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Universities as change agents in resource-poor local settings: An empirically grounded typology of engagement models

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ABSTRACT

University-community engagement is emerging as an important channel for social innovation, requiring universities to act as change agents in their local settings. The role of change agent presents new challenges for universities as it requires going beyond institutional borders to collaborate with *non-traditional partners* such as informal enterprises, and to stimulate and support innovation that may be seen as relevant to a given *local setting only*. Universities are thus grappling with finding suitable mechanisms and models for engaging in institutional contexts that are vastly different from traditional formal university- and firm-based settings. Based on empirically rich case study research in a South African township, the paper presents new conceptual insights on how universities can catalyse social change in resource-poor local settings through strategically selecting mechanisms and models of engagement that align with locally-embedded institutions, practices and needs. Four types of engagement models are identified, each relate to different models of entrepreneurship and innovation and thus different modes of learning. The typology distinguishes between dominant, traditional knowledge transfer models, and emergent, socially responsive models that show greater promise for promoting collective agency and effecting systemic social change. The typology can be used to assess current practice and inform future strategies.

1. Introduction

In response to widening inequalities, deepening poverty levels and environmental sustainability concerns, there is growing interest in the role of universities as change agents, particularly through their third mission activities (Brundenius et al. 2017; Sánchez-Barrioluengo, M. and Benneworth 2019; Trencher et al., 2014; Wakkee et al. 2019). The role of change agent presents new challenges for universities as it requires going beyond institutional borders to collaborate with *non-traditional partners* such as informal enterprises or community-based actors, and to stimulate and support innovation that may be seen as relevant to a given *local setting only*. A major challenge is that local community-based settings, particularly in resource-poor contexts such as South African townships,¹ present institutional environments that are vastly different from traditional formal university- and firm-based settings. For example, business activities may be largely informal and collective. A second challenge is that transformative social change depends on social innovation, that is, innovation aimed at promoting

systemic change and ‘bottom-up and interactive cumulative learning’ processes towards achieving collective wellbeing (Rao-Nicholson et al., 2017: 231). Emphasis is thus on promoting agency, at the level of the individual and collective. The engagement and social innovation literatures have highlighted the role of individual ‘champions’ (Kruss and Gastrow 2015) or ‘innovation heroes’ (Pel et al., 2019) but provide little insight into the promotion of collective agency. How can universities promote agency, and address such tensions and asymmetries that arise when performing their role as change agents in resource poor contexts? The paper tackles this question, the answer to which is not well-understood, as yet.

We aim to explore how universities can overcome their own path dependencies, to act as change agents facilitating transformation in the development trajectories of resource-poor communities, and in their own local contexts. Working within a grounded theory approach, we draw on insights from the innovation systems and neoinstitutionalist literatures. We aim to contribute theoretically and methodologically to the emerging literature on the role of universities in social innovation.

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¹ Created under the apartheid system in South Africa, townships are residential areas that were reserved for the African working class, typically at a distance from work and other opportunities. They remain under-resourced in terms of housing, energy, water and sanitation infrastructure, as well as social, educational and cultural facilities.

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Based on empirically rich case study research in one South African township, the paper presents new conceptual insights on how universities can catalyse social change in resource-poor local settings, through strategically selecting the models of engagement that underpin their programmes and initiatives. The research builds on the emerging strand of social innovation literature that highlights the importance of institutions and agency. Specifically, the analysis provides useful insights into the role of collective agency, institutional work and the interaction between agency and local conditions, which have been identified as understudied areas in the social innovation literature (Avelino et al., 2017; Cajaiba-Santana 2014; Garud et al., 2007; Pel et al., 2019; Rao-Nicholson et al., 2017). We used a local innovation and production systems (LIPS) framework as a heuristic device to map and analyse knowledge flows and learning strategies. The LIPS lens draws attention to the importance of local embeddedness, and building linkages across production value chains, and between knowledge producers, knowledge users and support structures, to create new development trajectories that can effect systemic social change.

The next section presents a conceptual framework used to investigate the role of universities as change agents in resource poor settings, drawing on the neoinstitutionalist and innovation systems literatures. Section 2 describes the methodology of the empirical research on which the paper draws. Section 3 presents an analytical description of the internal and external interface structures that one research university employs to enact its role as change agent, given its institutional commitment to promote social responsiveness. Section 4 analyses the nature of entrepreneurship and innovation in a food services local innovation and production system, to lay the foundation for assessing how well the university mechanisms are aligned to support new trajectories. Section 5 consolidates the conceptual and empirical insights into a typology to inform how universities can select models of engagement that align with the collective agency strategies and institutional contexts of community partners. Section 6 concludes to consider how the paper contributes to further understanding of the role of the university as change agent through community engagement.

2. Conceptual framework to investigate the role of universities as change agents

2.1. University-community engagement as a channel for social innovation

Countries in the global South, such as South Africa, have long grappled to contextualise the dominant models of the entrepreneurial university and the third mission, which tend to promote the role of the university in economic growth based on the experience of the global North (Göransson et al., 2009; Klofsten et al. 2019). There have been numerous attempts in a range of countries to conceptualise alternative models of the ‘developmental university’ that promote inclusive human and social development (Brundenius et al. 2017; Arocena et al., 2017; Akpan et al., 2012). In South Africa, the legacy of the colonial and apartheid past has meant that there are very diverse types of university established for distinct purposes in different socio-economic periods (Kruss et al., 2012). These conditions created the space for vigorous debate across the higher education and science, technology and innovation systems, around the developmental nature of higher education’s “third mission”, centred on how to define and enact “community engagement” (Akpan et al., 2012; CHE 2010; Erasmus and Albertyn 2014; HEQC 2007; Lazarus et al., 2008). The debate has matured to the point that engagement is now conceptualised as integrated with, rather than separate from, research and teaching (Mtawa et al., 2016; Bender 2008; Cooper 2010; Kruss et al., 2012).

