

Measuring Social Innovation for Education and Resource Development in Refugee Camps: A Conceptual Study

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Abstract

The objective of this paper is to contribute to the knowledge on social innovation for education and resource development. The study combined two related constructs: social innovation and the administration of refugees in a camp environment. Existing research has studied social innovation. However, there is limited research on social innovation in the context of refugees. This study offers a comprehensive approach by defining social innovation contextually and determines if certain knowledge can be classified as social innovation. The results would indicate that social innovation projects do exist within the human resource development, political influence, social and entrepreneurial frameworks. Hence, in contributing to the theory on social innovation, further work should focus on the context in which the social innovation is studied, as the context could affect the outcome. The findings will be of value to future investments in both social innovation and social entrepreneurship, in particular within socially deprived environments.

Keywords: Social innovation, innovation indicators, measurement, qualitative, document analysis, conceptual, social entrepreneurship, refugee, Zaatari refugee camp, Jordan, Syria

1. Introduction

Innovation is considered fundamental symbol of creativity, development and growth. The concept of innovation has changed over time and there have been broader definitions due to its relationship to entrepreneurial economic growth (Lehtimäki, Komulainen, Oinonen, and Salo, 2018)), economic changes, economic innovation, and more recently, social innovation. Hence, innovation is considered to be evidence of the development and implementation of creative ideas that promote greater outcomes in technological and economic growth. A detailed definition of social innovation is outlined below.

The contemporary world is faced with climate change, sustainability, the spread of demographic changes, and political and military crises, which have led to mass migration, major displacements and the increase in homelessness of the entire populations of major cities; and humanitarian crises. Hence, the term 'social innovation' is now widely used to describe these changes. The term 'social innovation' has been widely used in research to refer to development and application of creativity in solving social problems usually relating to housing, healthcare and migration (Abdallah, Phan, and Matsui, 2016). There have been differences in the definitions and use of the term 'social innovation', but most agree that some form of social benefit must result from social innovation. These social benefits include resolving inequalities resulting from excluding segments of the society from the social, economic or political process. The inequality could also result from natural disasters, war, mass migration or individual migration. There has also been research about the proponents of social innovation, considering their interest or benefit. So, if a not-for-profit organisation carries out innovative social projects, they will be referred to as 'social innovation', despite differences of opinions for not-for-profit organisations carrying out activities with social benefits. This study takes the position that as long as there is a resulting social benefit from the activity and the activity was not carried out with the primary objective of profit, then that activity should be classified as having a social impact. Hence, social innovation goes beyond the creation and implementation of creative ideas for social benefit but includes the outcome of the social activities (Marques, Morgan, and Richardson, 2018). The definition of social innovation has been detailed to include new ideas or creativity in improving human wellbeing, social practices, development of rural communities, management of employees in organisations, social contributions of technological innovation, improvements in social work professionals and digital communications for social improvements (Zhilin, Klievink,

and de Jong, 2019).

These classifications are distinct areas of social innovation and are too broad to investigate within a single study. Hence, this study adopts the definition of social innovations as defined by the European Commission's project on social innovation - TEPSIE (The Theoretical, Empirical and Policy foundations for building Social Innovation in Europe). TEPSIE defines social innovations as:

"... new solutions that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and/or better use of assets and resources" (Bund, Hubrich, Schmitz, Mildenerger, and Krlev, 2013, p.20).

Since innovation is not just an academic idea, it is relevant and applicable in specific social groups. Hence, it has become essential that new innovations have a tangible impact on people and must be able to fulfil the needs by having positive and significant impact on their lives and condition (Abdallah, et al, 2016). In trying to determine the impact and the extent of the impact of innovation on people, there has been an increase in the creation and application of matrices to measure innovation (Secco et al., 2019). The measure of innovation is aimed at extending the current limited use of matrices for measuring economic and entrepreneurship only to develop factors and matrices for measuring innovation in other aspects of society such as innovation that has social benefits (Ghafar, 2017). However, there is neither an agreed definition of social innovation nor any agreed measurement matrices (Lehtimäki, Komulainen, Oinonen, and Salo, 2018).

