

possible. Also, inclusiveness in case study 1 enabled coping ability, flexibility and persistence and led to overall TMO time saving and increase innovations during the disruptions. The impact of less-inclusiveness in case study 2 during disruption management led to delay even whilst being proactive and reduction in quality whilst coping with the disruptions. Also, the less inclusiveness in case study 2 led to a delay in signing the contract even when being flexible and cost and time increase whilst being persistence.

The reason for less-inclusiveness in case study 2 was due to a directive management approach employed within the TMO. The client within the TMO was labelled as an intelligent client and therefore hardly listened to the rest of the team and focused little on supporting, valuing and respecting the TMO. The main focus was to complete the works with members of the TMOs carrying out their respective roles as per the contract. Furthermore, the client highlighted the insufficiency of time allowed for the works therefore required the team to be hands on without taking time out to ensure value, support and respect. It was also observed that, more new members were employed in case study 2 as compared to case study 1. This was not as a result of lack of expertise as the reason for personnel change in case study 1 but is as a result of less value, support and respect experienced whilst managing disruptions. In hindsight, despite case study 2 ruling out inclusiveness to save time, it rather delayed managing disruption, increased cost and led to less innovation.

6.0 DISCUSSION OF FINDINGS

From the findings, a positive relationship between inclusiveness and resilience in TMOs is identified. Also, the findings show that the impact of inclusiveness on resilience in permanent organizations largely differs from TMOs. From Figure 1, impact of inclusiveness comprized situational awareness, innovation and business continuity. However, from the findings, the impact of inclusiveness on resilience in TMOs comprizes innovations, time and cost savings and quality enhancement. These were deduced from the impact of inclusiveness identified from case study 1 (as presented in Table 1). For instance, time and cost savings were identified from the following impact of inclusiveness on resilience; (a) clarity, trust, coordination, unveil hidden traits required to manage critical incident, (b) enabling endurance by the overall team to ensure readiness and reduction, (c) motivating to promote innovation and ensure response, (d) promoting experience sharing to ensure readiness and reduction, (e) promoting continual monitoring to identify disruptions in order to ensure readiness and reduction. Innovation was identified from the following impact of inclusiveness on resilience; (a) motivating to promote innovation and ensure response and (b) adopting alternative unplanned innovative solutions whilst maintaining quality requirement to ensure response whilst quality enhancement was identified from the following impact of inclusiveness on resilience; (a) promoting

tolerance and adjusting to ensure response and vulnerability reduction whilst maintaining quality requirement and (b) adopting alternative unplanned innovative solutions whilst maintaining quality requirement to ensure response impacts.

These are presented in Figure 2 (an updated version of Figure 1). The common impact to organizational and TMO resilience however, is innovation. Inclusiveness impacts innovation in organizational resilience through the support in training (Yilmaz et al. 2015) it provides for the organizational members whereas inclusiveness impacts innovations in TMO through motivation and experience sharing.

The time and cost savings and quality enhancement identified within TMOs can be related to business continuity in permanent organizations however, their impacts differ. For instance, organizational resilience captures business continuity as the capability of the organization to continue delivery of products or services at acceptable predefined levels following a disruptive incident (ISO 22301:2012: Braes and Brook 2010). Hence, focussing on direct impact and the long-term benefits, whereas cost and time savings and quality enhancement aim to address the short-term benefits within TMOs given their spans but has indirect impact and the potential to ensure business continuity with the TMO client.

