (Bies, Bartunek, Fort, & Zald, 2007)
Sustainability	Innovativeness, Proactive behavior, Risk management, Commitment to improvement, Commitment to engagement, long term survival & growth & Self-financing	(Glavic & Lukman, 2007) (European Environment Agency, 2017) (United States Environmental Protection Agency, 2019) (The global and ethical investment advice, 2006) (Mort & Weerawardena, 2006)
Innovativeness	New marketing ways, New ways of influencing the government, New ways of service delivery, Technology adaption, New ideas Value for stakeholders, Tangible & intangible benefits	(Skillicorn, 2016) (Peredo & McLean, 2006) (Margolis & Walsh, 2003) (Autio & Thomas, 2007) (Bastian & Tucci, 2017) (Hult, Hurley, & Knight, 2004)
Social Entrepreneurship	Social goals, Transforming system, Political stability, Social network, Ethics & Sub-culture	(Elkington, 2006) (Dees, 2007) (Marti & Mair, 2009) (Nga & Shamuganathan, 2010)
Pro-activeness	Strategic planning, Forecasting accuracy, Customization & Financial modeling	(Sullivan-Mort & Weerawardena, 2001) (Sandberg, 2007) (Kaplan, 1999) (Rice, O'Connor, Peters, & Morone, 1998)

3. AHP Overview

This paper aims to develop a framework for identifying, categorizing, and prioritizing innovative social practices in UAE NGOs. Therefore, this work applies a hierarchical process using the AHP model. The multi-criteria attributes are organized in a hierarchical structure method. As shown in **Figure 4**, the hierarchal structure of AHP includes both main criteria and sub-criteria. Thus, the identified social innovation factors in the literature review were categorized as the five main criteria; i.e., environmental dynamics, sustainability,

innovativeness, social entrepreneurship, and pro-activeness. Each criterion of social innovation represents the main criteria in the AHP model, as shown in level 2 of **Figure 4**. Level 3 represents the sub-criteria for each main factor, followed by level 4's rating scale. And finally, level 5 represents the alternatives, i.e., UAE NGOs. The AHP model of the five-level hierarchical structure is constructed as shown in **Figure 4**. The detailed central and sub-criteria can be found with respective references in **Table 1** in the previous section, which summarizes the literature review of this work.

The AHP model is used in this work due to the practicality, ease of use, and versatility of the AHP model; it is widely applied in several sectors and different cases and not in multi-criterion decision-making problems only (Singh, 2016). The decision-making part of AHP involves choosing an option from different alternatives after structuring the decision-making process into a hierarchy. There are three principles the AHP model is based on: comparative pair-wise judgment, synthesis of priorities, and decomposition (Dey, Seetharaman, & Benjamin Thomas, 2006).

A matrix is developed by performing a set of pair-wise comparisons at each hierarchy level. In the said matrix, entities indicate the strength of one element dominating another within their respectful criteria. Dealing with inconsistencies arising with professional judgments then improving on them is a primary concern of the AHP method. Elements with a strong influence on the objective in question are judged and selected by AHP processes; the accuracy in this evaluation is one of this method's selling points. There are four phases in the AHP method: (1) structuring the decision problem, (2) data collection and measurement, (3) determination of normalized weights and synthesis (4) finding a solution to the problem (Hussain, Malik, & Al-Neyadi, 2016). Represented in **Figure 3** is the AHP methodology to be used in this work.

Developed by Thomas Saaty in 1980, the AHP method allows decision-makers to simultaneously represent the interaction of numerous variables in unstructured and complex situations. All of which aids said decision-makers with the processes of identifying and setting priorities based on predetermined objectives, knowledge, and expertise (Saaty T. , 2012). Accurately evaluating the influence of criteria on predetermined goals is a function of AHP. This work determined that the AHP model was most suitable due to many factors, including flexibility for a wide range of unstructured problems and ease of use. AHP's deductive approach can also solve complex problems dealing with the interdependencies of system elements. Furthermore, its tendency to sort elements of a system into different levels and group-like elements reflects the human mind (Hussain, Malik, & Al-Neyadi, 2016). The scale to measure and prioritize intangibles (see **Table 2**) provided by the application of the AHP model allows this work to draw upon specialists' expertise for the identification and ranking of different relevant elements.