While there has been a stronger focus on student service learning forms of engagement (Preece 2016), some academics are now grappling to define engagement in terms of catalysing social change, through orienting research and teaching to address development needs in the local context (Bhagwan 2018; Netshandama 2010; Kanyane 2008).

Insights are gained through research on the role of the university in place-based development, which proposes the notion of universities as ‘cultural and socioeconomic agents’ (Bank, 2019; Bank et al. 2018; Goddard 2009). There is also an emerging focus on learning through engagement with community-based actors (Preece 2016) and through the use of participatory methods (Pánek and Vlok 2013). Greater emphasis is thus placed on local territories and bottom-up processes involving the pursuit of common goals and co-creation towards transformative change (Trencher et al., 2014). However, there remains a significant gap in understanding as to exactly how these transformative engagement processes may be enacted in academic practice more widely, across universities, to which the paper aims to contribute.

2.2. Asymmetries between formal and informal institutional environments

2.2.1. Alignment between institutional contexts

Institutional asymmetries between the formal context of a university and informal context of a community are central to understanding university-community engagement that leads to social change and transformation. Based on the neoinstitutionalist literature, we conceptualise institutions as ‘taken-for-granted, culturally embedded understandings’ that specify and justify, both formal and informal, social arrangements and behaviours (Garud et al., 2007: 958). Institutions provide cognitive frames that direct sense-making processes. Individual actors and organisations are expected to conform to these rules or guides for behaviour if they are to receive support and legitimacy (Scott 1995: 132 in Garud et al., 2007). Framings and narratives introduced through university-community engagement activities that do not align or fit with legitimised framings and narratives in the local context are thus unlikely to receive widespread support at the community-level (Pel et al., 2019). The contribution of university-community engagement to social change is therefore dependant on a degree of alignment in the institutional contexts of university-based actors and community-based actors.

A growing body of literature exists, exploring the specific institutional conditions within universities that are necessary for promoting university-community engagement that can bring about social change with long-term impact (Brown-Luthango 2013; Kruss and Gastrow 2015; Thakrar 2018; Wakkee et al. 2019; Weerts and Sandmann 2010). Given universities’ long histories and specific mandates as knowledge producers, institutionalising new frameworks, structures and mechanisms that can facilitate long-term community engagement are identified as crucial.

The literature has paid less attention to the specific institutional conditions within local community settings that foster engagement and facilitate the use of formal knowledge to address local development needs (Brown-Luthango 2013; Kruss and Gastrow 2015).

Even fewer studies have considered the connection between university engagement frameworks and approaches, conditions in the local context, and agency. Petersen et al. (2018), for example, show how different engagement models interact with existing social structures and institutions in the local context, to either promote or discourage proactive strategies by community-based actors. Through proactive strategies, community-based actors are able to apply knowledge gained to solving problems in their local context and change trajectories (see also Arza and Zwanenberg 2014).

The interaction between individual agency and local conditions, and how these shape social innovation processes and outcomes is underexplored in the literature (Avelino et al., 2017; Rao-Nicholson et al., 2017). We thus draw on insights from the neoinstitutionalist literature, specifically the concept of institutional work, to address this gap.

2.2.2. Path dependencies, institutional work and collective agency

Institutions contribute to path dependencies that may serve to constrain or enable agency. Considering that agency is distributed within and through social structures that actors themselves have created (Garud and Knonoke 2003 in Garud et al., 2007), the institutions are

actively maintained and can be disrupted and changed through ‘purposive action’ or ‘institutional work’ (Lawrence and Suddaby 2006: 215). Actors work to constantly negotiate and maintain institutions, but also renegotiate institutions, which can result in stabilisation or transformation within social systems.

Actors are defined as ‘knowledgeable agents with a capacity to reflect and act in ways other than those prescribed by taken-for-granted social rules and technological artefacts’ (Garud et al., 2007: 961). The way in which agency is exercised thus depends on the ability to reflect on and change intentions and actions. Individual action is instrumental but also involves sense-making processes aimed at co-ordinating and acting with others (Fligstein 2001; Fligstein and McAdam 2012; Garud et al., 2007). New social practices are only imitated and institutionalised if they are seen as legitimate by most in the social system (Cajaiba-Santana 2014).

What an actor is able to do is both constrained and enabled by the institutional environment, and their personal characteristics and social position (Cajaiba-Santana 2014; Lok and Willmott 2018). The importance of ‘skilled strategic actors’ (Fligstein 2001), ‘institutional heroes’ (Leca et al., 2008; Pel et al., 2019), ‘engagement champions’ (Kruss and Gastrow 2015) and ‘boundary spanners’ (Weerts and Sandman 2010) has thus been highlighted. The fragility of engagement activities relying on individual champions is a concern. Kruss and Gastrow (2015), for example, show how collaborative arrangements championed by strategically skilled actors (Fligstein 2001) show greater potential to succeed in achieving their goals, but collapse once the individual champion leaves. Kruss and Gastrow (2015), amongst others (Brown-Luthango 2013; Thakrar 2018), thus emphasise the importance of creating an enabling institutional environment within the university, for example, by implementing a strong engagement policy through internal and external interface structures, to support engagement activities across the university.

Putting in place structures and mechanisms promoting engagement is only part of what is needed, however. Drawing on Von Tunzelmann (2010; Von Tunzelmann and Wang 2003), Petersen and Kruss (2020) stress the significance of building dynamic interactive capabilities, ‘the capacity for learning and accumulation of new knowledge on the part of the organisation, and the integration of behavioural, social and economic factors into a specific set of outcomes’. To enact these capabilities to promote alignment between universities and community-based actors requires institutional work. For social change to take place, actors need to mobilise and generate collective action to secure support for and acceptance of institutional change (Fligstein 2001 in Garud et al., 2007). Simplistic views on power asymmetries between universities and communities in resource-poor contexts are thus inadequate. Power is multi-dimensional and is negotiated and exercised in different ways, even by those with relatively fewer resources (Lawrence 2008).

