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# From university social-responsibility to social-innovation strategy for quality accreditation and sustainable competitive advantage during COVID-19 pandemic

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## Abstract

**Purpose** – The purpose of this study is to investigate conceptually and empirically the direct and indirect relationships between university social responsibility (USR), university social innovation strategy (USIS) in terms of social awareness (SA), intention for social innovation (ISI), organisational structure for social innovation (SSI) and innovativeness in social value creation (ISVC) and gaining a sustainable competitive advantage (SCA) at quality-accredited faculties of an emerging market.

**Design/methodology/approach** – A conceptual model was presented and a mixed-methods approach was exploited to fill a research gap detected in strategic corporate social innovation literature. The authors formed a data collection team that contacted all the quality-accredited public and private/international faculties, of which 109 faculties in 11 Egyptian governorates responded and their quality units filled questionnaires that were analysed by structural equation modelling. For comprehensive understanding, qualitative interviews were set to gather data from managers/leaders and teaching staff working at those faculties in quality management and community engagement practices as well as students.

**Findings** – Results demonstrated that USR positively and significantly influenced SCA and USIS. Further, USIS (in terms of ISI, SSI and ISVC) positively and significantly influenced SCA. However, USIS (in terms of SA) had a positive yet insignificant influence on SCA. Indirectly, USIS was found to be partially mediating USR–SCA relationship.

**Practical implications** – University leaders/staff can gain insights on how to adopt differentiation strategies, which enable their institutions to shift from being just socially responsible to becoming socially innovative by presenting solutions to social, economic, cultural, environmental and health-care problems/challenges within their communities in general and during pandemics. This can be sustained through developing innovative quality-based processes/programmes/services related to education, research and community outreach that better serve social needs to be quality-accredited and unique over their rivals.

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**Social implications** – Satisfying social needs through promoting innovative processes/services can reinforce a favourable social change.

**Originality/value** – From a cross-disciplinary perspective, the authors interwove conceptually sparse literature of strategic, operations, knowledge capacity and innovation management that studied university social innovation research area. Also, to the best of the authors' knowledge, this is the first research that examined empirically USR–USIS–SCA relationships of quality-accredited faculties in an emerging economy during Covid-19 pandemic.

**Keywords** Socially responsible operations, Strategic university social innovation, Quality accreditation in higher education, Knowledge capacity, Sustainable competitive advantage, Pandemic

**Paper type** Research paper

## 1. Introduction

Corporate social innovation (CSI) has now been adopted as a *competitive differentiation strategy*, which enables businesses to shift from being just socially responsible to becoming socially innovative by presenting solutions to social, economic, cultural and environmental challenges with their innovative processes/products/services (Dionisio and de Vargas, 2020; Gasparin *et al.*, 2021). Thereby, these institutions through embedding social innovation aspects into their *operations management processes* and *business strategies* will better serve social needs and sustain a unique advantage over their rivals (Dionisio and de Vargas, 2020). In spite of the *remarkably growing yet scattered literature* on strategic social innovation in the field of *production and operations management* as well as *knowledge capacity and innovation management* within the industry, a *lesser attention* has been directed to such attractive research area in the context of higher education (HE) (Mattera and Baena, 2015; Ziegler, 2017; Bayuo *et al.*, 2020; Dionisio and de Vargas, 2020; Repo and Matschoss, 2020). Worldwide, universities are now boosting their contribution to the sustainable development of their nations by playing a vital role in satisfying the social needs through promoting *innovative educational, research and community engagement processes*, which can reinforce a favourable social change, develop their societies and mitigate its problems (Devecchi *et al.*, 2018; Bayuo *et al.*, 2020; Tetrevova *et al.*, 2021). Accordingly, a limited number of scholars (Ramos-Monge *et al.*, 2019; Binsawad, 2020; Tetrevova *et al.*, 2021) reflected on the practical application of corporate social responsibility (CSR) from a HE perspective, thus coining the term university social responsibility (USR). Recently, a fewer number of studies (Belayutham *et al.*, 2019; Bayuo *et al.*, 2020) explored CSI in a university context, hence, developing the concept of university social innovation (USI). However, most of USR/USI research adopted only *conceptual*, *qualitative* or *case-study approach* (El-Hadidi and Kirby, 2015, 2016; McKelvey and Zaring, 2018) without further investigation via *empirical* or *quantitative/mixed-methods* studies. Besides, scholars from the field of economics, education and environmental studies were more interested in the CSI/USI research area rather than the *business and management* researchers (Foroudi *et al.*, 2020). In addition, only scant research attention was paid to their execution in developing/emerging markets (Binsawad, 2020; El-Bassiouny *et al.*, 2020). Therefore, from a cross-disciplinary perspective, the authors interwove conceptually sparse literature of strategic, operations, knowledge capacity and innovation management that studied university social innovation research area. For bridging this research gap, this study examined empirically USR–USIS (USI strategy)–SCA (sustainable competitive advantage) relationships of quality-accredited faculties in an emerging economy during *Covid-19 pandemic*. At this challenging time, universities formulated *innovative competitive and functional strategies* to alleviate the negative impact of this threat on the society (DeVaney *et al.*, 2020; Tetrevova *et al.*, 2021). This article

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investigated conceptually and empirically the direct and indirect relationships between USR, university social innovation strategy (USIS) – in terms of social awareness (SA), intention for social innovation (ISI), organisational structure for social innovation (SSI) and innovativeness in social value creation (ISVC) – and gaining a SCA at quality-accredited faculties of the Egyptian emerging market.

Universities in Egypt, similar to their counterparts across the globe, are becoming engrossed and involved with their local communities more than they used to be in the past and are also taking a leading role towards that end which has been quite evident in their current practices, especially when dealing with the pertinent issue of the *Covid-19 pandemic* (Adedoyin and Soykan, 2020; Mohammad *et al.*, 2020). As such, USR initiatives have paved the way towards earning quality accreditations and being able to implement fully fledged USI strategies (National Authority for Quality Assurance and Accreditation of Education, 2015, 2017; Bayuo *et al.*, 2020; Dionisio and de Vargas, 2020). Such initiatives can be classified as pertaining to different practices geared towards community service and support (Göransson, 2017; Lo *et al.*, 2017). Amongst the most popular USI strategies that are currently implemented in Egypt and other countries would be the ones related to dealing with *Covid-19 pandemic* whether be it related to thinking of both innovative and creative processes by which teaching and research can take place safely during such challenging times (Ali and Gatiti, 2020; Bao, 2020; Mohammad *et al.*, 2020). For this reason, most universities started devising different e-learning programmes and using different online platforms in an attempt to remotely and safely reach its different learners both effectively and efficiently without compromising the quality of education or adversely affecting students' learning experience (Adedoyin and Soykan, 2020; Bao, 2020; DeVaney *et al.*, 2020; Mohammad *et al.*, 2020). Besides, universities in Egypt and abroad have also been very concerned with how they can help in directly dealing with adverse consequences of *pandemics* (e.g. *Covid-19*) through conducting research across different fields related to *economics, health, social and environmental issues* (Mohammad *et al.*, 2020; Perrotta, 2021). For example, universities can propose novel ways to augment the economic health of the nation by *rethinking current business practices* and creating new innovative models to deal with the negative consequences of the *pandemics* (e.g. *Covid-19*) through *conducting research or working closely with the industry* to that end (Islam *et al.*, 2021). Another area that universities, as a source of knowledge, have been actively involved in is introducing *vaccines and medicines* that are specifically geared to overcome the effects of *pandemics* (e.g. *Covid-19*) on the lives of the people relying on innovation and breakthrough technologies to reach such a goal (Kandeil *et al.*, 2021; Rosa *et al.*, 2021). A further source of competitiveness that universities are keen to invest in is the youth, which is in line with the Egypt's vision of creating a new generation of entrepreneurs and self-starters, and universities introduced *micro-finance opportunities for young social entrepreneurs* (Lebaladna Development Foundation, 2021). Also, Egyptian universities have prepared programmes related to nourishing children's knowledge and skills through the Children University for pre-university students, which provides them with exposure and experience that are not present in their schools (Academy of Scientific Research and Technology, 2021; Ain Shams University, 2020). Moreover, they are developing anti-harassment awareness and self-defense programmes such as the initiative taken by some universities towards promoting a safe campus programme for its learners/educators (Cairo University, 2017; The American University in Cairo, 2020). Furthermore, universities in Egypt are also keen to contribute to dealing with the ongoing social problems that Egyptians face through their involvement in programmes related to health-care awareness and treatment campaigns, shelter building and water connections along with programmes done in liaison with the Egyptian Food Bank

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(Lebaladna Development Foundation, 2021). Thus, according to the Times Higher Education (THE) (2020), 23 universities in Egypt are now THE-ranked after each university's social fingerprint was evaluated in terms of its implementation to the sustainable development goals coined by the United Nations, which ensure the establishment of innovative teaching, responsible research and community engagement processes (Grant, 2019; Adhikariparajuli *et al.*, 2021).