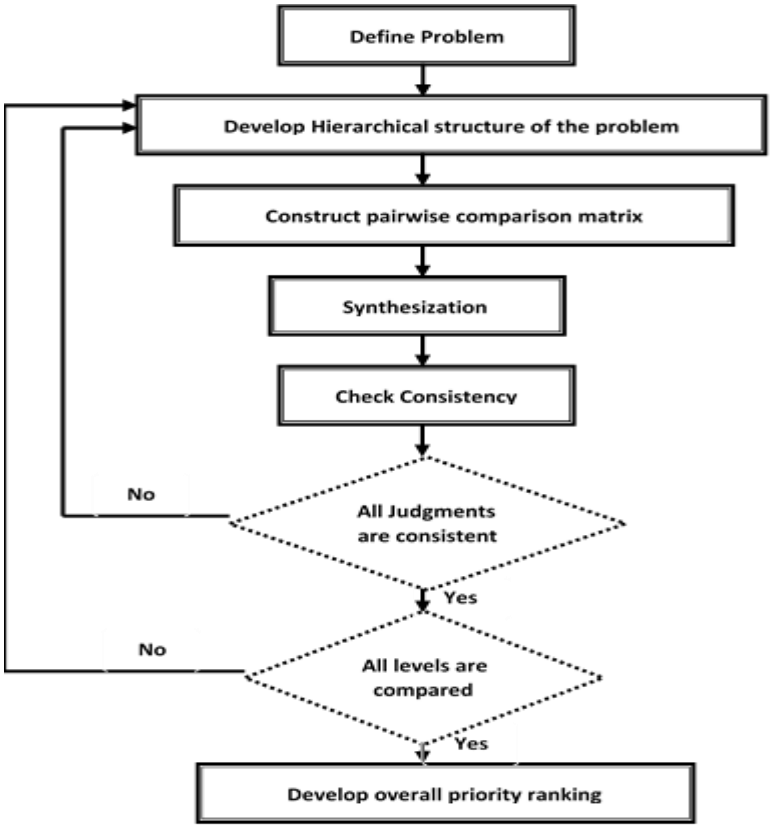

Figure 3 – AHP methodology (Hussain, Malik, & Al-Neyadi, 2016)

The advantages of using the AHP decision tool are many, including the following: (1) being explicit and open; any decision-making group's choice of objectives and criteria are open to changes if the analysis is deemed so appropriately (Karsak & EthemTolga, 2001). (2) Considered by many to be the most reliable MCDM method, hence its widespread use (Dyer & Wendell, 1985). (3) Allows group decision-making, where forming the hierarchy and solving the problem in question is done by sharing their knowledge and expertise (Carlsson & Fullér, 1996). AHP's ability to evaluate numerous criteria has contributed to its success in solving practical solutions of multi-criteria decision-making problems, hence its popularity among various users (Liu, Ding, & Lall, 2000; Chan, Chan, & Tang, 2000).