The Zaatari refugee camp, which is the case study for this project, was created and expanded as a direct result of the Syrian crises. The current Syrian crisis started in 2011 after several Arab counties witnessed political uprisings that led to changes in the governments in Libya, Egypt, Tunisia and Yemen. These uprisings spread to Syria and while the protests against the oppressive regime in Syria were peaceful, the extreme violent response of the government triggered a wave of violence, both pro- and anti-government military activities across most of the country (Jabbar and Zaza, 2014). As a result of these crises, Syrian refugees migrated en-masse from the country to neighbouring countries and regions. The Zaatari refugee camp was established in an inhabited desert, 36 km from the Jaber Syrian-Jordan border crossing. As at the end of 2018, there were over 80,000 residents in the Zaatari camp, making it the most populous camp for Syrian refugees and one of the largest refugee camps in the world. The camp is greatly under-funded and receives only about 54 per cent of the funding it needs. This deprivation has led to innovative alternatives by aid agencies, military organisations, and research projects and by residents themselves to make up the shortfall. This study is aimed at elaborating on social innovation in Zaatari as well as assessing the output of social innovation.

Considering definitions of 'social', the objective of social innovation is to address the demands and needs of vulnerable groups in society. Social innovation also refers to addressing societal challenges that have resulted from social and economic exclusion of segments of the society. Social innovation is aimed at reshaping society by applying empowerment and learning with the overall aim of improving wellbeing as the key outcome of the social innovation effort (Franz, Hochgerner, and Howaldt, 2012). The objective of this study is to investigate current social projects within the Zaatari refugee camp and to apply qualitative analysis to measure the output of social innovation at the local level within the camp. Additionally, the study aims to investigate the resource, institutional, societal, investment and political structures of social innovation in the Zaatari camp.

2. Theoretical Framework

2.1 Defining Social Innovation

The concept of innovation includes social aspects and social structures are seen as objects of innovation. While business and technological innovation is seen as creativity in the manipulation of energy and materials for economic benefit, social innovation is seen as creativity in the manipulation of social factors for social benefits (Quandt, Silva, Ferraresi, and Frega, 2019). In business and technological innovation, factors that create social benefits are considered as social innovation since they have societal benefits. However, there should be a clear differentiation between business innovation that has social benefits and social innovation which is aimed at developing social benefits (Rocha, Vieira, Lima, Andrade, and Quelhas, 2018).

The definition of social innovation has equally changed over time as a result of changes in the economic, social and even political affairs of countries and regions. The concept of social innovation has been defined and understood differently by authors and academics alike. Some authors have defined social innovation as innovation that has social benefits or aims at improving social benefit (Marques, Morgan, and Richardson, 2018). This is different from technological innovation which is seen as innovation for economic benefit (Oganisjana, Surikova, Kozlovskis, and

Svirina, 2018). Specifically, social innovation has been defined as the application of creativity in the delivery of social services by organisations with the primary objective of providing social development, while business innovation is defined as the application of creativity to develop better products and services for economic gains and profits (Arteche, Welsh, Santucci, Castro, and Zambrano, 2017). The proponents of social innovation are seen from various perspectives. First, those few individuals that have made personal sacrifices to organise others in formal and informal organisations with the objective of creating significant social change. Second, those that carried out social innovation projects that led to social change. Social change in both cases refers to efforts such as creation of cooperative industrial efforts, where communities worked together to build local economies, and the creation of social campaigns to aid communities devastated by wars and natural disasters. The term 'social innovation' is applied to societal transformation through the creation of new products, services, management, social entrepreneurship, government and human capital development (Krlev, Anheier, and Mildemberger, 2018). Accordingly, The Young Foundation defined social innovations as: "new products, services, models, markets, processes, etc. that simultaneously meet a social need more effectively than existing solutions and lead to new or improved capabilities and relationships and/or better use of assets and resources" (Krlev, Anheier, and Mildemberger, 2018, pg. 5). Hence, social innovations are both good for society and enhance society's capacity to act.

Social innovation has been described as the development and application of new ideas that create opportunities for improving relations among people in places or situations that have been neglected, especially in cases where neglect is a result of economic, political, social and cultural events or processes. Social innovation is about trying to fulfil social needs such as addressing shortages in access to education, health care and safety. Hence, if a for-profit organisation addresses these social needs their effect will be considered as social innovation as long as addressing these social shortages is not aimed at making profits for the organisation (Marques, Morgan, and Richardson, 2018). While social innovation is usually defined within the context of the provision of education, migration and health, there are other human needs that fall outside these contexts which would also be classified as social innovation. In addition, social innovation is seen as an instrument that is applied to solve social problems through the creation and application of creative and beneficial ideas (Sengupta, 2018). However, other authors have cautioned against this definition of social innovation, stating that responding to a social problem is not always social innovation and business organisation could also contribute to social innovation with altruistic intentions (Slater and Demangeot, 2018). Hence, social innovation is not just the process of developing new ideas but includes the application of the new ideas and recording of the outcome of the social innovation effort (Ghafar, 2017).