## 2. Literature review

### *2.1 University social responsibility strategy for quality accreditation and sustainable competitive advantage*

CSR, as a dimension of sustainability, has enticed academics' interest over the past few years (Abernathy *et al.*, 2017; Adel and Mahrous, 2018; Abad-Segura *et al.*, 2019; García-Piqueres and García-Ramos, 2020; Zhou *et al.*, 2020). The reason for such interest is that the world is facing multitude problems (e.g. economic, environmental and social), thus, requiring a more active societal engagement of its different entities from all sectors of the economy (e.g. industrial, service, educational, private, public, small and large institutions) to partake in solving these problems (Abad-Segura *et al.*, 2019; Chkir *et al.*, 2020). CSR is defined as the firm's consideration of matters that are out of its traditional goals, which are mainly related to doing business and making profits, to a more comprehensive corporate governance outlook (Degli Antoni and Portale, 2011; Kirby and Ibrahim, 2011; Rexhepi *et al.*, 2013; Dusingize and Nyiransabimana, 2017). Another commonly cited definition is one that views CSR through a hierarchical lens that classifies it into four main layers starting with economic followed by legal, then ethical and finally philanthropic (Amiri *et al.*, 2015). Such definitions imply that a socially responsible entity should undertake certain initiatives, related to business ethics, corporate governance and community development, and apply relevant measures that are meant to reflect its participation with its stakeholders including the society at large (Degli Antoni and Portale, 2011). Universities are no different than their industrial counterparts in terms of their active engagement with their societies, yet their role is slightly different because of their diverse stakeholders along with their distinct role of knowledge providers and change agents within their communities (Benneworth and Cunha, 2015; Abdul-Rahman *et al.*, 2019; Bayuo *et al.*, 2020; Younis and Hammad, 2020). Being subject to the *external opportunities and threats* that all businesses are facing, universities are under pressure more than ever to rethink about their role within their societies, which is now more extended and goes beyond being providers of education solely (Gomez, 2014; Amiri *et al.*, 2015; Gerholz and Heinemann, 2015; Ramos-Monge *et al.*, 2019). Therefore, universities need to formulate *differentiation competitive strategies* that prove their commitment towards society through gearing its different processes/activities (e.g. *teaching*, *learning*, *assessment*, *conducting research*, *managing its functional areas*) with the public aim of upgrading the welfare of its society and holding responsibility for its environment (McWilliams and Siegel, 2011; Ahmad, 2012; Vázquez *et al.*, 2014; Chen *et al.*, 2015; Abdul-Rahman *et al.*, 2019) and as such resulting in what is known as USR. Several studies have attempted to encapsulate conceptually USR practices into a set of activities that are related to *conducting ethical and environmental-friendly operations, maintaining social and human rights, sustaining economic and human development, promoting ethical behaviour, developing responsible individuals, educating for social responsibility and undertaking socially responsible research* (Porter and Kramer, 2006; Kirby and Ibrahim, 2011; Esfijani *et al.*, 2013; Vázquez *et al.*, 2014; Amiri *et al.*, 2015; Dusingize and Nyiransabimana, 2017). Practically, to ensure *effective USR strategy implementation*, USR aspects should be embedded in the university's *mission statement* and aligned to its *organisational culture and structure to reinforce its execution* (Vasilescu *et al.*, 2010;

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Amiri *et al.*, 2015; Gerholz and Heinemann, 2015). Also, in an attempt to institutionalise the aspects of *USR within the operations* of a typical university, and, hence, becoming a blueprint for its different activities, it was found that there is a need for a *rigorous quality management system* that supports *USR strategy implementation* (Plungpongpan *et al.*, 2016). One of the requirements of such system is the adoption of *quality management and USR measures* to ensure *USR strategy evaluation and improvement* (Plungpongpan *et al.*, 2016). From an industrial perspective, quality is conceptualised as the extent to which a product/service matches or surpasses customers' expectations (Mohrman *et al.*, 2011; Tarí and Dick, 2016). However, this is not the case with universities, as universities have different stakeholders (e.g. staff, students, parents, employers/industry, governmental agencies, suppliers, schools, society and environment), thus making quality to be viewed from multiple perspectives as pertaining to excellence, surpassing stakeholders' expectations, fitness for purpose and value for money (Bornman, 2004; Harvey, 2005; Mizikaci, 2006; Elassy, 2015; Schomaker, 2015). One of the most important pillars that quality rests upon in higher education institutions (HEIs) is that it *needs to be accredited by relevant quality accreditation agencies* (Mohrman *et al.*, 2011; Schomaker, 2015; Latif, 2018). These bodies stipulate certain criteria, which have to be fulfilled by universities to be qualified for such accreditations, such as *enhancing students' learning experience, assuring the recentness/relevance of its programmes, involving its staff in internationally ranked research and actively participating with its community* (Bornman, 2004; Harvey, 2005; Calvo-Porral *et al.*, 2013; Elassy, 2015; Latif, 2018). In Egypt, National Authority for Quality Assurance and Accreditation of Education (NAQAAE) evaluates the extent to which USR are being applied by public/private/international HEIs before awarding the quality accreditation to them (National Authority for Quality Assurance and Accreditation of Education, 2015, 2017). Regarding competitiveness, today's challenging business environment is currently characterised by severe competition mainly because of scarcity of resources, rapid technological advancements, shorter product lifecycle, constant change in customers' tastes, evolving stakeholders' needs and pressure to actively participate in community services (Alfadda, 2010; Marín *et al.*, 2012). Accordingly, universities face various *external threats/challenges* that are related to *globalisation, increased staff/students' mobility, international competition, marketisation, internationalisation of rivals, emergence of breakthrough educational technologies, along with pressures from local governments to follow certain accreditation requirements and promote their international rankings* (Steiner *et al.*, 2013; Bobe and Kober, 2015; de Haan, 2015; Dimitrova and Dimitrova, 2017; Mahdi *et al.*, 2019). As such, competitiveness is no longer related to one aspect only within the institution but rather more related to bundling *internal resources/strengths* [i.e. *resource-based view (RBV)*] in a way that is entrenched within its various processes, activities and levels and also different to that being offered by its competitors, thus, allowing for a more sustainable competitive stance (Adner and Zemsky, 2006; Bao, 2010; McWilliams and Siegel, 2011; Bobe and Kober, 2015; de Haan, 2015; Khan *et al.*, 2019). With regard to the industry, a number of studies (Porter and Kramer, 2006; McWilliams and Siegel, 2011; Marín *et al.*, 2012; Marin *et al.*, 2017; Adamik and Nowicki, 2019) have investigated the direct CSR–SCA relationship. They discussed how organisations engaged in CSR initiatives as means of improving their image in the face of their clientele, thus, reaping some financial benefits, yet this perspective has changed to reflect a more systematic societal engagement that promises mutual organisational-social benefits. *Effective CSR strategy implementation* results in boosting organisational performance and enhancing its SCA (Khan *et al.*, 2019). Concerning HE context, the relationship between USR, quality assurance/accreditation and competitiveness was studied theoretically in the literature (Plungpongpan *et al.*, 2016). It was conceptually discussed that once universities implement USR strategies effectively and efficiently along

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with other quality-assurance dimensions, they receive the accreditation of the quality assurance bodies and they are put at a better competitive position than their counterparts (Plungpongpan *et al.*, 2016; Abdul-Rahman *et al.*, 2019). As such, universities are advised to formulate *USR differentiation strategies* that will *face their external challenges and internal weaknesses and exploit their extrinsic opportunities and intrinsic strengths/resources* to boost their competitive position (de Haan, 2015; Plungpongpan *et al.*, 2016; Dimitrova and Dimitrova, 2017).