Agency, both individual and collective, is thus key for social change. The importance of distributed or collective agency, which is crucial for achieving systemic social change, has been neglected, and needs to be foregrounded in analysis.

2.3. Asymmetries between formal and informal modes of innovation and learning

The relative importance of collective agency is one significant difference between informal and formal institutional contexts (Cozzens and Sutz 2014), and is critical to assessing the potential alignment and symmetry in institutions, knowledge bases and learning between university and community-based actors.

The emerging body of research on innovation in informal settings shows that innovation and learning tends to be collective in nature, with tacit knowledge and informal or experiential learning processes through, for example, on-the-job-training and traditional apprenticeships, being more common (de Beer et al. 2013; Kraemer-Mbula et al., 2019; Charman et al., 2019a).

Lundvall (2016: 112) proposes a typology of knowledge that enables a more nuanced understanding of knowledge and learning across university and informal community settings: tacit forms of knowledge that include business ‘know-how’ and ‘know-who’ (when and where), and scientific knowledge that includes codified forms of knowledge about facts (‘know-what’) and specialised scientific knowledge (‘know-why’). ‘Know-how’ and ‘know-who’ forms are typically developed by learning through doing, using, interacting, imitating and searching (DUIIS) (see Jensen et al., 2007), whereas forms based on scientific knowledge are typically gained through interaction with universities and other formal knowledge producers.

The DUIIS mode of learning is crucial for the most wide-spread forms of entrepreneurship found in informal settings, based on survival, or necessity-driven entrepreneurship (BER 2016), and is likely to foster the kinds of incremental changes to goods and services and work organisation that tend to be the most common innovation activities (see Lundvall 2016; Kraemer-Mbula et al., 2019). Universities do not play a prominent role, at least not through their traditional channels and mechanisms. Traditional knowledge transfer models are thus not suitable, particularly for social change at the local level (see for example, Aranguren et al., 2016).

This is a concern considering that universities traditionally focus on promoting science, technology and innovation (STI) modes of learning and innovation, which foster opportunity-driven entrepreneurship and innovation (Lundvall 2016). Focussing *mainly or only* on the STI mode in a local setting where necessity-driven entrepreneurship is common, and knowledge needs relate more to tacit forms of knowledge, is unlikely to result in a major change in trajectory, as it excludes the majority of the local businesses and other community-based actors. Conversely, focusing mainly or only on the DUIIS mode may “trap” local businesses and community-based actors in forms of necessity-driven entrepreneurship that do not break patterns of access to and distribution of opportunity and resources. As Lundvall (2016) argues, to tackle path dependencies, it is crucial to balance imperatives to lead to the changes in trajectory that are required to promote upgrading and strengthen local innovation systems.

Universities aiming to contribute to social change in resource-poor local contexts are thus challenged to evaluate the suitability of the learning and innovation modes promoted through their own programmes and initiatives. As the literature discussed here shows, the design of programmes and initiatives should be underpinned by suitable knowledge of the local context, which Benneworth and Olmos-Penuela (2018: 4) refer to as ‘cognate knowledge’, and bottom-up and collective learning (Rao-Nicholson et al., 2017).

2.4. Interaction between agency and local conditions: the value of a local innovation and production systems lens

As one step towards such knowledge, the academic and policy literature on the third mission activities of universities signal a shift in focus to the contribution of universities to development at the regional and local levels (Bank et al. 2018; Bank 2019; Thakrar 2018), based on the recognition that institutional and geographical proximity makes interaction easier.

Local innovation systems emphasise the territorial dimension and draw attention to the cumulative knowledge accumulation processes that shape and can disrupt path dependencies and opportunities. As Cooke (2001) argues, the capabilities to interact to achieve collective learning is crucial. The literature on local innovation systems has tended to emphasise university-industry linkages in the formal sector and thus, engagement mechanisms underpinned by conventional knowledge transfer models (Ferretti and Parmentola 2015).

Local innovation systems or ecosystems approaches can however, be useful in directing ‘attention to the conditions under which social innovation initiatives thrive’ (Pel et al., 2019), particularly the importance of embeddedness into micro-, meso- and macro- social fields.

Emphasis is on spatial dynamics at the local level, and how these interact with and shape path dependencies, institutions and social dynamics (Asheim et al., 2011; Cassiolato et al. 2020; Cooke 2001). Pel et al. (2019), for example, show how different types of network configurations that make up local innovation systems relate to goals and needs in the local context, and how agency is exercised.

The value of local innovation systems approaches is thus that they emphasise knowledge flows and interactive learning between formal and informal actors, and how these are shaped by local socio-economic conditions, institutions and path dependencies related to the territory (Cassiolato et al., 2017; Cassiolato et al., 2018). The 'local innovation and production system' (LIPS) framework that is developed in the Brazilian context (Lastres and Cassiolato 2005; Cassiolato and Lastres 2020; Suzigan et al., 2007) recognises the blurring of boundaries between the formal and informal. Scholars studying innovation and learning activities in the informal sector in South Africa and other African countries have used the LIPS framework to explore interaction, innovation and knowledge dynamics (de Beer et al. 2013; Kraemer-Mbula and Wunsch-Vincent 2016).

A major advantage for our purposes is the development of an understanding of university-community engagement as a channel through which universities act as change agents grounded in the lived realities of key actors in a select local territory.