2.2 Measuring Social Innovation

To determine if the social innovation activities are fulfilling their intended objectives, it is essential to be able to measure the impact or the outcome of social innovation. There have been multiple studies on the development of approaches and matrices to measure social innovation. One such approach was the Social Added Value Evaluation (SAVE) designed to measure the outcome of the work done by non-profit organisations (NPOs) providing social and health services. The SAVE approach was to identify NPOs working with families, disabled people, mental illness, elderly people, physically impaired individuals, and then carry out an in-depth sociological analysis. In this case, SAVE involved investigation of the NPO activities by applying the case study model of social and organisational inquiry. The SAVE approach evaluated the NPOs contribution to three main areas: i) economic empowerment of the beneficiaries of the social innovation projects; ii) the social involvement of volunteers, workers and clients; and iii) the benefit to the local community i.e. how well the social activities have improved the overall wellbeing of the community (Franz et al., 2012). The SAVE approach is purely qualitative and not completely structured as it does not state clear criteria for analysing and measuring output of social innovation.

Measuring the outcome of social innovation cannot be compared to measuring economic or technological innovation. The outcome of social innovation is social development, which is difficult to measure. The growth of an NPO could be considered as a good achievement; however, to others it may seem as a negative achievement. The field of social sciences is difficult to measure because of various points of views and perspectives (Alfaqueeh, Hossan, and Slade, 2019). However, there are several existing methods of measuring social value. These include the stated preference method, which assesses altruistic contributions for the benefit of others, leaving something for the future, and satisfaction to provide for others (Ghafar, 2017). Another social output measures are the Quality Adjusted Life Year (QALY) and Disability Adjusted Life Year (DALY), which are used for assessing the cost and outcome of investing in health policies and clinical projects (Augustovski, Colantonio, Galante, Bardach, Caporale, Zarate, and Kind, 2018). The Social Impact Assessment (SIA) and the Social Return of Investment (SROI) have both been widely used in measuring social impact (Willis, Semple, and de Waal, 2018). However, although the definitions of social contributions might have overlapping features with social innovation, ideally social innovation should be assessed

using matrices that fully align with key aspects of the social innovation approach, such as the newness of the approach. The European Commissions' project on social innovation, TEPsIE, created detailed matrices for measuring social innovation. The TEPsIE approach indicates that to measure social innovation, the term must first be defined appropriately and in detail, and only then can the construct be properly identified and measured accurately. Applying the TEPsIE definition, social innovation must include: new ideas, above the knowledge or practice of what is currently in use; aim at fulfilling social needs; enhancement of society's involvement in developing resources and taking action; be sector neutral and not limited to either the private or public sectors. Finally, social innovation is not limited to a specific level; focus can be on individual, informal groups, a single organisation or a network of organisations (Lehtimäki et al., 2018). The TEPsIE approach fits adequately into the case study of the Zaatari refugee camp, Jordan.

3. Research Method

3.1 Overview of Methodological Approach

This study was a qualitative study involving analysis of documents and research papers. Document analysis was undertaken to gain greater insight into social innovation and to carry out an assessment of social innovation outcomes in the Zaatari refugee camp. Document analysis included public records, which are the official records, periodic reports and official manuals of humanitarian organisations, international governmental agencies for managing refugees and the Syrian crises, and United Nations records relating to Syrian refugees generally and refugees in the Zaatari refugee camp specifically (Bowen, 2009; O'Leary, 2014). Analysis of research papers entailed detailed and critical analysis of research carried out on the Zaatari camp between 2012 and early 2019. The analysis of these research outputs was to identify and classify research on the Zaatari refugee camp that related to topics that can be classified as social innovation. Hence, the study analysed public documents and research papers with the aim of coagulating the results of the analysis from these two perspectives. The rationale was to seek corroboration and convergence to provide confluence of evidence which in-turn breeds credibility of the study (Bowen, 2009; O'Leary, 2014). The output of both the public documents and research papers were analysed against the definition of social innovation adopted by this study. The results of the document analysis were also mapped against the TEPsIE model for measuring social innovation. Finally, since the case study is of a Zaatari refugee camp, the analysis, results and findings were studied from a micro societal point of view. To ensure the reliability of the results, the study went through the following process. - First, the creation of a list of texts to investigate, for example, the context of the documents to ensure that they were directly related to the Zaatari refugee camp. Second, the study considered the ease with which texts could be accessed considering language barriers and cultural barriers. The researchers involved in the study included those from the Syrian-Jordan region who were fluent in English, Arabic (standard, Syrian and Jordanian dialects). This resolved the language and cultural barriers. The study was familiar with the data and information required as an input into the document analysis process as well as for comparing against the TEPsIE definition and model for measuring social innovation. Finally, the study considered ethical issues that may arise from the analysis of both public documents and research papers on the Zaatari refugee camp.