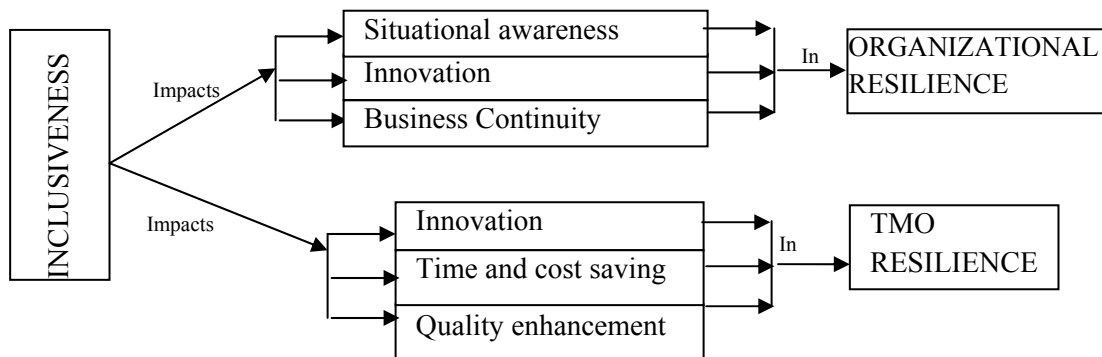


Figure 2. Developed framework for the impact of inclusiveness on resilience

7.0 CONCLUSION

Inclusiveness has been identified to positively impact resilience in TMO. The specific impacts such as innovation, time and cost saving and quality enhancement are identified. This clearly reveals the different impact it has on TMO to organizational resilience. The identified impact shows the importance and the need for TMOs to take time out to promote inclusiveness given the main challenge being time limitations. It has been identified that the benefits of promoting inclusiveness in TMO supersedes the extra time spent on it within construction.

Theoretically, this research reveals the exact consequence of inclusiveness on resilience and the synergy between them. Practically, this research creates the awareness on the need for TMOs to promote and ensure inclusiveness especially during disruption management.

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Introducing Community Resiliency through Corporate Social Responsibility

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Abstract

Developing countries usually seek external aid as these countries usually struggle to solve their challenges from within and through their own resources. One solution that their governments could adopt is endorsing successful business models to develop educational and security initiatives within the jurisdiction of their own neighborhoods. This will lead to measurable increases in literacy, employment and quality of life. This paper provides corporate social responsibility (CSR) initiatives within a real estate development (RSD) corporation in Egypt that focuses on two dimensions, first the development of an educational pedagogy that helps curbing illiteracy levels, and second, an effort to develop an infrastructure system in deprived districts. The study was based on interviewing 150 construction professionals and 300 deprived families. Implementing an adaptive management approach to this resilient initiative resulted in 6% increase in literacy and reduction in illiteracy rates within families through offering education to underprivileged classes, 4% growth in employment by increasing the number of employment opportunities within the construction industry, 10% improvement in the infrastructure within the province of the RSD, by either extending/connecting sewage, water or electrical lines, and 28% reduction in crime rate, by bridging social gaps within the Egyptian society. The outcomes suggest that CSR initiatives driven by RSD are a proof of concept that yields to resiliency in the social and economic sustainability especially in the third world countries, which are plagued with underprivileged communities.

INTRODUCTION

Scientists, researchers, and even politicians, are often primarily concerned with the impact of climate change on our future, which has brought to the forefront the issue of sustainability. Each party perceives sustainability differently. Scientists and researchers are aware of the criticality and complexity of sustainability, while on the other hand, many continue to believe that it is merely “being green”. Sustainability could be perceived in terms of the triple bottom line, which is and embodiment of the social, economic and environmental (Elkington, 1994). There are two interpretations to conceptualize the integration of the triple bottom line pillars. Firstly, balancing and connecting between all three segments with an interlocking

figure, and secondly compartmentalizing by perceiving them into a concentric figure, where each pillar requires the presence of the other to properly function. Chapin et al. (2010) indicated that the environmental segment reflects sustainability, which in turn represents the ability of an ecosystem analogy to sustain an ecological process. To that end sustainability involves both an economic and social dimensions. Therefore in order to effectively measure sustainability, scholars are pressed with a need to evaluate the impact of these two pillars, economic and social, when effectively measuring sustainability (Dylick and Hockerts, 2002). This initiative innovatively evaluates the impact of the economic and social dimensions to achieve a resilient community. The objective is to provide a proof of concept that construction corporations in developing countries can embrace CSR to serve its sustainable initiatives through its social and economical dimensions and not only its environmental. To understand the applicability of this objective, the study utilized interviews with suppliers, constructors, engineers, project managers, consultants, owners and customers to understand the importance of CSR within construction through defining several indicators that steer its sustainable approach. Afterwards the research team conducted approximately 300 interviews with families of deprived areas to gather information about CSR in their neighbourhoods.