The analysis in the sections below aims to contribute to fill the gap in the literature, focusing on the interaction between agency and local conditions, to inform the role of the university as change agent, by catalysing systemic social change, through its community engagement activities. The key question guiding the analysis is: how can universities align their knowledge and institutional environments with the knowledge and institutional environments of community-based actors, to facilitate systemic change in local development trajectories?

3. Methodology

3.1. Case study design and implementation

The paper is based on a single case study conducted as part of a larger research study exploring how universities and science institutes can engage communities in ways that lead to mutually beneficial outcomes and address national development goals. The larger research project aimed to address the over-arching question: How can universities, and other formal knowledge producers, contribute to building local innovation and production capabilities in impoverished communities in their under-resourced local settings? A detailed description of the methodological framework and case study research can be found in the full case study reports (see Fongwa et al., 2019; Gastrow and Oppelt 2019; Petersen and Magawana 2019).

The specific case was selected as the empirical focus because of the central role the university played as a knowledge actor based in an 'innovation hub', located at a distance from the main campus, in a relatively large township on the outskirts of a large metropolitan area. A significant proportion (38%) of the working age population of this township was unemployed, and the majority of households (78%) reported a very low monthly income (Anderson et al., 2009; Census 2011; HHO Africa, 2015).

The township innovation hub (TIH) acted as a conduit through which the university used its knowledge resources to catalyse social change. The informal traders and NGO workers in our study identified the university as one of two key knowledge actors, alongside a small business development NGO. Other organisations operating from the TIH included a social enterprise offering ICT-related training and services, an economic development intermediary, and NGOs offering training and other services such as HIV/AIDS support.

The TIH was established in 2015 on the site of a disused cement factory, and has become an important landmark and symbol of industrial development in the township area:

Out of the ruins of a derelict cement factory in the heart of one of (a South African city's) poorest suburbs, an astonishing hub of enterprise and activity is rising. [The Township Innovation Hub] has ambitions to change the way local business in the area is conducted, offering the kind of A-grade office environment you might expect in the buzz of (the city's) trendier urban spaces.

In (the township), however, it rises unexpectedly out of the chaotic streets where informal vendors stake out their own places of trade, with or without licences, and the economy lurches along haphazardly (Cape Business News 2015).

The TIH provides small business development support services and affordable formal business premises at cheaper rates than most formal premises in the area. An innovative design was used to create a type of business park, including the use of reclaimed shipping containers, which are the most popular structures used by informal traders in the township.

The informal micro-enterprises that used the services of the TIH tended to operate close to shopping complexes and other formal businesses, in residential areas and along transport routes, typically focused on trade in soft goods, fruit and vegetables, clothing and beverages (Charman et al., 2019a).

The local innovation and production system around informal food services was selected as the empirical focus of the case study. The sector is of interest because it provides opportunities for informal traders to enter the local value chain, as activities such as fruit and vegetable selling are low-skilled, and require little capital or infrastructure. Also, the distinct spatial arrangements and cultural preferences in townships present unique opportunities for informal food services traders to thrive. However, the increasing dominance of formal retailers, particularly supermarkets, is beginning to transform the sector, challenging necessity-driven entrepreneurs to find innovative ways to stay competitive, in order to survive and grow.

3.2. Participatory research methods

We analysed a rich set of empirical data collected using a mix of qualitative participatory methods (see Table 1), from October 2017 through to November 2019. Each method built on the other, focusing in more systematically and in greater depth to collect data from the perspective of community-based actors, at the micro-level of engagement between university actors, informal traders and other actors in the LIPS.

Through experimentation with these participatory methods, the research gathered rich contextual data to enable the development of theoretical insights into engagement, agency and institutional work, and knowledge dynamics grounded in the lived realities of actors in such a resource-poor context. The following sections use this rich data to explore the role the university could play to facilitate the kind of innovation activities required to shift trajectories, so that informal food services traders could be able to move onto more sustainable and prosperous paths, and not only to survive.

4. Case study of a research university as a change agent in a South African township

In South Africa, publicly-funded universities are mandated to engage at the community level and contribute to address development concerns in their local contexts. After 2005, a strong policy imperative to institutionalise 'community engagement' in university policy and structure emerged, partly in reaction against growing industry influence on research, partly in response to ongoing poverty, inequality and unmet socio-economic needs (CHE 2010; HEQC 2007). Universities responded in varied ways, depending on their conceptualisation of community engagement, their mandate and role in the national higher education

Table 1
Case study qualitative data collection methods and samples.

Method	Purpose	Participants
Two initial stakeholder workshops (full day events)	Stakeholder buy in and consultation, and shape research focus	Each workshop included 40 representatives from: a national university-community engagement coordinating organisation, universities, research institutions, NGOs and community-based organisations (CBOs), students, and national and local government
Digital Storytelling workshop¹ (five consecutive days)	Understanding the nature of innovation and learning in informal enterprises, and identification of focus LIPS	7 informal traders based in the township, recruited in the vicinity of the TIH (including 2 NGO incubator programme participants)
Semi-structured interviews (ranged from 20 to 100 min)	Map informal food services LIPS, and nature of innovation and learning from university and TIH	Based in the township and TIH: 4 informal fruit and vegetable sellers, 3 informal traders at the TIH, 1 formal fruit and vegetable seller/farmer, 4 NGO representatives, 2 university representatives Others identified through the stakeholder workshops: 1 local government official, 3 local university representatives
Photovoice workshop (4 consecutive days)	Insight into the role and nature of engagement with the university and TIH	University incubator participants based in the township: 2 co-founders of a tech start-up, 2 informal traders, 3 NGO founders/representatives Participants who regularly engaged with the university and/or used the TIH facilities: 1 post-matric student, 2 informal traders
Participant observation	Insight into LIPS, role and nature of the university and TIH	Workshops and consultative events at the TIH, multiple follow-up visits and informal conversations with participants in the township
Consultative closing workshop (full day)	Present findings and analytical typology for stakeholder comment	Approximately 35 representatives from a national university-community engagement coordinating organisation, universities, research institutions, NGOs and CBOs, students, national and local government, and informal traders

¹ Digital storytelling and photovoice are participatory visual methods that enable co-learning and the co-production of research outputs.

system.