3.1 AHP model of social innovation

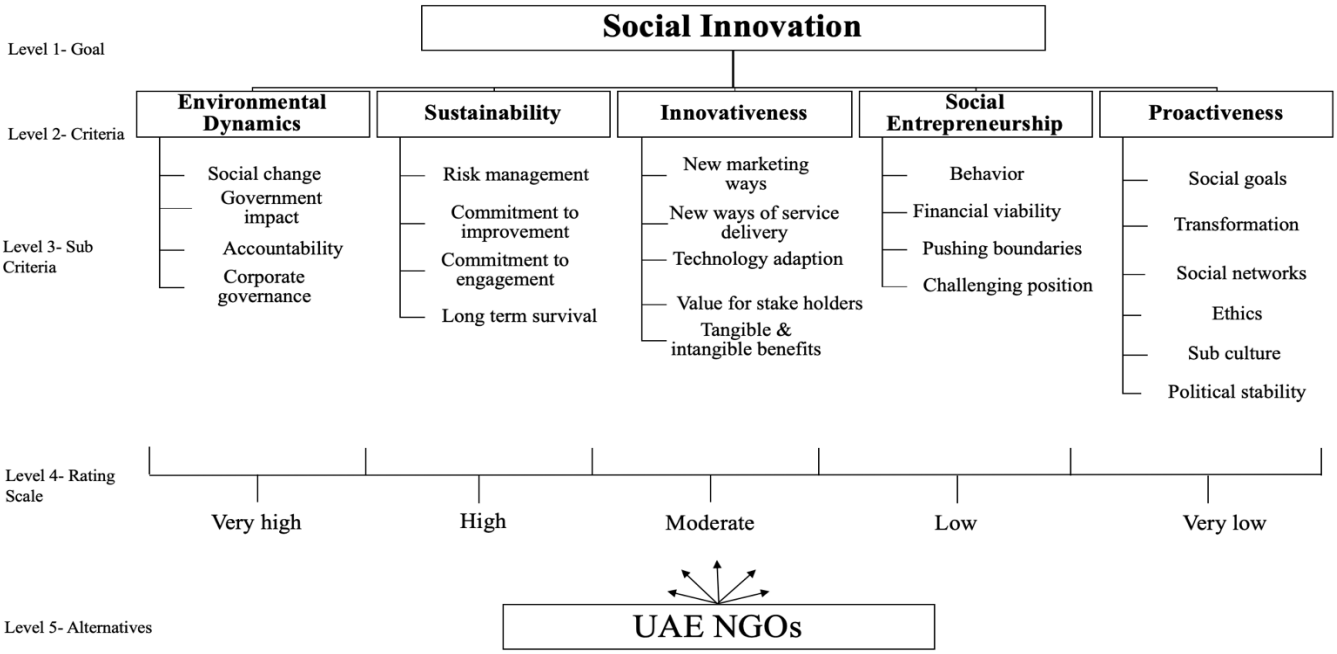

Figure 4 – Proposed framework, the hierarchical structure of AHP

The first step of developing the AHP hierarchy is to identify the problem, as shown in **Figure 3**. This paper aims to develop a framework for identifying, categorizing, and prioritizing social innovation practices in the United Arab Emirates NGOs. All of which is based on the judgment and experience of interviewed top executives and decision-makers within UAE NGOs.

Therefore, this work applies a hierarchical process using the AHP model. The hierarchy of the AHP model for evaluating social innovation in UAE NGOs is represented in **Figure 3**. The multi-criteria attributes are organized in a hierarchical method, with level one of the hierarchy being the overall goal, i.e., social innovation on United Arab Emirates NGOs. The second hierarchy level represents six primary factors affecting social innovation practices in UAE NGOs, labeled as the main criteria. Each of the six main criteria is further divided into a set of sub-criteria represented in level three.

Table 2 – 1 to 9 scale for AHP preferences

Intensity of importance	Definition	Explanation
1	Equal importance	Two criteria contribute equally to the objective
3	Moderate importance	Judgment slightly favor one over another
5	Strong importance	Judgment strongly favor one over another
7	Very strong importance	A criterion is strongly favored, and its dominance is demonstrated in practice

9	Absolute importance	Importance of one over another affirmed on the highest possible order
2,4,6,8	Intermediate values	Used to represent a compromise between the priorities listed above

The emphasis on studying various factors affecting social innovation practices in NGOs' context was discussed earlier in section 1 of this paper. So, environmental dynamics, sustainability, innovativeness, social entrepreneurship, and proactiveness are included in developing the AHP hierarchy. Alongside their respective set of sub-criteria.