Unfortunately for the majority of Egyptians, the term sustainability does not exist in the local dialect, mainly due to the fact that the illiteracy rate in Egypt, according to the CIA, is one of the top ten in the world (The World Factbook-CIA). It is, however, worth noting that education in the 21st century is not perceived as an objective for a select few, but rather, it is viewed as a pillar of success that forms the primary backbone of the local economy, especially critical in a rapidly changing world. There is no doubt that the Egyptian economy is reliant on its corporations (Samaha et al. 2012), while on the other hand, Egypt continues to underwrite the stability of these corporations. Consequently, Egyptian corporations may service their economy by implementing CSR initiatives. Although CSR is not regarded as a breathtaking approach in developing countries, yet in these nations it might be the catalyst needed, with proposed initiatives that serve the community by means of reduction in illiteracy rates, providing employment, advocating for social philanthropy, and sustaining security within society. This research adds to the construction body of knowledge by providing a proof of concept that CSR initiatives in construction corporations especially within developing countries yields to resiliency in the social and economic sustainability of such communities.

RESEARCH METHOD - A METRIC FOR MEASURING SUSTAINABILITY

Despite the fact that it may seem that incorporating sustainability within a developing community is impossible, this initiative seeks to provide an existing case study that implements sustainability in the form of a CSR paradigm in Egypt. Since sustainability is a complex issue, the initiative considers some results pertaining to a case study of a RSD that employed CSR in Egypt. This section will firstly define the resiliency initiative means and then explain the case study of implementing a CSR initiative into a RSD Corporation in Egypt, which focuses on education, health and sustainability. Thirdly, provide a comprehensive metric mechanism similar to that developed by Roberts (2012) for the water resource assessment, which is adopted to

evaluate the social science dimension when embracing CSR into RSD. This initiative is an ongoing project that was initiated in 2012, the research team conducted 150 interviews with construction stakeholders and around 300 families within the vicinity of the RSD Company. Figure 1 divides the collected data into two sections, (1) Evaluating the Potential for Employing CSR Within RSD in Egypt and (2) Evaluating the Existence of Incorporating CSR Within RSD in Egypt. Both Sections are assessed, and a cumulative score outcome score is calculated by dividing the two outcomes. There are two parameters, the score that represents the grade of each of the indicators and the weight, which reflects the impact of this indicator. The first section is the projected score, which is the potential rating for each of the indicators, while the second section is the assessment of the existing status. There are various ways that the results could be analyzed, one of which is to analyze these two sections within figure 1, leading to a delta between the projected scores and that of the existing one. Roberts (2012) and Wittink et al. (1982) supported dividing the two-section outcome cumulative results in order to create an understanding on the variance between the projected and actual results and thus realize the impact of imposing the CSR's paradigm.

CSR is not a process to implement, but it is a tool that serves a specific initiative; moreover, the RSD's Corporation thrusts are what advocate the success of an initiative that is holistically demonstrated by CSR (Pomeroy and Dolnicar, 2009). The pressing question at this stage posits how the RSD positioned its initiative, ultimately to serve its goal. The initiative opted several means, which are as follows: (1) Reduction in the illiteracy rate by teaching the community. This encompassed a plan to not only educate adults, but to also provide drawing and gaming lessons for children, (2) Providing employment opportunities mainly through the encouragement of village residents to work in the construction industry, as opposed to farming, (3) Initiating an eco-rural park project within the village that generates income and sustains societal living, (4) Enhancing safety and security measures around RSD real estate, through attempting to eradicate social borders that separate communities, (5) Paving the way to enable RSD Corporation to evolve into a more conscientious corporate citizen, thus optimistically serving as a role model to other Corporations. Other indicators, such as citizen involvement, volunteerism and philanthropy, have also been shown to spread, resulting in the conclusion that such initiatives contribute to an overall increase in quality of life. An overall adaptive management approach was implemented, which yielded to the success of the RSD. This enterprise attempts to explain the specific thrusts and initiatives that serve the community by interweaving between the CSR initiatives and construction practice. This initiative is an ongoing project, where the RSD continues to explore and assess its impact thus these initial results provided are not final, but rather continual.