Up to the present time, the relationship between social responsibility and competitiveness was investigated empirically mainly in the industry (Peters, 2007) whereas those studies that applied it to HE sector were conducted mainly conceptually by environmental and educational scholars rather than from a managerial perspective (Chen *et al.*, 2015). As a consequence, the authors developed and proposed the following hypothesis to bridge this knowledge gap:

*H1*. USR positively affects SCA.

*2.2 From university social responsibility to social innovation strategy*

As for shifting to a more innovative socially oriented approach, Figure 1 was developed by the authors after scanning the cross-disciplinary literature on the conceptual evolution of strategic USI, which started from the industry as CSR/CSI approach, to pursue SCA in HE sector (Esfijani *et al.*, 2013; El-Garaihy *et al.*, 2014; Oganisjana *et al.*, 2017; Castro-Spila, 2018; Chow *et al.*, 2019; Dionisio and de Vargas, 2020). Figure 1 shows the conceptual contribution of this study, which discussed the theoretical evolution of strategic USI theory through thematically reviewing its relevant cross-disciplinary literature of strategic, operations and innovation management research. USI has now been implemented as a *competitive differentiation strategy* by universities that plan to shift from being just socially responsible to becoming socially innovative by proposing solutions to social, economic, cultural, health and environmental issues through their innovative processes/programmes/services (McBeth, 2018; Dionisio and de Vargas, 2020). Consequently, universities after embedding social innovation dimensions into their *mission statements*, *competitive strategies* and *operations management processes* will better serve their social needs and sustain an inimitable competitive edge (McBeth, 2018; Dionisio and de Vargas, 2020). The difference between CSR/USR and CSI/USI is the term *innovation*. In other words, CSI/USI advocates investing strategically in developing a socially oriented innovation system, which uses contemporary ideas, processes, products/services and approaches to resolve social problems (McBeth, 2018; Belayutham *et al.*, 2019; Dionisio and de Vargas, 2020). This socially oriented innovation system operates using a co-creation process, which depends on *cross-functional integration within the internal environment* of the organisation and *external collaborations with relevant stakeholders across its external environment* (Benneworth and Cunha, 2015; Mirvis *et al.*, 2016; Unceta *et al.*, 2016; McKelvey and Zaring, 2018; Dionisio and de Vargas, 2020).

From an *operations process* perspective, Figure 2 exemplifies the main components of a social innovation system in HE in terms of *required inputs and enablers, main relevant processes and expected outputs*. Figure 2 was generated by this research after encapsulating the previous literature on *strategic social innovation and its operations* (Gaither and Frazier, 2002; Chase *et al.*, 2006; Schroeder, 2008; Alden Rivers *et al.*, 2015; Saeudy, 2015; Wheelen *et al.*, 2015; Younis, 2018; Belayutham *et al.*, 2019; Cremonini and Adamu, 2021; Thanasi-Boçe and Kurtishi-Kastrati, 2021). USI process is *operated using a double-loop approach*, which continuously *adapts/innovates the internal processes, socially oriented strategies and mission, organisational culture and aligned structure, required resources* to build new

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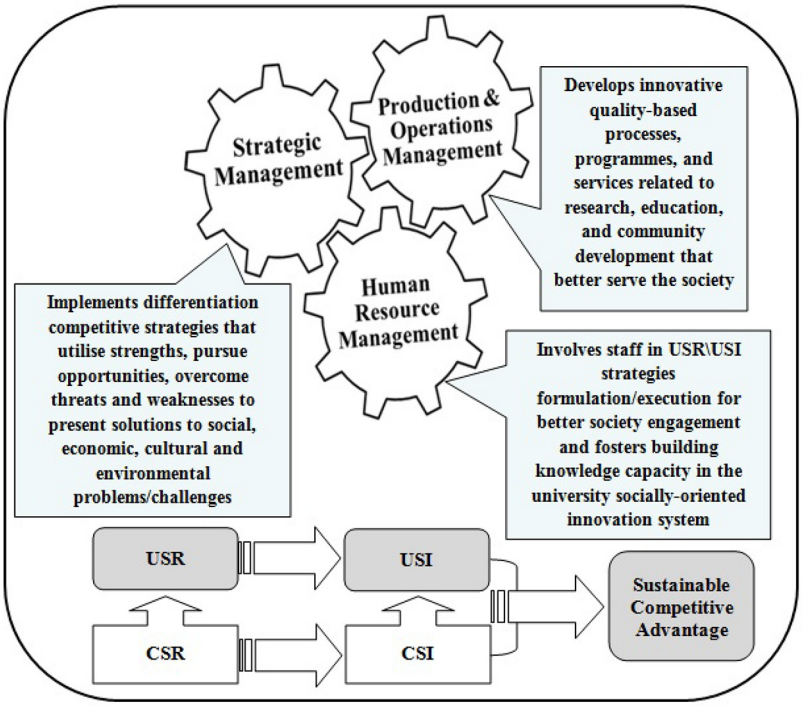


**Figure 1.**
A cross-disciplinary integration of literature on the conceptual evolution of strategic university social innovation to pursue SCA

**Source:** The authors

knowledge capacity needed for USI that resolves social issues and sustain a competitive edge (Benneworth and Cunha, 2015; Unceta *et al.*, 2016; Jaaron and Backhouse, 2017; McBeth, 2018; McKelvey and Zaring, 2018; Cremonini and Adamu, 2021).

Accordingly, *effective formulation of CSI/USI strategies* requires organisations to invest in developing its various tangible/intangible resources/inputs, including knowledge [i.e. *knowledge-based view (KBV)*; as displayed in Figure 2]. *First*, CSI/USI strategies call for an effective knowledge-based system as building *knowledge capacity* and creating knowledge flow between involved parties is a crucial input/source of innovation (Benneworth and Cunha, 2015; Mirvis *et al.*, 2016; Unceta *et al.*, 2016; García-Piqueres and García-Ramos, 2020). *Second*, identifying the main *social challenges/needs*, which will be reflected on the process of *curriculum development* and related *research projects* to provide innovative solutions to these issues (Benneworth and Cunha, 2015; El-Hadidi and Kirby, 2016; Unceta *et al.*, 2016; McKelvey and Zaring, 2018; Belayutham *et al.*, 2019). *Third*, involvement of university's staff/students within these USI engagement processes along with collaborations with external parties (e.g. research centers, governmental/non-governmental institutions) will enhance knowledge capacity and sustain USI (Benneworth and Cunha, 2015; El-Hadidi and Kirby, 2016; Unceta *et al.*, 2016; Grobbelaar, 2018; McKelvey and Zaring, 2018; Belayutham *et al.*, 2019; Younis, 2019). *Fourth*, the *ability to change/adapt* the current *organisational structure, culture and individual behaviour* to be aligned with new *USI strategy execution* (Vilanova *et al.*, 2009; Grobbelaar, 2018; Belayutham *et al.*, 2019). Concerning the outputs of *USI strategies implementation*, interdependent university–society