The Research University (RU)² is well established and performs very well on global higher education rankings. It adopted the concept of 'social responsiveness' in 2006, in response to the national policy push, and in 2012, a formal policy on social responsiveness was implemented as a guiding framework to institutionalise engagement through teaching and research, with all types of non-academic partners, including community-based actors (UCT 2012; Cooper 2010).

RU created institutional structures to promote engagement

² There are three types of university formally defined in South Africa: research universities, universities of technology and comprehensive universities.

internally, and to facilitate engagement with external non-academic actors. Drawing on the concept of institutional work, we analyse the ways in which these external and interface structures facilitate change in the institutional environments of RU and the local township, to support its role of change agent. To illuminate asymmetries between formal and informal modes of innovation and learning, we draw on Lundvall's (2016) typology of forms of knowledge, to identify the main forms of knowledge promoted through each university interface structure. Table 2 summarises the analysis of each structure, and the kinds of institutional work and knowledge promoted. Such analysis lays the foundation for further in-depth analysis in Sections 4 and 5, of how these align with the knowledge needs and learning strategies found at local level in the township.

4.1. New institutional strategies and structures to promote social responsiveness and engagement

Table 2 demonstrates how RU created new institutions to support the institutionalisation of the social responsiveness agenda and grow engaged scholarship. Rather than disrupt deep-rooted institutions associated with the status of a research university, such as academic freedom and producing journal articles, RU adopted the notion of social responsiveness based on existing practice, norms and values within the university. Hence 'engaged scholarship' was emphasised, linking engagement to academics' disciplinary or professional expertise (UCT 2012:2; Cooper 2010). Engaged scholarship was led and promoted by dedicated internal interface structures such as a coordinating 'social responsiveness' unit, together with other administrative support units. Such a strategy of 'mimicry' eases the adoption of new institutions (Lawrence and Suddaby 2006), but change throughout the university may be slow.

We found that in practice, the main mechanisms for engaged scholarship continued to be through conventional channels: largely the responsibility of individual departments and units, particularly through the practical experience and research projects that form part of students' degree programmes.

Even the design of the 'science shop', a new external interface structure aimed to facilitate community-based actors' access to university knowledge resources, centred on engagement through student projects and programmes. Through negotiating formal agreements, the science shop could support a gradual shift in academic identities and institutions associated with engagement practice. The distance from the local community meant that there was limited interaction, as community-based actors needed to approach the science shop based in the city or through the online platform for assistance.

Some mechanisms at the departmental level also facilitated knowledge generation as well as repeated interaction, which can contribute to building the capabilities of community-based actors to de-codify and transform scientific knowledge for practical use. In general, however, the students involved in service learning and engaged projects tended to have limited knowledge transformation capabilities. They lacked the necessary cognate knowledge of the local context, and were still building academic knowledge and expertise, restricting their role in shifting norms and practices and building normative networks. For example, one of the informal vegetable sellers participated in a student project that involved assistance to set up a website for his business and provide support to identify new opportunities. A challenge was that the informal traders needed to have basic capabilities to use the knowledge gained and capture opportunities for growth, as the experience of this informal trader shows:

My partner uses the website. But I think he also has a problem updating it because they showed him once...The students that were here went around to approach some customers on our behalf...Most of them made promises although they didn't do anything about it.

Table 2
Description of RU's structures promoting engagement and the institutional work and knowledge types promoted.

RU structures	Objective	Knowledge type promoted	Agency	Institutional work in the university	Institutional work in the local setting
Internal interface structures					
Coordinating unit Established 2008 Located at the main campus in the city	Implement social responsiveness policy through building capacity and infrastructure and coordinating engagement activities	Mainly scientific knowledge ('know-why', 'know-what')	Skilled strategic leadership by a high-level executive manager	Leading in promoting a social responsiveness agenda; redefining the boundaries of the university and access to resources; lobbying for resources; creating new rules, practices and standards, and identities for academics and students as 'engaged/socially responsive scholars'; and changing the norms associated with teaching, research and outreach. To do this, the unit draws on existing meanings and practices of engagement, and support of existing administrative structures. Institutions maintained through creating an enabling environment and framework for monitoring and evaluation (e.g. social responsiveness policy, annual awards, annual reports and teaching grants)	Takes place through projects and initiatives promoted.
Administrative support units (e.g. research office, and institutional planning unit) Longstanding units, additional mandate to support social responsiveness after 2006 Located at the main campus in the city	Support and promote social responsiveness Support the work of the coordinating unit	Mainly scientific knowledge ('know-why', 'know-what')	Skilled strategic leaders Individual engagement champions in the teams	Supports and deepens the institutional work of the co-ordinating unit . Promotes new student and academic identities. Supports creation of normative networks connecting socially responsive academics and students and others (e.g. local government partnership). Creates new forms of pedagogy and curriculum for socially responsive service learning, and staff development support for teaching and research. Gathers data to support the recognition and monitoring and evaluation system.	
External interface structure					
Engaged research projects and initiatives at department/ unit/ school level Some with longstanding social responsive approach, and some reoriented after 2006 Located at the main campus in the city. Also operates in local communities	Conduct socially responsive research and teaching	Mainly scientific knowledge ('know-why', 'know-what') Also promotes 'know-how' through mentorship approaches	Championed by individual academics and students. Skilled strategic leadership in some departments/ units	Supporting the construction of identities of students and academics as 'engaged/socially responsive scholars' and changing the norms associated with teaching, research and outreach to integrate social responsiveness in teaching and research. Creates and practices new models of engaged scholarship and service learning, creating normative networks through changing cognitive frames, values and practices of engagement with community-based actors and others. Through education and practice, academics and students gain new skills and knowledge to support the social responsiveness agenda. Some departments/units have longstanding traditions of social responsiveness, and others promote social responsiveness alongside traditional models. The creation of enabling environments, promotion, and monitoring and evaluation thus differs across departments/units.	Advocacy and creating new norms for using formal knowledge. Creating new normative networks through facilitating linkages, based on an engaged scholarship model, between community-based actors and knowledge sources and others (e.g. local government) to address local development concerns. For example, a township city lab project facilitated a solution-driven community of practice, which contributed to the development of new linkages, 'shared knowledge resources' (Benneworth and Olmos-Penuela 2018: 4) and new 'cognitive frames' (Garud et al., 2007: 959). Some projects involve students as mentors, including the student observing behaviour and providing advice and training.
Dedicated unit based on a science shop model Established in 2011 Located at the main campus in the city	Mechanism for community-based actors to access university knowledge resources Brokers new linkages between academics/ students and community-based actors.	Mainly scientific knowledge ('know-why', 'know-what') Also, 'know-who' through facilitating linkages	Championed by unit management, and individual academics and students	Advocacy to mobilise resources and support the promotion of the social responsiveness agenda. Defines rules for engagement practice through formal agreements between academics/students and community-based actors. Involves negotiation of power.	Similar to that for the university departments/units/school (as above). The work of the unit is mainly through student research and service learning projects. Through repeated engagements, the unit builds knowledge transformation capabilities in the local communities (particularly