The research team gathered information from 150 multinational organizations in Egypt to set guidance for realizing the impact of such a paradigm. A grade of 10 is the highest in the field of score, indicating a solid impact that is verified, while the lower scores indicate a less effective impact with less tangible validations. The weight of each of the indicators was provided by interviews where 1 represents a more important impact while 0.1 reflects a less critical impact. The impact weight of each of the indicators was based on a simple linearly decreasing weight factor, thus

the closer the indicator is to 1 it reflects its subsequent importance and effectiveness to impact corporations. Upon retrieving both the score and weight, an outcome measurement could be calculated by multiplying the score and weight (Wittink et al., 1982). The attribute or outcome of each indicator reflects the impact on CSR within the RSD in Egypt. The highest grade is to be 10, if the score of the indicator is 10 and its weight is 1. The sub-results of each of columns 1 & 2 identify the understanding between the potential impact of CSR and its actual performance. The results of these interviews were anonymously compiled into a database to evaluate the potential scores and weights for each of the CSR indicators. Consequently, 80% of the stakeholders agreed that security, employment and education top their grading in both the score and weight; while political impact, environmental and economic implications, feasibility and supply chain management, are deemed insignificant.

Indicator	The impact of CSR on Real Estate Development (RSD)	1. Evaluating the Potential for Employing CSR on RSD in EGY			2. Evaluating the Existence of incorporating CSR on RSD in EGY		
		Score	Weight	Outcome	Score	Weight	Outcome
Environmental Performance	Since the Real Estate is one of the major environmental threats in terms of producing toxic Emissions, degrading natural resources, and damaging the environment	7	0.8	5.6	4	0.4	1.6
Health Indicators	Physical and physiological problems for examples: diseases, being exposed to toxic materials, absenteeism, obesity and any sort of medical condition that risks shortening labor's life expectancy	8	1	8	3	1	3
Safety Practices	Referring to occupational on-site injuries	8	0.9	7.2	7	0.8	5.6
Social Impacts	Security, Community Engagement and providing employment	9	0.8	7.2	2	0.7	1.4
Feasibility/ Supply chain Management	Incorporating CSR within the vision/Mission of corporations that serves the corporation with effective systems to allocate projects, number of labor ship & monitoring performance tools.	7	0.6	4.2	3	0.2	0.6
Sales/Revenues / Branding	How CSR impacts the revenues and sales, in terms of the perception of the public to the branding	8	0.7	5.6	5	0.3	1.5
Education Practices	Providing diverse education to the employees and the public	9	1	9	2	0.9	1.8
Economic Implications	Impact on the country's GDP when CSR serves the economic goal	7	0.6	4.2	7	0.6	4.2
Political Implications	A tool to avoid Corruption/Strikes and Revolutions in addition to serving the political stability of countries	5	0.7	3.5	3	0.1	0.3
Human / Labor Rights	Rights for employees and equal employment rights, providing policies for labor, living wages, working hours and employment basic benefits	8	0.8	6.4	3	0.5	1.5
Sub-Total		60.9			21.5		
		TOTAL (Anticipated impact of CSR Vs. Actual performance)			35%		

Figure 1. Metric Measuring CSR's impact

The results of columns (1) and (2) ideally should be similar if the existing implementation of the CSR matches the potential requirement of CSR within the RSD in Egypt. This difference between the two outcomes/attributes is presented as a percentage between the actual and anticipated performance (Wittink et al., 1982). By comparing the two cumulative outcomes, demonstrate a gap between potential and existing CSR reflecting a lack of CSR initiatives. In this case, the metric reveals a significant gap between required and existing CSR initiative. Therefore, the RSD proposed a CSR initiative to bridge this gap and support the community. The results align with the feedback that the professional construction stakeholders envisioned.