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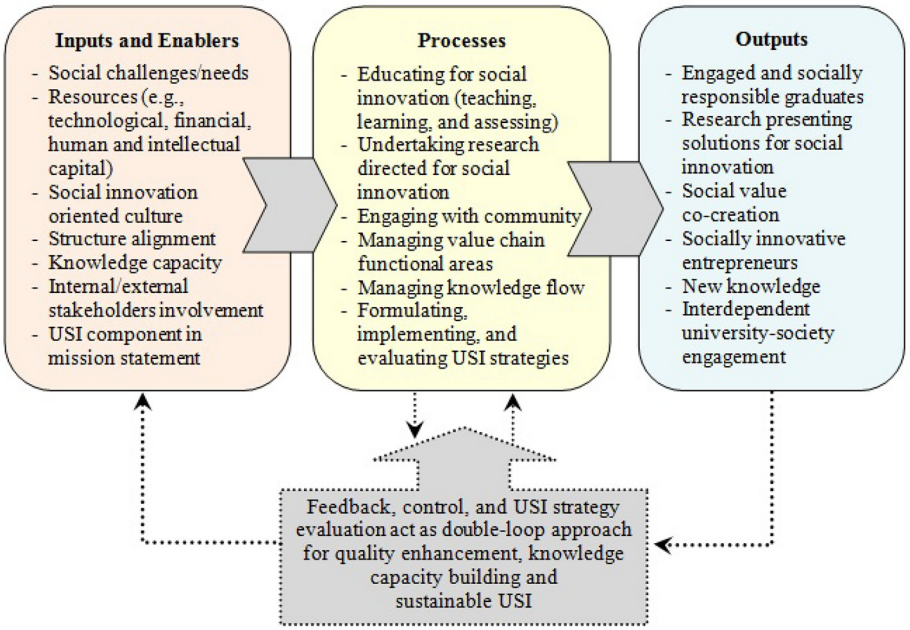


**Source:** The authors

**Figure 2.** Social innovation system in higher education and its operational processes

engagement will lead to social value co-creation as well as generating engaged graduates/staff with social entrepreneurial orientation (McKelvey and Zaring, 2018; Belayutham *et al.*, 2019; Dionisio and de Vargas, 2020). As a *double-loop process*, *USI strategy evaluation* with more university–society interactions will generate feedback and accumulated knowledge that support adaptation of potential USI strategies formulation (Unceta *et al.*, 2016; McKelvey and Zaring, 2018; Dionisio and de Vargas, 2020).

*So far, the relationship between social responsibility and innovation was studied empirically mainly in the industry rather than the educational sector and in terms of other types of innovation while disregarding the socially-related innovation* (Zhu *et al.*, 2019; García-Piqueres and García-Ramos, 2020). Other scholars *explored the CSR–CSI relationship but conceptually only* (Păunescu, 2014; Mirvis *et al.*, 2016; Roszkowska-Menkes, 2018). Also, Herrera (2015) discussed via using *qualitative case-studies* how *CSI starts with CSR awareness*, then it should be embedded into organisation's *strategies and operational processes* and aligned with its *structure and culture*. Regarding USR–USI relationship, contemporary literature (Bayuo *et al.*, 2020; Cremonini and Adamu, 2021) called for conducting empirical studies on both strategies in a university context, especially in emerging markets (Thanasi-Boçe and Kurtishi-Kastrati, 2021). Based on the aforementioned discussion of the previous studies, the authors generated the following hypothesis and sub-hypotheses to fill this research gap:

*H2*. USR positively affects USIS (in terms of SA, ISI, SSI and ISVC).

*H2a*. USR positively affects SA.

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*H2b*. USR positively affects ISI.

*H2c*. USR positively affects SSI.

*H2d*. USR positively affects ISVC.

*2.3 Sustainable competitive advantage in higher education through strategic university social innovation*

As *cooperative and competitive differentiation strategies*, CSI/USI have now been implemented in HE and industrial sectors to enable organisations/universities to shift from being just socially responsible to becoming socially innovative by presenting solutions to social, economic, cultural and environmental challenges with their innovative processes/products/programmes/research (Benneworth and Cunha, 2015; Dionisio and de Vargas, 2020; Gasparin *et al.*, 2021). Thereby, these institutions, through embedding social innovation dimensions into their *operations, knowledge management processes* and *competitive and cooperative strategies*, will generate social values that better serve social/human needs and sustain a unique advantage over their rivals (Benneworth and Cunha, 2015; Striukova and Rayna, 2015; Varadarajan and Kaul, 2017; Mahdi *et al.*, 2019; Dionisio and de Vargas, 2020). As a *sustainable source of unique competitive edge*, universities can actively engage in generating social innovation through various ways. *First*, *co-creating knowledge* can help universities and organisations in producing innovation that acts as a solution to various societal problems, thus, creating positive public image and sustainable competitiveness (Johannessen and Olsen, 2009; Benneworth and Cunha, 2015; Chatzoglou and Chatzoudes, 2018; Mahdi *et al.*, 2019). *Second*, promoting *socially oriented educational system* that operates using *innovative teaching, learning and assessing processes* will prepare students to contribute towards resolving real-world problems (Belayutham *et al.*, 2019), thus, enhancing graduates' employability and producing social innovators/entrepreneurs (Kirby and Ibrahim, 2011; Castro-Spila, 2018). *Third*, involving staff/students in *academic/professional research projects*, which present innovative solutions to social challenges, will support universities in attaining inimitable competitive position (Oganisjana *et al.*, 2017; Castro-Spila, 2018; McBeth, 2018). *Fourth*, USIS should encompasses developing an *organisational identity* that reflects university's active social engagement practices to build its unique public image in front of its stakeholders (Sillince, 2006; Vilanova *et al.*, 2009; Steiner *et al.*, 2013; Vázquez *et al.*, 2014; Dionisio and de Vargas, 2020; Younis, 2020). *Fifth*, *motivating and enhancing the social awareness* of universities' internal staff/students on their valuable engagement in *innovative community development* practices, while collaborating with external relevant parties from governmental/non-governmental institutions, will reinforce universities' competitiveness and country's sustainable development (Vázquez *et al.*, 2014; Oganisjana *et al.*, 2017; McKelvey and Zaring, 2018).

*Regarding CSR–CSI–SCA relationship in the industry*, *only limited* qualitative studies (Herrera, 2015; Mirvis *et al.*, 2016) discussed how *CSI starts with CSR awareness*, then it should be embedded into organisation's *strategies and operational processes* and aligned with its *structure and culture* to shape *contemporary socially directed innovation system* that boosts SCA. Other studies considered different types of innovation other than the socially directed one while investigating *CSR-innovativeness–SCA relationship in the industry* (Marín *et al.*, 2012; Marin *et al.*, 2017) through pinpointing that socially responsible strategies need long-term investment in innovation (i.e. *proactive competitive innovation-based strategies*) for SCA. *Additionally to date, only scant literature* focused on studying *USR–SCA relationship empirically but without considering USIS as a mediator* (Garde Sánchez *et al.*,

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2013). In summary, *social innovation was mainly investigated in the industry* (Unceta *et al.*, 2016; Varadarajan and Kaul, 2017; Mihci, 2020) with *little research attention to HE context*. Also, studies that *discussed the importance of developing USIS in HE to sustain competitiveness used conceptual/qualitative approach only* (Nichols *et al.*, 2013; Striukova and Rayna, 2015; Grobbelaar *et al.*, 2017) *or were conducted from economic development perspective* (Grobbelaar, 2018). As a consequence, the authors built on RBV and KBV to propose the following hypotheses through suggesting that universities' sustainable competitiveness is related to bundling its *internal resources/strengths, including knowledge* in a way that is entrenched within its *socially responsible processes* and *socially directed differentiation strategies for innovation*:

*H3*. USIS (in terms of SA, ISI, SSI and ISVC) positively affects SCA.

*H3a*. SA positively affects SCA.

*H3b*. ISI positively affects SCA.

*H3c*. SSI positively affects SCA.

*H3d*. ISVC positively affects SCA.

*H4*. USIS is significantly mediating USR–SCA relationship.