(continued on next page)

Table 2 (continued)

External interface structure					
				Creates and promotes new standards (good practice guidelines). Creates normative networks through linking academics/students and community-based actors based on a new set of beliefs, values and practices for engagement. Promoting community-based projects as a course requirement. Through repeated engagements, practices become routine and embedded in academic practice. Academics and students develop knowledge transformation capabilities and cognate knowledge to better promote institutional change in the local community.	through NGOs), which facilitates embedding of norms and values and further use of formal knowledge.
Community-based innovation hub	First community-based hub Promote youth develop and entrepreneurship in the township	Mainly scientific, 'know-why' and 'know-what' through formal knowledge transfer through events and programmes Also experiential knowledge, 'know-how' and 'know-who' through formal bottom-up learning exchange (e. g. youth workshops), informal interaction and procurement relationship	Skilled strategic leadership by GSB unit management Championed by liaison officers based at the hub Supported by a small team based at the hub	Advocacy to promote a community-based model of social responsiveness and lobby for resources. Defines the (future) boundaries of university membership and access to university resources through creating new rule systems to enable the inclusion of community-based actors. Supporting the construction of identities of students and academics as 'engaged/socially responsive scholars' and changing the norms associated with teaching, research and outreach.	Similar to other units at the university, supports creation and maintenance of new institutions associated with engaged scholarship. <u>In relation to informal business:</u> Advocacy to promote a new form of opportunity-driven entrepreneurship model and lobby resources to promote this model. Defines new rule system and standards for entrepreneurship and doing business. New institutions are introduced alongside existing institutions, prompting entrepreneurs to question their validity. Builds foundation for future disruption of entrenched necessity-driven entrepreneurship model. Construction of identities of entrepreneurs and NGO founders as 'social innovators' and 'social entrepreneurs'. Creates new norms and normative networks and provides education and training in new entrepreneurship model.

This example points to the limitations in practice of new models, identities and norms to integrate social responsiveness in teaching and research, and significantly, their limitations to create new norms for using formal knowledge and new cognitive frames in the local setting. The case study research also revealed that where they are successful, the diffusion and reach of mechanisms such as the science shop or engaged projects championed by individuals was limited, by the entrenched practice of working in silos, and the lack of institutional coordination. The major concern is thus whether and how these mechanisms enabled RU to act as change agent, which requires a degree of corresponding change in the local context. 'Shared knowledge resources' are crucial for building cognate knowledge to support knowledge transformation (Benneworth and Olmos-Penuela 2018:4).

Table 2 identified the community-based hub as a new institutional form located within the township, and therefore with greater potential to enact the role of change agent. The following section focuses on an in-depth analysis of its ability to enact the engagement trajectory in a way that shifts path dependencies within RU itself, and within the food services local innovation and production system in the township.

4.2. Township innovation hub (TIH) as a university community-based hub

To extend engagement 'beyond the traditional spaces of the university', in 2016, RU established its first community-based campus facility in over 170 years of its existence, in one of the oldest townships in the city (Ngewana, 2018: 1). Led by the graduate school of business (GSB), until then based in affluent areas, the aim was to bring the university closer to local communities, to better identify and serve their needs (www.gsb.uct.ac.za/philippi).

The opportunity arose when a key philanthropic organisation supporting the GSB's centre for social innovation engaged in a joint venture with a small business development NGO to create the TIH. RU's community-based hub, based at the TIH, received funding support through the philanthropic organisation, and a university award. The main aim was to promote youth development and entrepreneurship in the township. Programmes centred on hosting public events and initiatives that encourage networking and knowledge exchange. More traditional academic activities included modules in a masters in social innovation programme, and knowledge exchange programmes with other GSBs and university departments globally.

In line with global trends, the GSB's entrepreneurship model promoted two bottom-lines: profit and social impact. Besides brokerage

initiatives, the hub offered a three-month incubation programme for social enterprises, with the aim of cultivating a new narrative to promote framings of social innovation and social entrepreneurship through innovative business models. Business model innovation has been identified as a strategy for informal food traders to capture opportunities that enable entry into the value chain and to keep up with competition (see [Competition Commission, 2019](#)). The incubation programme included access to workspace, resources such as free WIFI and course materials, and mentorship after the programme. In order to better align its strategy with needs in the local community, the GSB piloted several initiatives, and the institutional work they embodied is analysed in the following sections.