The next step in the AHP model is to determine the pair-wise comparisons among the criteria applied, as shown in **Figure 3**. That revolves around the questionnaire development explained in part four's data collection section, and said questionnaire is provided in this paper's appendix. As shown in **Table 2**, a nine-point scale is used to define pair-wise comparisons as suggested by (Saaty T. , 2012). The consistency index (CI) is applied to check consistency in judgments. Author (Saaty T. , 1980) uses the following identification of consistency:

$$CI = (\lambda \max - n) / (n - 1)$$

The maximum eigenvalue of the matrix of the important ratios is λ max, and the number of factors is *n.* To assess whether a matrix is sufficiently consistent or not, the consistency ratio (CR) is used. The Consistency Index to the Random Index (RI) ratio; which is the Consistency Index of a matrix of randomly generated comparisons:

$$CR = CI / RI$$

To produce average random indices for different sized matrices, Random pair-wise comparisons have been simulated. Presented in **Table 3** are the values of RI. If the CR value is smaller than or equal to 0.10, the inconsistency is acceptable according to (Saaty T. , 1980).

Table 3 – Random Index

Random Index: Where: n is the number of factors										
n	1	2	3	4	5	6	7	8	9	10
RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.48

The next step is defining the relative priorities of criteria, shown in **Table 2**, by computing "priority vectors" is the next step. A "consistency principle" for calculating priority vectors was introduced by (Saaty T. L., 1990). This principle states that $a_{ik} = a_{ij} . a_{jk}$ and the consequent argument for using a particular case of the consistency matrix formed by elements $a_{ik} = w_i / w_j$ where w_i and w_j are the elements of the priority weight vector corresponding to criteria *i* and *j.*

4. Analysis and findings

A questionnaire was developed to collect data from UAE NGOs on social innovation practices. The detailed process of the questionnaire development is found in section 3 of this work, which used a 9-point scale to define pair-wise comparisons (see **Table 2**). A list of prominent UAE-based NGOs was observed to develop the respondents' sample; the top 15 NGOs of UAE were then short-listed. All contacted NGOs claim social sustainability in their annual reports and social innovation in their strategy formulation and operational activities. Of the 15 short-listed NGOs who were contacted, only eight agreed to participate in this study. The population of this work's sample comprises top directors and senior managers from said list of UAE's NGOs. Data was collected from 8 different UAE NGOs; 5 top directors and senior managers were interviewed from each NGO. Respondents are experienced in fields of sustainability, social innovation and have at least ten years of experience in a single field. They are also familiar with UAE's governmental regulations. All respondents were English speakers; thus, no translation was required.

Data were collected through personal interviews with mentioned directors and senior managers at the 8 UAE NGOs. Before conducting the personal interviews, appointments were fixed with the population sample. An email was sent to all potential respondents explaining the purpose of the interview and the impact of their contribution in taking part in this work. Each respondent was approached separately, responses will be kept confidential, and personnel names will remain anonymous. All respondents were also informed of this study's objectives and were reassured that their responses would only be treated for academic purposes.

Table 4 – Geometric Means of Pair-Wise comparison of main criteria

Criteria	Environmental dynamics	Sustainability	Innovativeness	Social entrepreneurship	Proactiveness	Priority weight
Environmental dynamics	1.00	0.25	3.50	5.20	0.70	0.21
Sustainability	4.00	1.00	7.00	3.00	0.30	0.32
Innovativeness	0.29	0.14	1.00	0.50	6.10	0.15
Social entrepreneurship	0.19	0.33	2.00	1.00	3.20	0.12
Proactiveness	1.43	3.33	0.16	0.31	1.00	0.20
* CR Value: 0.06< 0.10 (acceptable)						

In **Table 4,** which shows the results of the pair-wise comparison of all five main criteria explored in the study, sustainability is revealed to be the most critical factor to the respondents with a 32% priority weight. It's then followed by environmental dynamics in second place,

with a 21% priority weight. Proactiveness and innovativeness were then ranked third and fourth, respectively. Lastly, the least important factor was social entrepreneurship at the bottom of the list, with the lowest priority weight amongst the five studied factors. The CR requirements are fulfilled in the consensus responses displayed in **Table 4**.