## 3. Research methodology

Following Abernathy *et al.* (2017), Adamik and Nowicki (2019) and Burgers *et al.* (2019), the authors adopted an interdisciplinary systematic approach to reviewing the state-of-the-art literature on CSR/USR and CSI/USI because of the interdisciplinary nature of that research topic, which needs the consolidation of complementing functional areas/disciplines to investigate it from *strategic, operational and individual perspectives*. Accordingly, the conceptual framework of this research was constructed (as presented in Figure 3) to contribute to the existing literature. Figure 3 depicts the relationships between USR for quality accreditation, USIS and SCA in HEIs. Inspired by the work of Claydon (2017) and Thomas and Pugh (2020), who supported harvesting the fruits of using *quantitative and qualitative techniques* in the data collection of social research, the authors followed a mixed-methods approach in the data gathering process as demonstrated in Figure 4. First, *qualitative interviews* were held to enhance the *depth* of understanding (Adel *et al.*, 2018; Adel, 2021) of the promising USI practices executed in an emerging economy, especially during *Covid-19 pandemic*. A total of 30 qualitative in-depth individual interviews were set to gather data from managers/leaders and teaching staff working at those faculties in quality management processes and community engagement practices as well as students participating in USR activities. In addition to benefiting from this qualitative method in exploring the nature of this new research area of social innovation in the context of HE, the authors verified the *content/face validity* of the quantitative questionnaire's measurement scale (shown in Table A1) throughout these interviews as commended by Cooper and Schindler (2014).

Afterwards, to enhance the *breadth* of data collection process, *quantitative questionnaires* were used to examine the research hypotheses. Cooper and Schindler (2014) encouraged business researchers to target all the population elements in case of having a small diverse population. Thus, the authors formed a data collection team that contacted the quality units of all the 199 quality-accredited public and private/international faculties by NAQAAE, of which 109 faculties in 11 Egyptian governorates responded (54.77% response rate) and their

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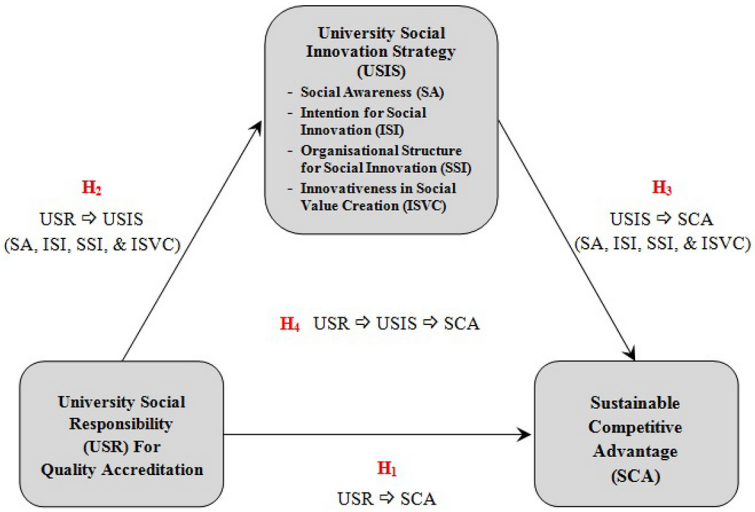


**Figure 3.** Relationships between USR for quality accreditation, USIS and SCA in HEIs

**Source:** The authors

quality units filled the questionnaires that were analysed by structural equation modelling (SEM). Each filled questionnaire represents the response of one quality-accredited faculty. *Our focus was the quality-accredited faculties by NAQAAE to ensure that these institutions maintained the USR dimensions required for this accreditation*. Table 1 reveals the sample characteristics by field, sector and number of faculties. Besides, Table 2 exhibits the sample characteristics by governorate and type of ownership. The measurement items, which operationalise the constructs and variables used in this empirical study, were extracted from the relevant literature (as displayed in Table A1). Concerning the assessment of the independent variable (i.e. USR), the authors adopted the items used by the Egyptian National Authority for Quality Assurance and Accreditation of Education (NAQAAE) (2015) in evaluating the extent to which USR is being applied in the public and private/international faculties in Egypt before being quality-accredited by NAQAAE. These measurement items were published in a report by NAQAAE (2015). Moving to the operationalisation of the mediating construct (i.e. USIS), it was measured by following a scale of four dimensions (SA, ISI, SSI and ISVC), which was adopted from Esen and Maden-Eyiusta (2018). As for the evaluation of SCA (the dependent factor), the authors deployed five items adapted from Peters (2007) and de Haan (2015) to measure the SCA from a HE perspective.

## 4. Quantitative data analysis and findings

Because this is a quantitative questionnaire-based research, the authors started with examining the common method bias (CMB) (Jordan and Troth, 2020) before conducting the partial least squares–structural equation modelling (PLS-SEM). PLS-SEM was chosen to analyse the quantitative questionnaires that were used to examine the research hypotheses as advised by CSR, USR and CSI scholars (Abidur-Rahman *et al.*, 2017; Binsawad, 2020; Raza *et al.*, 2020) and strategic and operations management studies (Hair *et al.*, 2012; Adel and Younis, 2019; Adel *et al.*, 2020). The benefits of using PLS-SEM were reported in the literature (Hair *et al.*, 2011, 2017, 2019; Raza *et al.*, 2020) as being suitable for:

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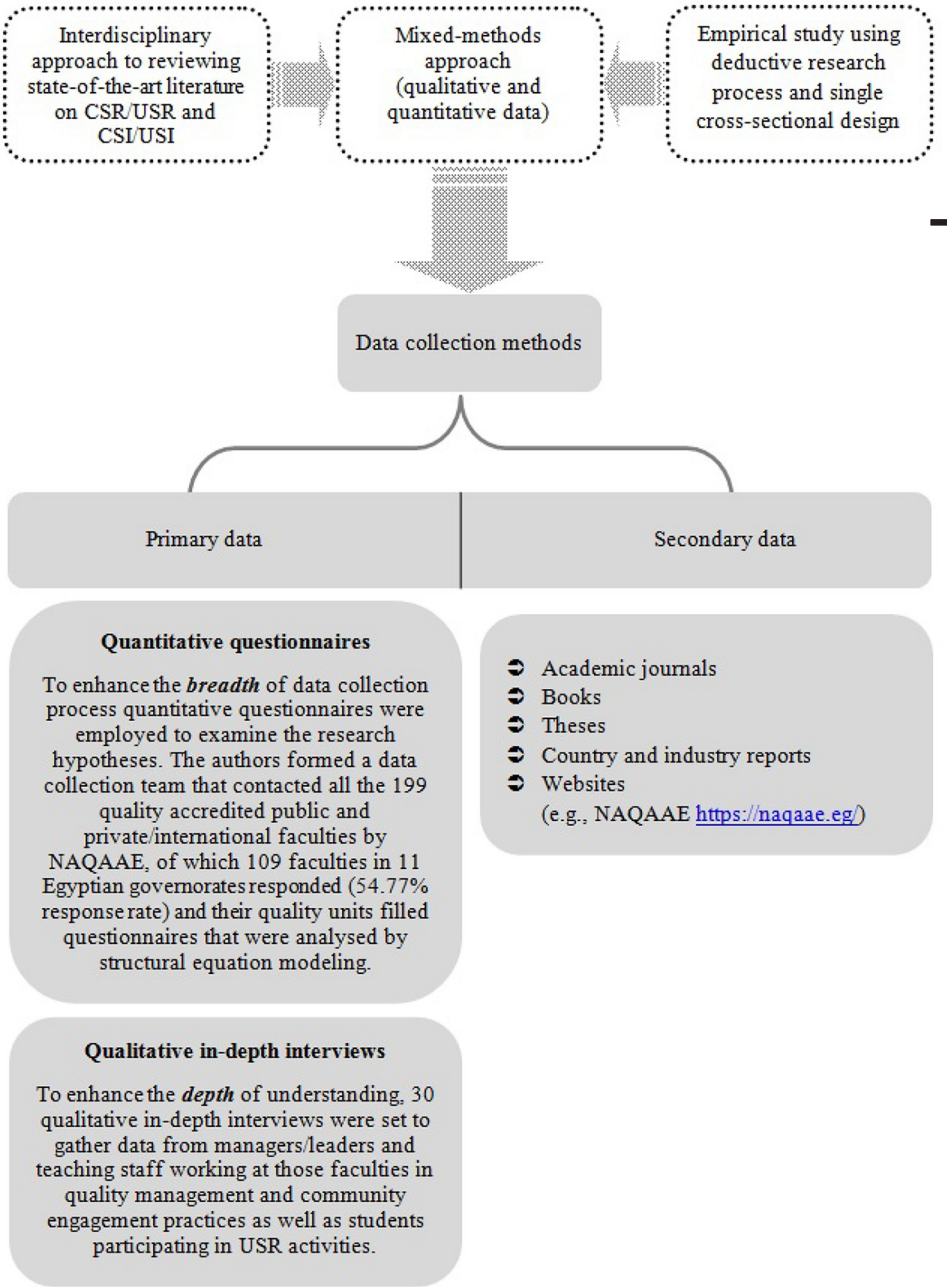