The chosen methodology for the analysis of social innovation in the Zaatari refugee camp was based on the accepted social innovation process or lifecycle. The idea was that the measure of social innovation is in line with the process of social innovation. Social innovation has been known to go through six stages: i) the existence of a social need; ii) generation of ideas to meet that need; iii) prototyping of ideas; iv) sustaining a prospective prototype; v) scaling for accuracy of the prototype, and vi) systematic change which is the output of the social innovation process (Murray, Caulier-Grice, and Mulgan, 2010, pg12).

The measuring approach adopted by this study is aligned with the TEPsIE framework for defining and measuring social innovation. Hence, this study analysed the social innovation process in the Zaatari camp by applying the three levels used by Bund, Gerhard, Hoelscher, and Mildener (2015) in their research on measuring social innovation and the application of the metrics to European migrants: The three levels are the input framework that relates to invention and generation of ideas, throughput activities related to development and sustaining of an innovative idea, and output performance relating to market penetration, scaling and systematic change. Hence, the information derived from the document analysis was compared with the TEPsIE framework using the understated framework for analysis, findings and discussion (Table 1).

Table 1. Blueprint for social innovation indicators

Level	Framework		Conditions	Entrepreneurial Activities	Societal Output/ Outcome	
Sublevel	Resources Framework	Institutional Framework	Political Framework	Societal Climate Framework	Education Health/Care Employment Housing Societal capital Political Participation Environment	
Dimensions and Exemplary Variables	<ul style="list-style-type: none"> - <i>Financial Resources</i> (e.g. public social expenditure as percentage of GDP) - <i>Human resources</i> (e.g. number of volunteers) - <i>Infrastructural resources</i> (e.g.e-readiness) 	<ul style="list-style-type: none"> - <i>Normative institutions</i> (e.g. solidarity) - <i>Regulative institutions</i> (e.g. legislative background for starting a social organisation) - <i>Cultural cognitive institutions</i> (e.g. human rights) 	<ul style="list-style-type: none"> - <i>Policy awareness about social innovation</i> (e.g. national innovation strategies) - <i>Political environment</i> (e.g. corruption perception) 	<ul style="list-style-type: none"> - <i>Social needs/ demands</i> as reference points for social innovation (e.g. requests to the EU Parliament) - <i>Social engagement/ attitudes</i> (e.g. membership in humanitarian organisations) 	<ul style="list-style-type: none"> - <i>Examples:</i> Expenditure in Innovation by social Economy - Start-ups offirms dedicated to social purposes - Environment to start a company 	<ul style="list-style-type: none"> - <i>Examples:</i> Equal opportunities of health facilities - Earnings - Social cohesion - Preservation of natural capital

(Bund et al., 2013, pg57)

Each of the three levels are analysed using the sub-levels, while considering possible dimensions in social innovation. Hence, the data gathered from the document and research analysis was mapped to the blueprint for social innovation indicators to determine if the projects and efforts of humanitarian organisations in the Zaatari refugee camp can be defined as social innovation, what stage in the social innovation lifecycle the projects are, and the assessment of the social output or outcome.

3.2 Case Study Research on the Zaatari Refugee Camp

The Zaatari refugee camp has become the symbol of displaced Syrians from the on-going political and military unrest in Syria since 2011. The Zaatari camp is the largest refugee camp of Syrians displaced by the conflict, and sits in the Jordanian desert 15 Km from Syria and 35 Km from the official Syrian-Jordan border crossing. The Zaatari camp is located in a desert zone that has extremely hot climatic conditions and extreme weather changes between winters and summers. The Zaatari camp started in 2012 as a make shift camp where a few residents were living in tents; between 2012 and 2018, the camp population grew drastically and the official estimated population stated by the United Nations High Commissioner for Refugees (UNCHR) in July 2013 was 200,000. However, the current estimate as at January 2019 is given as 78,000 residents. Hence, the Zaatari camp is considered to be one of largest cities in Jordan (Ledwith, 2014). The camp experiences approximately 320 child births monthly, over 21,000 children are enrolled in schools within the camp, 31 per cent of refugees in the camp between the ages of 18 and 59 have work permits issued by the Jordanian government (UNHCR, 2018). The population are estimates, so they do not account for unregistered residents and residents that leave or join the camp regularly (UNHCR, 2019). The Zaatari camp has annual operational costs of \$500,000 US dollars a day for the provision of food and portable water only. However, this cost only meets the needs of approximately 54 per cent of the residents in the camp.