A pair-wise comparison of all sub-criteria within each criterion included in **Table 4** was also carried out, thus giving a more thorough understanding of the priorities represented in **Table 4**. The pair-wise comparisons of the sub-criteria are based on the consensus of the respondents and are displayed in **Tables 5-9**. The sub-criteria set for each main criterion (factor) is as previously displayed in **Figure 3**'s Level 3.

Table 5 – Pair-wise comparison matrix for environmental dynamics sub-criteria

	Social Change	Impact of Government	Accountability	Corporate Governance	Priority weight
Social change	1.00	3.50	0.45	8.20	0.37
Impact of government	0.29	1.00	3.20	0.35	0.22
Accountability	2.22	0.31	1.00	3.10	0.27
Corporate governance	0.12	2.86	0.32	1.00	0.14
*CR value: 0.04<0.1 (acceptable)					

As for the environmental dynamics factor, four sub-criteria were derived and studied in a pair-wise comparison in **Table 5**. The set of said sub-criteria comprises the following: social change, the impact of government, accountability, and corporate governance. Coming at the highest priority weight amongst respective sets is social change (37%), followed by accountability (27%). On the other hand, the least regarded sub-criteria was corporate governance, which ranked fourth by priority weight measures.

Table 6 – Pair-wise comparison matrix for sustainability sub-criteria

	Risk Management	Commitment to improvement	Commitment to engagement	Long term survival	Priority weight
Risk Management	1.00	7.10	0.50	8.20	0.39
Commitment to improvement	0.14	1.00	3.50	0.45	0.21
Commitment to engagement	2.00	0.29	1.00	7.10	0.31
Long term survival	0.12	2.22	0.14	1.00	0.08
*CR value: 0.04<0.1 (acceptable)					

The sustainability factor was similarly studied by deriving and studying four sub-criteria: risk management, commitment to improvement, commitment to engagement, and long-term survival. As shown in **Table 6**, coming on top with the highest priority weight is risk management (39%), followed by the commitment to engagement (31%). Lastly, long-term survival comes on the bottom of the list with a relatively low priority weight of (8%).

Table 7 – Pair-wise comparison matrix for innovativeness sub-criteria

	New marketing ways	New ways of service delivery	Technology adaption	Value for stakeholders	Tangible & intangible benefits	Priority weight
New marketing ways	1.00	6.70	5.40	3.30	0.75	0.35
New ways of service delivery	0.15	1.00	6.10	8.20	2.30	0.25
Technology adaption	0.19	0.16	1.00	4.20	0.35	0.09
Value for stake holders	0.30	0.12	0.24	1.00	7.20	0.16
Tangible & intangible benefits	1.33	0.43	2.86	0.14	1.00	0.16
*CR value: 0.06<0.1 (acceptable)						

Table 7 illustrates the pair-wise comparison results of the innovativeness factor's sub-criteria. Similar to previous **Tables (5 &6)**, five sub-criteria were derived from the innovativeness factor (main criteria): social outcomes, social membership, mission and money, survival and growth, and social aim. With a priority weight of 35%, new marketing ways come at the top of the list, followed by new ways of service delivery (25%). As for the less regarded amongst said set, value for stakeholders and tangible & intangible benefits tie for third place followed by technology adaption in the last place.

Table 8 – Pair-wise comparison matrix for social entrepreneurship sub-criteria

	Behavior	Financial viability	Pushing boundaries	Challenging position	Priority weight
Behavior	1.00	5.80	6.90	3.90	0.55
Financial viability	0.17	1.00	5.10	7.10	0.26
Pushing boundaries	0.14	0.20	1.00	6.20	0.13
Challenging position	0.26	0.14	0.16	1.00	0.06

*CR value: 0.05<0.1 (acceptable)

The pair-wise comparison matrix of social entrepreneurship's sub-criteria set is also displayed in **Table 8**. The derived set of sub-criteria comprises behavior, financial viability, pushing boundaries, and challenging position. Behavior secured 1st place with a priority weight of 55%, more than half of the entire factor's weight. On the other hand, the challenging position came at the 4th place with a priority weight of 6% only.