**Source:** The authors

**Figure 4.** Research approach and data collection methods

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**Table 1.** Sample characteristics by field, sector and number of faculties

| Field/specialisation | | No. of faculties/ respondents (frequency) | Sector | (%) |
|---|---|---|---|---|
| 1 | Pharmacy | 13 | Health care | 43.1 |
| 2 | Medicine | 8 | | |
| 3 | Dentistry | 8 | | |
| 4 | Physical Therapy and Physical Education | 6 | | |
| 5 | Veterinary Medicine | 6 | | |
| 6 | Nursing | 6 | | |
| 7 | Science and Biotechnology | 12 | Engineering, Science, Technology, and Applied Arts | 33.9 |
| 8 | Engineering | 9 | | |
| 9 | Agriculture | 7 | | |
| 10 | Computer Science and Artificial Intelligence | 5 | | |
| 11 | Fine and Applied Arts | 3 | | |
| 12 | Urban and Regional Planning | 1 | | |
| 13 | Business Administration, Management Sciences, Economics and Political Science | 5 | Humanities, Arts, and Social Sciences | 23 |
| 14 | Arts and Humanities | 4 | | |
| 15 | Arabic Studies and Islamic Theology | 4 | | |
| 16 | Education | 3 | | |
| 17 | Tourism and Hotels Management | 3 | | |
| 18 | Mass Communication | 2 | | |
| 19 | Languages | 2 | | |
| 20 | Social Work | 1 | | |
| 21 | Home Economics | 1 | | |
| Total | | 109 Faculties from 21 Universities | | 100 |

**Table 2.** Sample characteristics by governorate and type of ownership

| Governorate | | Number of faculties/respondents (frequency) and type of ownership | (%) |
|---|---|---|---|
| 1 | Giza | 32 faculties (16 public and 16 private) from 6 universities | 29.4 |
| 2 | Cairo | 33 faculties (27 public and 6 private) from 6 universities | 30.3 |
| 3 | Gharbia | 8 public faculties from 2 universities | 7.3 |
| 4 | Sharqia | 8 public faculties from 1 university | 7.3 |
| 5 | Ismailia | 3 public faculties from 1 university | 2.8 |
| 6 | Fayoum | 5 public faculties from 1 university | 4.6 |
| 7 | Qalyubiyya | 6 public faculties from 1 university | 5.5 |
| 8 | Dakahlia | 8 public faculties from 1 university | 7.3 |
| 9 | Alexandria | 4 public faculties from 1 university | 3.7 |
| 10 | Monufia | 1 public faculty from 1 university | 0.9 |
| 11 | Beni Suef | 1 private faculty from 1 university | 0.9 |
| Total | | 109 faculties from 12 public and 9 private universities | 100 |

- evaluating complex structural model in which the scores of its latent variables are used in a consecutive analysis to investigate contemporary relationships;
- examining mediating relationships; and
- multivariate analysis of relatively small-sized sample.

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Accordingly, the authors adopted a two-stage confirmatory composite analysis (CCA) via SmartPLS (v.3.2.9) to examine empirically the proposed conceptual framework (Ringle *et al.*, 2015; Hair *et al.*, 2017, 2020) through conducting both the measurement and structural models. First, the authors have undertaken the Harman's one-factor test to check the CMB. After carrying out exploratory factor analysis via principal component technique, results pinpointed that CMB is not a problem as the variance extracted out from first factor is 45.85% (Kaiser–Meyer–Olkin = 0.908; approximate Chi-square = 2117.39; $p$-value = 0.000) (Podsakoff *et al.*, 2003). Afterwards, the authors executed full-collinearity test to check the existence of CMB (Kock, 2015). As displayed in Table 3, the variance inflation factors (VIFs) assessed for the proposed model's variables reveal values ranging between 1.78 and 2.79 (less than 3.3) (Kock, 2015; Sarstedt *et al.*, 2019). Therefore, these results indicate the absence of CMB in our suggested model.

Table 4 demonstrates the results of the measurement model that exhibit how constructs' validity and reliability were established. As verified by Hair *et al.* (2020), each construct's reliability was evaluated and confirmed by the composite reliability and Cronbach's alpha as all their values exceeded 0.7 (as revealed in Table 4). Concerning assuring the convergent validity of each factor, Hair *et al.* (2014, 2020) pinpointed that the value of average variance extracted (AVE) related to each factor should be more than 0.5, which was evidenced in this research (as reported in Table 4). The authors used the two criteria recommended by Henseler *et al.* (2015) for checking the discriminant validity per factor. Regarding the Fornell–Larcker criterion, the discriminant validity was verified for all constructs as the $\sqrt{\text{AVE}}$ of every factor exceeded that factor's correlations with other factors (as signified in Table 4). Besides, discriminant validity was maintained again as heterotrait–monotrait (HTMT) value among every two factors was found to be less than 0.9 (as denoted in Table 4).

Afterwards, the authors assessed the structural model via checking the multicollinearity and analysing the path coefficients. As revealed in Table 3, the authors evaluated the VIF for the suggested model's variables, which generated values less than 3 (Hair *et al.*, 2020). Hence, these values indicate the absence of multicollinearity in this research. As depicted in Figure 5, the main suggested hypotheses were tested (one-tail, 5,000 bootstrap subsamples, 300 iterations) and supported (as verified by its beta coefficients and $p$-values). Results demonstrated that USR positively and significantly influenced SCA (*H1* was accepted, $t$-statistic = 2.586) and USIS (*H2* was supported, $t$-statistic = 14.676). Further, USIS positively and significantly influenced SCA (*H3* was confirmed, $t$-statistic = 6.767). As illustrated in Figure 6 of examining the sub-hypotheses, USR positively and significantly influenced USIS (in terms of SA, ISI, SSI and ISVC). Thereby, *H2a–d* were supported as established by its

**Table 3.** Full-collinearity test

| | Endogenous variables | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Low-order measures | | | | | | High-order measures | | |
| Exogenous variables | ISI | ISVC | SA | SSI | SCA | USR | SCA | USR | USIS |
| ISI | | 2.741 | 2.615 | 2.794 | 2.567 | 2.774 | NA | NA | NA |
| ISVC | 2.573 | | 2.626 | 2.349 | 2.525 | 2.625 | NA | NA | NA |
| SA | 2.095 | 2.197 | | 2.213 | 2.228 | 2.141 | NA | NA | NA |
| SSI | 2.577 | 2.317 | 2.550 | | 2.554 | 2.300 | NA | NA | NA |
| SCA | 2.476 | 2.553 | 2.673 | 2.575 | | 2.629 | | 2.297 | 1.777 |
| USR | 2.518 | 2.596 | 2.457 | 2.267 | 2.551 | | 2.236 | | 1.777 |
| USIS | NA | NA | NA | NA | NA | NA | 2.236 | 2.297 | |

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**Table 4.** Results of the measurement model

| | Reliability | | | | | | |
|---|---|---|---|---|---|---|---|
| | SA | ISI | SSI | ISVC | USIS | USR | SCA |
| Composite reliability | 0.897 | 0.882 | 0.863 | 0.899 | 0.919 | 0.908 | 0.881 |
| Cronbach's alpha | 0.828 | 0.798 | 0.762 | 0.851 | 0.882 | 0.881 | 0.820 |
| Convergent validity | | | | | | | |
| | SA | ISI | SSI | ISVC | USIS | USR | SCA |
| AVE | 0.744 | 0.713 | 0.678 | 0.691 | 0.739 | 0.588 | 0.650 |