As at July 2018, there were four Jordanian government agencies involved in providing social services within the camp and major humanitarian organisations partnering with UNHCR. In addition, there were 41 humanitarian organisations partnering with UNHCR. The primary activities and social services provided by these humanitarian organisations and the UNHCR include protection, which includes protecting children from harm and exploitation, protection from violence and abuse, protection of the dignity of all residents and the provision of security. The humanitarian organisations provide education in both formal and informal settings, from kindergarten, elementary

education to high school education. The education projects manage the building and expansion of classrooms, the provision of teaching and learning materials as well as provision of teacher training to refugees to become teachers and teach within the camp (Jabbar and Zaza, 2014). The humanitarian organisations are involved in the provision of healthcare services, intervention, training residents, provision of primary and tertiary healthcare, the integration of health information systems, the provision of health quality control mechanisms. Other social services provided by these humanitarian organisations include the provision of clean drinking water and proper sanitation, community empowerment and self-reliance, and access to electrical energy. As at July 2018, the average home in the camp had between 8 and 14 hours of electricity per day (UNHCR, 2018). In addition to the social services provided by humanitarian organisations, there are multiple community based services existing within the camp that provide similar protection, education, health, water, entrepreneurship empowerment and energy within the camp. Most of these self-help community efforts within the camp were informal and were not recorded within the UNHCR formal records. In applying the TESPIE definition of social innovation, the study investigated which of the social services provided at the camp could be classified as social innovation and then assessed the impact of these social innovation projects.

4. Results

4.1 Analysis of Support Documents on Zaatari Camp

The table below provides a summary of the documents that were analysed to find out about the state of social innovation in the Zaatari refugee camp. The social projects listed in Table 2 fulfil the requirements of the definition of social innovation accepted by this study. Social innovation comprises of social projects that are new ideas that are more effective than existing ideas and result in improved outcomes and capabilities (Bund et al., 2015, 2013).

Table 2. List of social projects

<i>Research Paper / Organisational Document</i>			<i>Social Innovation Indicators</i>	
<i>Authors / Organisation</i>	<i>Topic</i>	<i>Social Project</i>	<i>Level</i>	<i>Sub-Level</i>
Ledwith (2014)	Zaatari: The instant city	City Planning Built environment Legal system Infrastructure Health, Crime	Framework conditions	
ACTED	Job Fair	To apply for work permits and seek employment Access to employment	Framework conditions	Human resource framework
ACTED	Waste water network and Sanitation	Connection of disposal pipes and waste water network across the camp	Societal Output / Outcome	Housing
Lauren Parater, UN Innovation Service, 2016	10 refugees who will change your perception of entrepreneurship	Entrepreneurship development	Entrepreneurial activities	Investment start-ups
International Labour Organization (ILO, 2015)	Work permits for Syrian refugees in Jordan	Provision of work permits for refugees	Framework conditions	Political framework
UNHCR, 2018	Fact Sheet on Zaatari Refugee Camp, Jordan	Humanitarian partners	Resource framework	Human resource development

4.2 Analysis of Research Papers on Zaatari Camp (Table 3)

Table 3.

Research Paper / Organisational Document			Social Innovation Indicators	
Authors	Topic	Social Project	Level	Sub-Level
Jabbar and Zaza, 2014	Impact of conflict in Syria on Syrian children at the Zaatari refugee camp in Jordan	Healthcare; depression and anxiety among children	Societal Output / Outcome	Health
Saidan, Drais and Al-Manaseer, 2017	Solid waste composition analysis and recycling evaluation: Zaatari Syrian Refugees Camp, Jordan	Waste Management Waste and composition Waste Collection, sampling, and sorting	Societal Output / Outcome	Housing
Hornez et al, 2015	Surgical management of Syria's war casualties: experience from a French surgical team deployed in the Zaatari refugee camp	Military based Trauma surgery in refugee camp	Societal Output / Outcome	Health
Brian Tomaszewski, 2018	I teach refugees to map their world: A scene from Zaatari refugee camp, Jordan.	Mapping Zaatari Refugee Camp	Societal Output / Outcome	Housing
Brian Tomaszewski, 2018	I teach refugees to map their world: A scene from Zaatari camp	Teaching Geographic Information Systems and mapping to refugees	Resource framework	Human resource development
Jabbar and Zaza, 2016	Evaluating a vocational training programme for women refugees at the Zaatari camp in Jordan	Vocational training of refugees	Resource framework	Human resource development

4.3 Blueprint of Social Innovation Indicators (Table 4)

Table 4.