Table 9 – Pair-wise comparison matrix for proactiveness sub-criteria

	Social Goals	Transformation	Social networks	Ethics	Sub Culture	Political stability	Priority weight
Social Goals	1.00	7.30	0.50	6.10	3.20	8.10	0.30
Transformation	0.14	1.00	3.50	6.50	0.25	6.40	0.20
Social networks	2.00	0.29	1.00	0.30	4.50	6.20	0.20
Ethics	0.16	0.15	3.33	1.00	3.80	6.80	0.17
Sub Culture	0.31	4.00	0.22	0.26	1.00	5.90	0.11
Political stability	0.12	0.16	0.16	0.15	0.15	1.00	0.02

*CR value: 0.07<0.1 (acceptable)

The set of sub-criteria derived from the proactiveness factor and displayed in **Table 9** include 6 points: social goals, transformation, social networks, ethics, sub culture, and political stability. Social goals come on top of the list with a 30% priority weight, while transformation and social networks tie for second place with a priority weight of 20% each. On the other hand, political stability comes in last with a 2% priority weight only.

The overall priority of the 23 sub-criteria explored is measured as the last step of the AHP process, illustrated in **Figure 5**. Said step is done by multiplying the criteria priority matrix with the sub-criteria ranking. According to **Figure 5**, the highest-ranked factor by overall priority weight is risk management (12.62%) sub-criteria from the main criteria of sustainability. The second highest-ranked commitment to engagement (10.16%), also derived from the sustainability sub-criteria. As for the least regarded factors, challenging position (0.78%) and political stability (0.38%) were ranked second to last and last, respectively. It's worth noting that the highest-ranked factors are both derived from the highest-ranked main criteria, which is sustainability.

5. Conclusion and implications

The new solutions to pressing societal issues that enhance a society's capacity to act simultaneously are social innovations (Caulier-Grice, Davies, Patrick, & Norman, 2012). The solution can take many forms, such as processes, frameworks, services, models, and products. Viable socio-economic practices that aim to sustain social benefits can be derived from social innovations (Fowler, 2000). This paper attempts to develop a hierarchal framework of SI in NGOs of UAE using an AHP model; to recommend strategies for improving SI practices in UAE NGOs. Moreover, it contributes to broadening the social innovation and NGO statistical databases in the UAE.

The developed AHP framework identified five social innovation factors affecting NGOs (main criteria) and twenty-one sub-criteria in total derived from the six main factors. A matrix was developed by performing pair-wise comparisons at each hierarchy level of the AHP model. In the said matrix, entities indicate the strength of one element dominating another within their respectful criteria. The data used in this work was gathered through personal interviews with top executives and senior managers at NGOs of the UAE.

Through the developed AHP framework's pair-wise comparisons, it was found that UAE NGOs place the most emphasis on sustainability factors followed by environmental dynamics. Derived from the highest-ranked factor, risk management and commitment to engagement had the most influence on social innovative practices in UAE NGOs, as displayed in **Figure 5**. A significant emphasis on risk management is expected, especially in the third sector, which faces many additional operational risks.