Discriminant validity (low-order model)

| Fornell–Larcker criterion | | | | | | | Heterotrait–monotrait (HTMT) ratio | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ISI | ISVC | SA | SCA | SSI | USR | ISI | ISVC | SA | SCA | SSI | USR |
| ISI | *0.85* | | | | | | | | | | | |
| ISVC | 0.68 | *0.83* | | | | | 0.82 | | | | | |
| SA | 0.68 | 0.62 | *0.86* | | | | 0.83 | 0.74 | | | | |
| SCA | 0.72 | 0.70 | 0.63 | *0.81* | | | 0.87 | 0.81 | 0.74 | | | |
| SSI | 0.64 | 0.70 | 0.59 | 0.66 | *0.82* | | 0.81 | 0.87 | 0.74 | 0.81 | | |
| USR | 0.67 | 0.64 | 0.65 | 0.66 | 0.70 | *0.77* | 0.79 | 0.73 | 0.76 | 0.76 | 0.67 | |

Discriminant validity (high-order model)

| Fornell–Larcker criterion | | | | HTMT ratio | | |
|---|---|---|---|---|---|---|
| | SCA | USIS | USR | SCA | USIS | USR |
| SCA | *0.81* | | | | | |
| USIS | 0.76 | *0.86* | | 0.88 | | |
| USR | 0.67 | 0.75 | *0.77* | 0.78 | 0.84 | |

**Note:** *Italic* numbers represent the square root of AVE

beta coefficients and *p*-values. Moreover, USIS (in terms of ISI, SSI and ISVC) positively and significantly influenced SCA (*H3b–d* were accepted). However, USIS (in terms of SA) had a positive yet insignificant influence on SCA (*H3a* was rejected). This finding was interpreted through one of the qualitative interviews, which was carried out after the quantitative analyses to explain the results. This interviewee, who was a leader of a quality unit at one of these quality-accredited faculties, stated that:

> There is insufficient awareness among some of our teaching staff and students of the social problems in our community or the vital role of the educational/research services in improving the society and mitigating its problems.

In this study, both direct and indirect effects were found to be positive (i.e. same direction) and significant, which reflect a case of complementary partial mediation (Zhao *et al.*, 2010; Nitzl *et al.*, 2016; Carrión *et al.*, 2017; Hair *et al.*, 2017). Therefore, indirectly, USIS was proven to be partially mediating USR–SCA relationship (*H4* was accepted, beta coefficient = 0.436, confidence level 99.9%).

## 5. Discussion, conclusions, limitations and practical/social implications

To fill a research gap detected in strategic CSI literature, the authors investigated conceptually and empirically the direct and indirect relationships between USR and USIS – in terms of SA, ISI, SSI and ISVC– and gaining an SCA at quality-accredited faculties of an emerging market during COVID-19 pandemic. To achieve this purpose, a conceptual model was presented and a mixed-methods approach was exploited to *harvest the fruits of using quantitative and qualitative techniques in the data collection of social and business research* (Claydon, 2017; Adel, 2020; Younis and Adel, 2020; Thomas and Pugh, 2020). The authors formed a data collection team that contacted all the quality-accredited public and private/international faculties, of which 109 faculties in 11 Egyptian governorates responded and

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their quality units filled questionnaires that were analysed by SEM. For comprehensive understanding, qualitative interviews were set to gather data from managers/leaders and teaching staff working at those faculties in quality management and community engagement practices as well as students.

Building on the quantitative findings of the previous section, the authors deduced the following research implications in addition to managerial recommendations that encapsulate cross-disciplinary insights for further social-innovation researchers:

(1) Results demonstrated that USR positively and significantly influenced SCA and USIS. Further, USIS (in terms of ISI, SSI and ISVC) positively and significantly influenced SCA. Indirectly, USIS was found to be partially mediating USR–SCA relationship. University leaders/staff can gain insights on how to adopt *cross-disciplinary differentiation strategies* that enable their institutions to shift from being just socially responsible to becoming socially innovative by presenting solutions to social, economic, cultural, health-care and environmental problems/challenges in their communities. This can be sustained through:

- developing innovative quality-based processes, programmes and services related to education, research and community outreach that better serve social needs in general and during pandemics in specific; and
- involving staff in USR\USI strategies formulation and execution for better society engagement to be quality-accredited and unique over their rivals.

(2) The mean scores of each construct were observed to be *higher in the health-care sector* more than those of the faculties of engineering, science, technology and applied arts as well as the humanities, arts and social sciences. These results point out that the perception of the quality units about the role of the health-care faculties in satisfying social needs and engaging with their communities is higher than that of the other faculties. Also, USIS (in terms of SA) had a positive yet insignificant influence on SCA. Faculties' leaders/managers, especially those related to engineering, technology and humanities, should promote greater awareness among their teaching staff and students of the social problems in their communities and the vital role of their relevant educational/research services in improving the society and mitigating its problems. As a result, satisfying social needs through promoting innovative educational/research processes and services can reinforce a favourable social change.

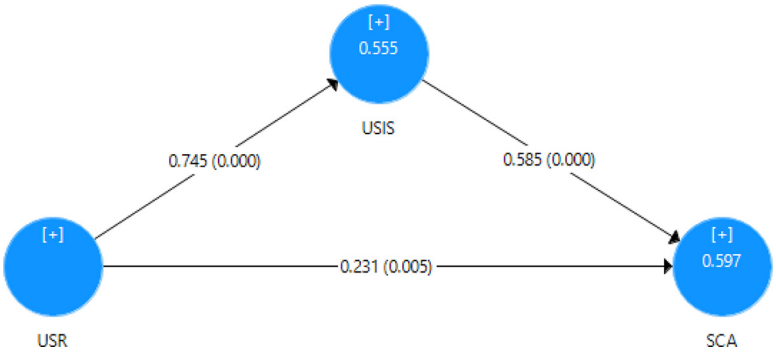


**Figure 5.** Structural model showing USR–USIS–SCA direct significant positive relationships produced by SmartPLS v.3.2.9 that supported main hypotheses

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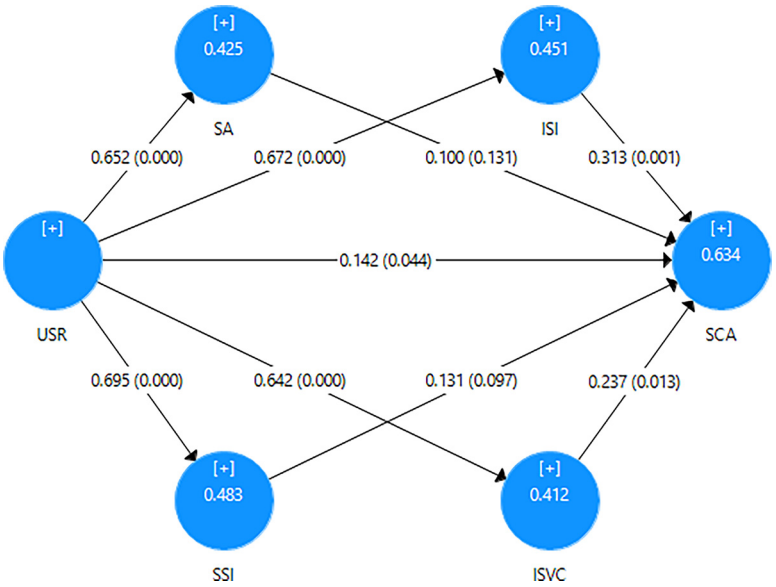


**Figure 6.**
Structural model demonstrating the results after testing sub-hypotheses between USR, SCA and four dimensions of USIS

(3) Drawing on the *findings of qualitative in-depth interviews*, Figure 7 is presented by the authors to illustrate the practices underpinning USIS implementation in Egypt in general and particularly during such unprecedented times of *Covid-19 pandemic*. A quality unit leader that was interviewed by the authors pinpointed the importance of such practices to be quality-accredited and unique over their rivals through revealing that:

To achieve the quality accreditation from NAQAAE we had to present all the required documents that prove our Faculty's social engagement and sustainable development practices in addition to our innovative teaching, learning and assessment processes, which were all conducted online and that facilitated our effective, safe, efficient and distinctive operations during COVID-19 pandemic.