Level	Framework Condition			Entrepreneurial activity	Social Output / Outcome
Sublevel	Resource Framework	Political Framework	Social climate framework	Investment Start-ups collaborations	Education Health/Care Employment Housing Societal capital Political Participation Environment
Dimensions and Exemplary Variables	Human resource development; 41 humanitarian organisations, skills development, vocational training, career development	Political structure for camp management, Jordanian government issuance of work permits	Housing, geographic mapping, health, education, security, sanitation and the general management of the camp	Three thousand informal shops and businesses within the camp that generate USD 13 million a month as income	Improved access to education, healthcare treatment, security, employed refugees, increased independence

The blueprint of social innovation indicators (Table 4) provides a summary of the output of analysis on existing papers on social projects within the Zaatari refugee camp. This indicates that the institutional framework is not included, but the resource, political, social climate frameworks are included, as well as entrepreneurial activities. The social outputs include health, housing and human resource development.

5. Discussion

The results of the qualitative analysis of official documents and research relating to social projects in the Zaatari refugee camp revealed four groups of determinants relevant for social innovation in the camp: resource framework, political framework, social framework (health and housing), and entrepreneurial activities. These determinants define the social innovation process considering that each group of determinants is a new idea, an improvement of existing ideas and results in outputs that are socially benefitting. Hence, based on the literature review, the document analysis and a modification to the TEPSIE framework, this study proposes a framework for assessing social innovation in refugee camps.