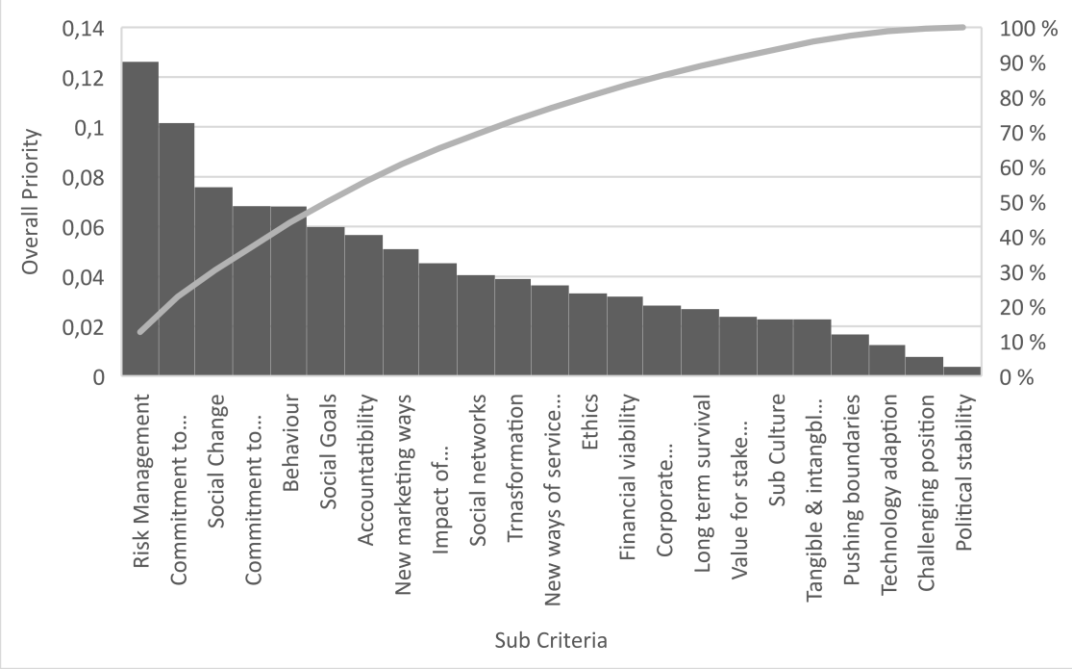

Figure 5 – Overall priority of sub-criteria

On another note, it was found that the social entrepreneurship factor ranks last, priority-weight wise, amongst all of the five main factors. At the same time, the innovativeness factor ranks second to last, priority-weight wise. As shown in **Figure 5,** challenging position sub-criteria ranks second to last, derived from the social entrepreneurship factor. And political stability, derived from the proactiveness factor, ranks last out of all 23 explored sub-criteria.

5.1 Implications

This work could serve as a reference for various recipients who wish to contribute to the NGOs themselves, research them, and scholars interested in UAE's social innovation field and practices. The framework could aid UAE NGOs in improving social innovation practices by influencing decision-makers. It can also be very beneficial to academics since it adds to the available literature and statistical database on social innovation and its practices in an NGO context.

Academic contribution:

- This work supplements the database of research in the emergent field of social innovation in NGOs context generally and in UAE specifically.
- This work discusses and assesses social innovation practices across UAE NGOs.
- This work introduces a hierarchical framework of social innovation using the AHP methodology.
- This work explores five main criteria and 23 sub-criteria of social innovation related to the NGOs through literature review and pair-wise comparisons in the AHP hierarchy.

5.2. Practical implications:

- This work benefits social innovators by acting as a reference for self-evaluation and exploring different factors relevant to their line of work.
- This work is of significance to NGOs in their market research by increasing the available NGO research database.
- This work is vital to the UAE's government since it can help policymakers facilitate a better environment for social innovators to inspire more NPO activities.
- This work is meaningful to the society of the UAE; it provides them with an understanding of all mentioned emergent fields concerning the specific case of the UAE.

Nevertheless, the implications expected are based on the literature reviewed in this work. The framework generated should be further tested by practitioners and academics alike to be effectively utilized in the third sector.

5.3. Limitations and future direction

This study faced several limitations, including the limited literature available on social innovation practices in non-governmental organizations. The relevant available literature is even more limited in the UAE context. Data was collected from NGOs in the UAE only, and the developed framework should be further tested. Data were only collected from eight different UAE NGOs, and the number of respondents isn't exceptionally high.

This work could inspire further research on the topic of social innovation practices in NGOs. Methodologies and tools other than AHP can be used in future research. A more inclusive study including more factors affecting SI in NGOs could also be explored. And finally, comparative studies of different regions' SI practices in NGOs and factors affecting them are another future research opportunity.

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