4.2.1. Importance of a co-evolving engagement strategy and non-traditional mechanisms

At the outset, the GSB team introduced more conventional knowledge transfer initiatives, such as inviting well-known scholars to engage with local entrepreneurs, but these initiatives had limited reach (University interviewee 1). Since information was commonly shared through word-of-mouth in the township, the GSB had to 'reach out' by going into the community to inform enterprises about their offerings, and to gain a better understanding of needs, norms and common practices. The liaison officers emphasised the significance of building direct, personal relationships with local youth and informal traders. Interaction also took place through workshops, learning lunches and other formal events, which some informal traders reported to be useful. The GSB team was open to 'walk-ins' and endeavoured to make the facility a comfortable and safe space for visitors from the local community. This required the development of a deep understanding of local norms, practices and social dynamics, to facilitate knowledge combinations, as a liaison officer explained:

...where we invite the community...if you're just going to feed people leaves,³ yes it might be all healthy and what not, but there must be something that they're familiar with and that brings comfort to them. Because then it feels like you haven't taken them into consideration. And, again, it will have a ripple effect on how they take in what you have to say. (University interviewee 2)

Informal traders at the TIH were invited to introduce and advertise their products and services at the formal events, as a way to build their customer-base, which contributed to defining their identities as 'social innovators' and opportunity-driven entrepreneurs.

Once the GSB team developed knowledge of the local context, they were able to implement less conventional mechanisms for tacit knowledge exchange that could stimulate change in local trajectories, around procurement relationships. Procuring from informal traders was described as a way 'to ignite that flame for them to really realise it's a service like any other, but also, there will be things that they need to do in order to set up' (University interviewee 3). As one liaison person described how she worked with the informal traders operating from the TIH:

And also, being persistent with saying, please do get a credit card machine, do get something to Snapscan⁴ because not everybody who comes here has got cash. This is going to help you in the long run. (University interviewee 2)

Procurement relations thus emerged as important external interface mechanisms for the exchange of 'know-how' and 'know-what', facilitating the adoption of standards and norms important for traders to access the formal market.

³ A reference to serving salad at events, which does not fit with the culinary patterns of the community.

⁴ An electronic payment method.

A notable example is an informal café contracted as the dedicated caterer for events held at the GSB. After more than a year of providing catering services, the owner of the informal café, with the support of the GSB, managed to convince the TIH's new management team to form a similar arrangement with informal food traders operating from its business park, an example of how RU contributed directly to building the local informal food services value chain. The diagram in [Fig. 1](#) illustrates the local innovation and production system that emerged around the informal café's catering services, including both formal and informal actors for a range of purposes.

This example illustrates the potential for procurement relationships to become mechanisms to build 'know-what' forms of knowledge around acceptable standards for products and services, to complement the 'know-how' and 'know-who' forms of knowledge of the informal traders, which can go a long way to enable them to capture opportunities to supply to the formal sector and enter the value chain. Informal traders may have practical, local knowledge that they use in their business, but disrupting these institutions requires new knowledge combinations, facilitated by RU through the new institutional practices emerging at the community-based hub (see [Freidberg 2007](#)).

The TIH location provided the necessary circumstances to support procurement relations with informal traders, but this is a challenge for university departments and centres that are required to comply with rigid procurement procedures. Therefore, for these mechanisms to promote engagement that has wider reach and greater potential for transformative change, better integration and co-ordination within and across the university is required.

Over time, the GSB team adapted their initiatives to better align their programmes and initiatives with common practice and needs in the local context, which enabled a degree of co-evolution. Being based in the township enabled the university staff's experimentation with non-traditional mechanisms for knowledge transfer, and facilitated the inclusion of non-traditional actors such as informal traders and NGO workers in their more well-established and traditional mechanisms.

The analysis in [Table 2](#) raised critical questions about the limited extent to which RU's external interface structures and the institutional work within these addressed the knowledge needs of informal traders in the township, in practice. The in-depth analysis of interaction, learning and knowledge dynamics in the community-based hub showed what is possible to shift trajectories, but raised further questions about the extent to which the learning strategies promoted through university engagement structures are aligned with the modes of learning and innovation commonly used by informal traders in the township. Hence, in the next section, we analyse the locally-embedded institutions in greater depth, as a basis to assess their alignment with university institutions, and the knowledge combinations required for change.

5. Necessity-driven entrepreneurship and innovation in the informal food services local system

Our analysis proceeded as follows for this section. First, we identified the key knowledge needs of the informal traders in the local system, and the strategies that they used to address these. Second, we explored the extent of alignment between the institutions underpinning the entrepreneurship and innovation activities common in the local system, and those underpinning the entrepreneurship and innovation models promoted through the university programmes and initiatives.