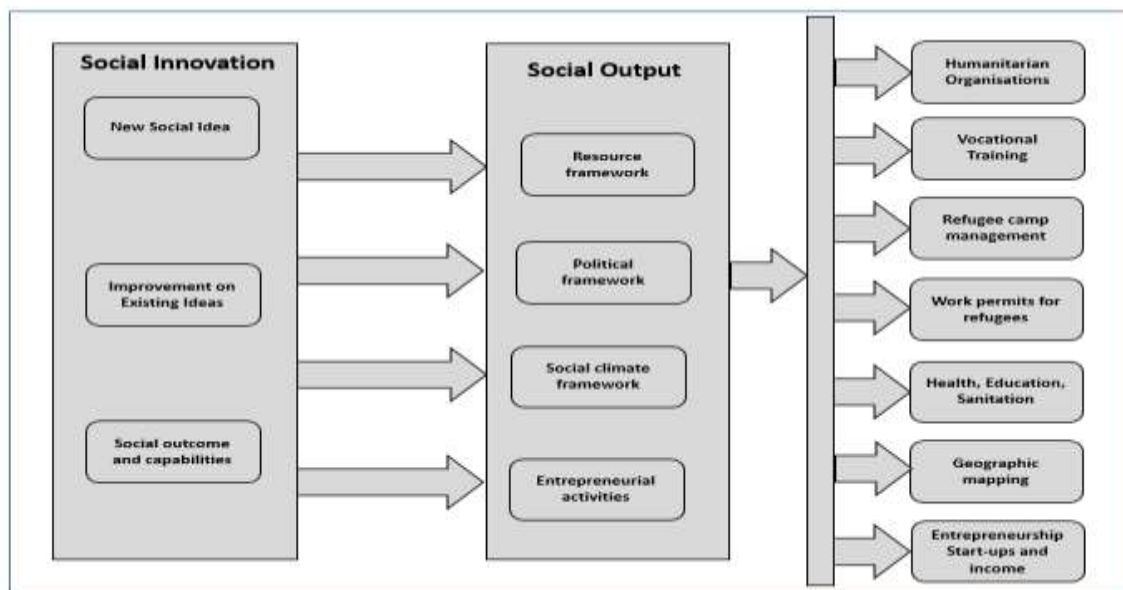


Figure 1. The conceptual framework

5.1 Resource Framework

The Syrian war has crippled the states' ability to build human capital among the Syrians (Deane, 2016). The existence of refugee camps creates a static environment for human resource development. Refugee camps are generally known to house people that have left their home countries or cities and live in physically and emotionally difficult situations. The UNHCR has 41 humanitarian partner organisations which have existing projects for training refugees in economic skills, from crafts training, teacher training, environmental and entrepreneurship training (UNHCR, 2018). The application of internationalised training for human resource development is essential for the economic survival of the residents in the camp and to keep residents engaged (Yesufu, 2018). The training services help to build self-confidence and perceptions of mutual trust and respect between the residents of the camp and the managers of the camp (Yesufu, 2016). Socially innovative human training in the camp has included vocational training in computer skills, English language, sculpture and drawing, tailoring, calligraphy and hairdressing (Jabbar and Zaza, 2016). Training of refugees has also included skills training in geographic information systems (GIS) for city mapping; this training was delivered to improve skills development in the professional field of GIS as well training for both camp managers and residents on mapping and updating the geographic maps of the Zaatari refugee camp (Tomaszewski, 2018). In addition, within the camp humanitarian organisations as well as the UNHCR provide education for students from the age of nursery school to high school. Hence, humanitarian organisations also provide teacher training services to residents to encourage their involvement in teaching and training among the refugees. The multiple approach to skills and knowledge capital development among the residents of the camp qualify as social innovation projects because the approach to delivering comprehensive resource development training is relatively new in refugee camps and this training has largely empowered the populace economically (Deane, 2016).

5.2 Political Framework

The UNHCR has reported that the Zaatari camp receives only 54 per cent of the funding required to support the refugees living in the camp. To reduce refugees' dependence on support from the United Nations and the Jordanian government, the Jordanian Ministry of Labour Syrian Refugee Unit (MLSRU) has been issuing work permits to Syrian refugees living in Jordan (ILO, 2015). The MLSRU issued over 187,000 work permits between January 2016 and January 2018 although, 31 per cent of refugees in the Zaatari camp between the ages of 18 and 59 had received work permits from the Jordanian government (UNHCR, 2018). One of the main frameworks to measure social innovation output is the ability for the social need to influence political processes and get governments involved in the fulfilment of social needs. In addition, there must be political awareness of the social innovation and outcomes of social innovation (Bund et al., 2015, 2013). The involvement of the International Labour Organisation (ILO) in influencing and supporting the Jordanian government in providing work permits for refugees has been effective in economically empowering refugees in the Zaatari refugee camp (ILO, 2015). In addition to the political support received from the Jordanian government, the UNHCR managers of the camp have been able to manage the creation of a city like structure within the refugee camp. The Zaatari camp has become one of the largest cities in Jordan and its management includes geographic planning and development activities, a continuously built environment, the establishment of a legal system using UNHCR regulations, the establishment of a social structure including schools, hospitals and social services. The camp also manages internal and external security threats among refugees and threats from outside the camp. The Zaatari camp has become a functional city which the study classifies as social innovation. The continuous management of the political framework of the camp will support social innovation (Ledwith, 2014).

5.3 Social Climate Framework-Housing

The most significant determinant of social innovation is the social needs and output. The existence of a social need is the input of the social innovation process (Bund et al., 2015; Ghafar, 2017). The primary social needs identified and documented in the Zaatari refugee camp are housing, safety, education, healthcare and safe sanitary conditions. As much as all these are fundamental to the existence and continuity of the camp, the social projects in the camp that fulfil the definition and structure of social innovation are projects relating to healthcare and housing. The Zaatari refugee camp has had a resident population of between 80,000 and 120,000 within the last three years of the camp's six years of existence (UNHCR, 2019). Hence, housing and sanitation has been a fundamental need of the camp. The geographic mapping of the camp has been a fundamental challenge in providing health, education, security, sanitation and the general management of the camp. As at March 2018, the camp had been geographically mapped 25 times using geographic satellite imagery (UNITAR, 2018). The camp sits across 5.2 km² and the housing units are regularly moved and additional units added. Hence, planning and mapping are extremely challenging tasks. The mapping of the camp has included the use of geographic information systems (GIS) to map the camp using input

from the satellite imagery and providing training to camp managers and residents. Thereby enabling camp managers to update the mapping and enlighten residents on the effect of moving housing units without the knowledge of the camp managers (Tomaszewski, 2018). This geographic mapping and training contributes to both social innovation in housing and human resource development as camp managers and residents benefit through building knowledge and skills. As at March 2017, 979 septic tanks had been installed and connected across the camp to toilet and showers in 6,400 housing units across the camp (ACTED, 2017). Sanitation and water waste networks have been installed in the past in refugee camps around the world; however, such large scale installation has never been previously executed in any refugee camp. Solid waste management composition and analysis have been done in Zaatari which have enable the disposal of waste to be correctly diverted to the correct types of sewage containers (Saidan, Drais, and Al-Manaseer, 2017). The large size and population of the camp make recycling and waste analysis a novel idea in refugee camp management. The output of these projects were qualitative and hence can only be qualitatively analysed. Considering that the projects have resulted in large scale benefits and significantly increased the health and living conditions of over 80,000 residents, the waste management and sewage disposal projects are considered to be innovative projects.