(4) In addition to these practices and building on the findings that USIS (in terms of ISI, SSI and ISVC) positively and significantly influenced SCA and significantly mediated USR–SCA relationship, *USR/USI leaders and quality unit managers*, who pursue the quality accreditation and sustainable competitiveness in an emerging market are advised to develop their performance in the light of the following recommendations. *First*, they should *boost the social innovation intention* through pointing out effectively the existing social challenges in their community and adding social, economic and environmental aspects to their *mission, objectives and key performance indicators* that measure their *strategic and operational performance*. *Second*, they should *formulate an organisational structure for reinforcing USI* that facilitates the collaboration with all relevant stakeholders, who share their financial, human and technological resources to overcome social challenges throughout a well-defined process. *Third*, they should *produce social value innovatively* via offering contemporary educational services/programmes and research outputs that match the social needs and continuously assessing the effect of their operations on the society.

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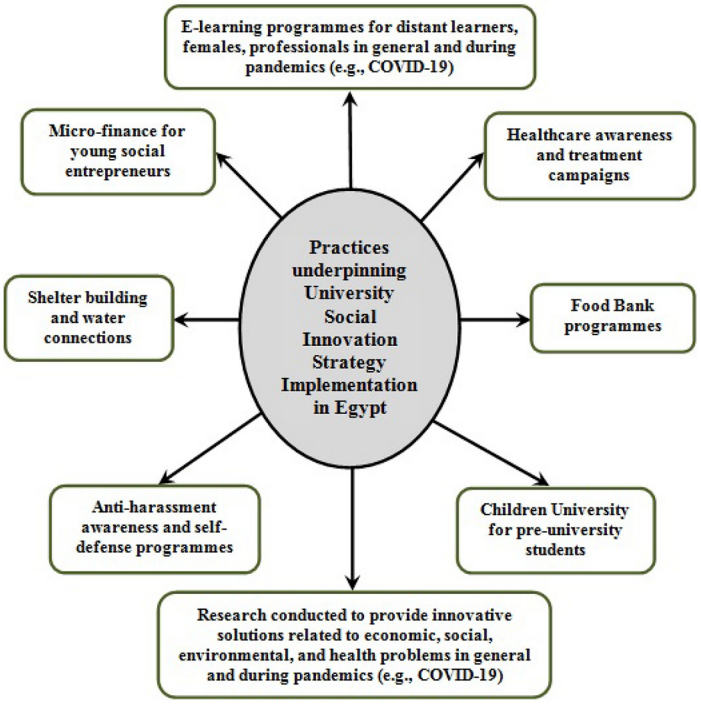


**Source:** The authors

**Figure 7.** Practices underpinning university social innovation strategy implementation in Egypt

A *limitation* that can be reported in this research is that all variables and its dimensions were analysed together in a single model. Hence, as discussed by Hayes (2018), future USIS studies can carry out the mediation test for every mediator using one model or parallel/sequential multiple-mediation models. Additionally, as a result of having a small diverse population, the respondents from the quality units of 109 faculties were not distributed equally across the 11 Egyptian governorates (as illustrated in Table 2). For this reason, the authors followed Cooper and Schindler (2014) and formed a data collection team that contacted the quality units of all the 199 quality-accredited faculties by NAQAAE. The sample comprised 109 faculties that responded from three main sub-sectors of health care in addition to engineering, science, technology and applied arts as well as the humanities, arts and social sciences at 12 public and 9 private/international universities in 11 Egyptian governorates (as exhibited in Table 1). Consequently, future USR and USI studies can build on the findings of our paper and fill a research gap by using a larger sample gathered from different developing/developed countries and compare the results across various sectors.

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## Appendix

| Factor/measure | Description of measurement item |
|---|---|
| *USR (adopted from National Authority for Quality Assurance and Accreditation of Education, 2015)* | |
| $USR_1$ | Our faculty implements a strategic plan that serves the diverse needs of its different stakeholders (e.g. society, environment, industry) |
| $USR_2$ | Our faculty uses different media to communicate its community service activities to its internal/external stakeholders (e.g. teaching staff, students, internal departments, and other stakeholders) |
| $USR_3$ | Our faculty has different units that are responsible for community service and write periodic reports on their performance |
| $USR_4$ | Our faculty offers different educational/research/community-outreach activities that serve the needs of our society |
| $USR_5$ | Our faculty has a database including all its community service activities for the past three years |
| $USR_6$ | Our faculty maintains records for all its meetings/councils that are attended by its different stakeholders |
| $USR_7$ | Our faculty identifies the roles of its different stakeholders, who participate in offering to our students and graduates internship/employment/entrepreneurship opportunities |
| $USR_8$ | Our faculty uses the appropriate data collection methods to measure the satisfaction of its stakeholders regarding its community service activities |
| $USR_9$ | Our faculty analyses/evaluates the data collected of its stakeholders' satisfaction |
| $USR_{10}$ | Our faculty benefits from the data collected in making relevant corrective decisions for quality improvement |
| *USIS/SA (adopted from Esen and Maden-Eyiusta, 2018)* | |
| $USIS_1/SA_1$ | Our faculty leaders are aware of the social problems in our society |
| $USIS_2/SA_2$ | Our faculty leaders are aware of the impact of our faculty's operations on the society |
| $USIS_3/SA_3$ | Our teaching staff/students are aware of the social problems in our society |
| *USIS/ISI (adopted from Esen and Maden-Eyiusta, 2018)* | |
| $USIS_4/ISI_1$ | Our faculty scans/identifies the current social problems in our country |
| $USIS_5/ISI_2$ | Our faculty embeds the social value concept in our vision and objectives |
| $USIS_6/ISI_3$ | Our faculty considers the economic dimension of our activities as well as the environmental and social ones |
| *USIS/SSI (adopted from Esen and Maden-Eyiusta, 2018)* | |
| $USIS_7/SSI_1$ | Our faculty defines how our resources will be used in approaching social problems |
| $USIS_8/SSI_2$ | Our faculty has formalised systems/processes to measure the impact of social value created |
| $USIS_9/SSI_3$ | Our faculty cooperates with internal/external stakeholders to solve social problems |
| $USIS_{10}/SSI_4$ | Our faculty includes internal/external stakeholders in decision-making mechanisms to develop solutions to social problems |
| *USIS/ISVC (adopted from Esen and Maden-Eyiusta, 2018)* | |
| $USIS_{11}/ISVC_1$ | Our faculty considers social value creation in developing new educational service/programme/module |
| $USIS_{12}/ISVC_2$ | We have leaders who are willing to solve social problems innovatively |

(*continued*)

**Table A1.** Questionnaire and its measurement items

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| Factor/measure | Description of measurement item |
|---|---|
| $USIS_{13}/ISVC_3$ | Our faculty is innovative in managing the social impact of our operations |
| $USIS_{14}/ISVC_4$ | Our faculty brings new perspectives to our higher education service to meet expectations of the society |
| *SCA (adapted from Peters, 2007; de Haan, 2015)* | |
| $SCA_1$ | Our faculty has a favourable corporate social reputation perceived by our internal/external stakeholders better than that of other HEIs |
| $SCA_2$ | Our faculty possesses the quality accreditation certificate that uniquely differentiates us from other HEIs |
| $SCA_3$ | Our faculty offers distinctive educational programmes that acknowledge the wider society/environment, which uniquely differentiate us from other HEIs |
| $SCA_4$ | Our faculty offers distinctive researches/projects that acknowledge the wider society/environment, which uniquely differentiate us from other HEIs |
| $SCA_5$ | Our faculty offers distinctive community services that acknowledge the wider society/environment, which uniquely differentiate us from other HEIs |

**Table A1.**

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