DISCUSSION ABOUT CSR IMPACTS ON THE EGYPTIAN COMMUNITY

There are several examples that illustrate the strategic impact of implementing CSR initiatives within RSD Corporation in Egypt, including: maintaining environmental and health safety, enhancing corporate branding, sustaining brand loyalty, and finally boosting the GDP (Martinuzzi et al. 2011). The complexity of the real estate industry in Egypt makes it vulnerable to the effects of a rapidly - changing world. Various processes impact the RSD industry, such as the economy, politics, other industries, regulations, public perspective and safety/security. Generally a stable economy with established governmental policies will assist in paving the way for a successful project; and on the other hand, if a project is planned in an unstable region, in addition to being a product of a dishonourable corporation's reputation, the project will be a failure (Savitz, 2013). Corporate entities barely have any control over either governmental policies or politics, yet do have full reign in improving the community's perception towards the corporation's brand as well as fostering brand loyalty. Moreover, 73% of the industry's stakeholders confirmed that RSD corporations can successfully impact security measures by reducing crime rate when embracing CSR, since RSDs have the capabilities and tools to sustain a safe environment within their province. To that end, the community remains the real driver of security and safety for any neighbourhood. Similarly, 64% of the 300 interviewed families believe that CSR serves its surrounding district. As a result, underprivileged citizens report their eagerness for RSDs with CSR to expand within their regional vicinities to take advantage of their CSR initiatives. The CSR approach that was conducted by the RSD corporation serves: (1) the community surrounding the development by delivering surplus materials, volunteering man-hours, providing consultation and designs, thus aiding the villages throughout the development to build decent homes, (2) providing education to underprivileged residents by volunteering corporate employees, (3) funnelling the corporation's philanthropy towards the community's specific needs, and finally, (4) facilitating connections with critical infrastructure to the villages. The results confirmed that 87% of existing clients consider the corporation's CSR initiative a bridge that serves the community, thus inspiring brand loyalty.

The RSD clients deem safety as a crucial factor that should be satisfied within RSDs, especially post-revolution where the safety and security of communities were breached (Korany and El-Mahdi, 2012). To this end, how can an RSD corporation ensure safety/security within all types of development? Although the majority of RSD projects in Egypt target a high social class for economic reasons, RSD Corporation should be able to successfully balance projects to ensure social safety within the development. A balanced development project may blend villas, duplexes and lofts, with semi-condensed affordable units. This result not only to balancing of the development's community by diversifying the social standards as a solution to reduce crime and blend social standards (Cole & Goodchild, 2000), but also creating an employment workforce from the community's neighbouring areas as well as paving for a platform that advocates long-term resilient community. Underprivileged citizens neighbouring the RSD projects, consider the development as a source of income thus will seek to protect the RSD and refrain from criminal activities within that specific jurisdiction (Ibrahim et al., 2012). Suzuki et al. (2013) mentioned that

initiating a successful CSR sub-development project, especially mixed-use projects, will enrich the economy by boosting the GDP. Once infrastructure expands to accommodate new developments, the GDP will flourish (ASCE, 2013).

THE CSR'S FORCES, BOUNDARY AND SYSTEM DIAGRAMS

Figure 2, highlights the key complex processes that connect CSR with the RSD market in Egypt, while in Figure 1: there is an existing environment that is represented by six main factors or pillars: the Corporation (in the middle), employees/staff, governance, community, clients, environmental, and the business practice. The boundary diagram sub-divides the aforementioned forces into external and internal factors; these were established based on their impact on the Corporation. The internal forces are criteria that the Corporation can easily regulate and influence, for example, employees and clients. On the other hand, the external factors are those that are uncontrollable by the Corporation, such as governance and business practice. The remaining two forces, community and environmental impacts, reflect a sharing proposition between both the internal and external forces.

This initiative promoted CSR in third world countries, by utilizing the knowledge of industrial ecology system and its associated material flows when implementing CSR initiatives within a RSD in Egypt. Based on the industrial ecology processes the resiliency of the RSD though CSR could be classified into: internal forces, which are factors that are inside the corporation governing the CSR's effect on a Corporation, such as branding, labor right, corporate volunteerism, corporate philanthropy, health indicators, educational practices; or external forces, which are exterior factors influencing the Corporation, for instance human rights, employment policies, community involvement, an industry's environmental performance, social behaviours and economic/governmental implications. The Corporation's CSR initiative focuses on two primary pillars, firstly developing an educational pedagogy to control illiteracy, and secondly sustaining an infrastructure to the deprived districts; these initiatives reduce illiteracy rates within families by educating underprivileged citizens, increase the number of employment opportunities in the construction industry by providing jobs to the villagers, improve the infrastructure within the region of the RSD by either extending/connecting sewage, water or electrical lines, and reduce the number of crime incidents by bridging social gaps within the society.