5.4 Social Climate Framework-Healthcare

The Zaatari refugee camp houses over 80,000 residents in metal containers in the dessert, the camp is 5.2 km² in size and has a population density of 24,212/ km². Youths under the age of 18 make up 56 per cent of the population (UNHCR, 2018). Considering that Syrian refugees in the camp came directly from a war-torn country, there are many cases of refugees with significant war injuries. In 2013, the French government deployed a military surgical team to the Zaatari refugee camp with the objective to treat all war injuries suffered by both civilians and members of the Free Syrian Army and allied military groups fighting against the Syrian regime. The deployment of military surgical personnel to a refugee camp has been a new idea and a new approach to providing medical services in refugee camps. In the first quarter of 2013, 95 patients went through surgical treatment. The surgical team reported that penetrating trauma accounted for 95 per cent of lesions and 105 surgeries were carried out including 33 external fixators, eight laparotomies, eight nerve repairs, six cover flaps, four direct arterial repairs, two reversed saphenous vein bypass grafts, and one amputation. The average length of stay in the military ward was approximately four days and 43 per cent of patients were transferred to Jordanian civilian hospitals after treatment by the French military (Hornez et al., 2015). The deployment of military war-like surgical teams to the Zaatari refugee camp was an innovative idea in refugee camp health management. The outcome has been tremendously positive as patients have benefited greatly from quality medical treatment for war injuries.

5.5 Entrepreneurship

Managing the financial need of refugees in the Zaatari camp has been an overwhelming challenge for UNHCR and the Jordanian government. UNHCR receives funding from member states of the United Nations. However, there has been a shortfall as these contributions account for only 54 per cent of the expenses at the camp. UNHCR provides food to families, medicine, sanitation, water and several other services (UNHCR, 2018, 2019). The residents of the Zaatari camp have started and maintained multiple small businesses within the camp. Entrepreneurship has become the life source of income for many residents. The UN estimates that there are approximately 3,000 informal shops and businesses within the camp that generate USD 13 million a month as income (Enterprise, 2018). Many of these business ventures have expanded their products and services beyond the camp and are able to serve the needs of markets in other Jordanian cities. Business ventures in the camp include food centres, bakeries, bicycle repairs and upgrades, children's books and toy shops, innovative transportation services (Parater, 2016). In addition to development of entrepreneurship in the camp, humanitarian organisations have carried out job fairs to showcase the professional and technical skills of residents in the camp and to map residents with potential employers within and outside the Zaatari refugee camp (ACTED, 2017). The creation of business enterprises has previously existed within refugee camps in other countries; however, the large scale entrepreneurship activities that exist within the camp are unprecedented. This boost in economic activities has provided the much needed income for many families as these enterprises provide income for employees and family members alike. Hence, the outcome of job fairs, creation of work opportunities, provision of work permits for refugees and entrepreneurship development have provided a social outcome and capability for refugees living in the Zaatari camp.

6. Conclusion

6.1 Limitations of the Research

This study found that there was no single source on the demographics of the residents in the Zaatari camp, on the number of organizations and their activities. While this study used UNHCR data for this analysis there are other

sources of data, such the Jordanian government and the 41 humanitarian organisations operating within the camp, that indicate that UNHCR data is not accurate. Data relating to the number of enterprises within the camp, their levels of profitability, income and ownership were difficult to ascertain. In addition, this study found that qualitative and conceptual studies have limitations to grasp fully the issues that need to be investigated. Hence, empirical research needs to be conducted within the same scope of this study as well as a range of scopes relating to quantitative measures of social innovation.

6.2 Directions for Future Research

This study combined two related constructs: social innovation and the administration of refugees in a camp environment. Existing research has studied social innovation. However, there is limited research on social innovation in the context of refugees. This study defines social innovation contextually and addresses whether certain knowledge can be classified as social innovation. The results would indicate that social innovation projects do exist within the human resource development, political influence, social and entrepreneurial frameworks. Hence, in contributing to the theory on social innovation, this conceptual study opens opportunities for further studies and research on the concept of social innovation and its relationship to social entrepreneurship. Social innovation improves the quality of life within environments like refugee camps, rural and local communities. Social innovation creates political awareness, empowers people economically and socially and encourages entrepreneurship and innovation in environments that experience shortfalls in financial and human resources. Future research should focus on the development of quantitative approaches to measuring and analysing social innovation.

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