5.1. Informal traders' knowledge needs and innovation strategies

Food services in the township are historically dominated by informal traders ([Charman et al., 2019b](#)). Similar to other 'traditional non-tradeable services', barriers to entry are low, requiring little start-up capital and medium- to low-level skills ([Bhorat et al., 2016: 6](#)). There is also opportunity to earn a better salary than what is possible in a low-wage job. Informal food services appear to be an attractive option

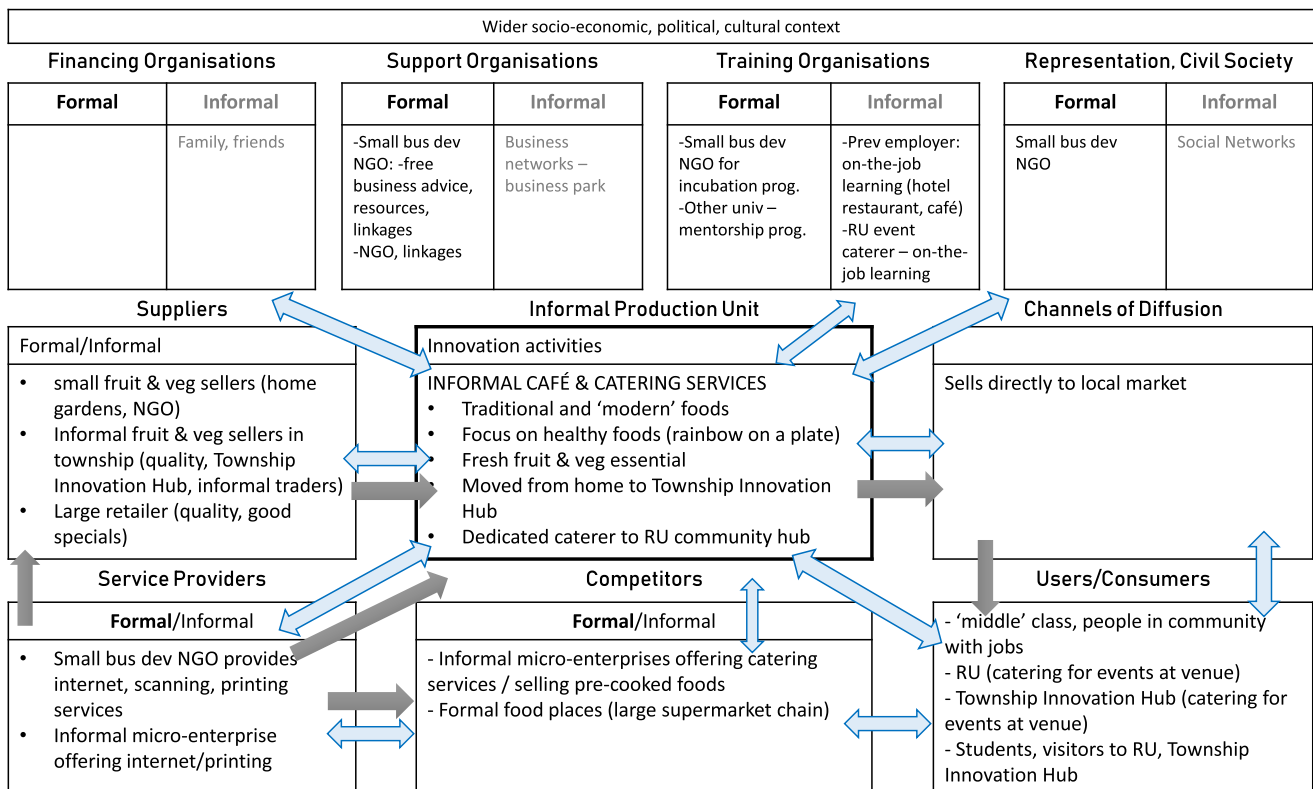


Fig. 1. Local innovation and production system illustrating the value chain of one informal café and catering business.

for foreign migrants with little option beyond very low-wage jobs. We have shown that entrepreneurship in the informal food services sector in the township tends to be necessity-driven rather than opportunity-driven (BER 2016). All except one of the informal traders in our study reported that provision for the very basic needs of their families was the key motivation for starting their business.

Through analysis of how the informal traders addressed challenges in their businesses, we found that they valued customer feedback, experimentation through trial and error, and observing and copying or imitating the practices of other similar businesses. For example, one trader described how he experimented with ingredients in order to create lactose-free biscuits, in response to customer-demand:

Then I go back home (and) try to think on the idea... I said, okay no man, this they don't eat, this they don't eat, this they don't eat. Then let me take these out. Put this, this, this. Actually I was in my lab trying to you know, like a scientist, trying to check what can I put in there...and then they just came up like that and everything was tasting nice for me. (Informal trader L)

Sellers of cooked food also reported searching the internet as a strategy for solving problems and coming up with new ideas to improve their products and services. Others reported searching for ideas and solutions through linkages with previous employers, and the shelves of large retailers, to identify reliable suppliers of popular brands and quality products, for example:

Then I thought, what if I can start to put them in small packages with affordable prices. So, I went inside the shop and I looked at the address of manufacturers from the packs. I managed to get all the information I needed at that moment. (Informal trader M)

DUIIS was thus the most common mode of learning and innovation, which typically led to incremental changes to the goods and services offered, or to organisational changes (see the diagram⁵ in Fig. 2). Innovations were mainly new-to-the-firm, although there were examples of innovations new to the local township industry, such as healthy alternatives to traditional foods, sold by one of the informal cafés and catering services businesses:

It has not been an easy journey as I have introduced something new in our community. But I had to persevere as my aim was to promote healthy eating by using less fat, herbs instead of using spices, quality and high standard of service and affordability. (Informal trader D)

5.1.1. The importance of tacit knowledge and experiential learning

Owners identified business management skills and retail experience as crucial for success in informal food services, as one fruit and veg seller articulated:

One needs to have an experience in the business. Like myself, I worked as a driver and then I became a buyer in the market and I knew that one has to be early in the market so that they can get the right products. I became promoted as a manager and I dealt with customer queries. I became used on how to deal with customers. (Fruit and veg seller 5)

These knowledge needs relate to tacit forms of knowledge about the local that are not easily accessible, except through some form of direct interaction (Lundvall 2016: 112). An advantage for informal traders who grew up in and/or currently live in the township is that they had the opportunity to develop a deep understanding of the local consumer

⁵ The infographic is based on the digital stories produced through the digital storytelling workshop conducted in September 2018.

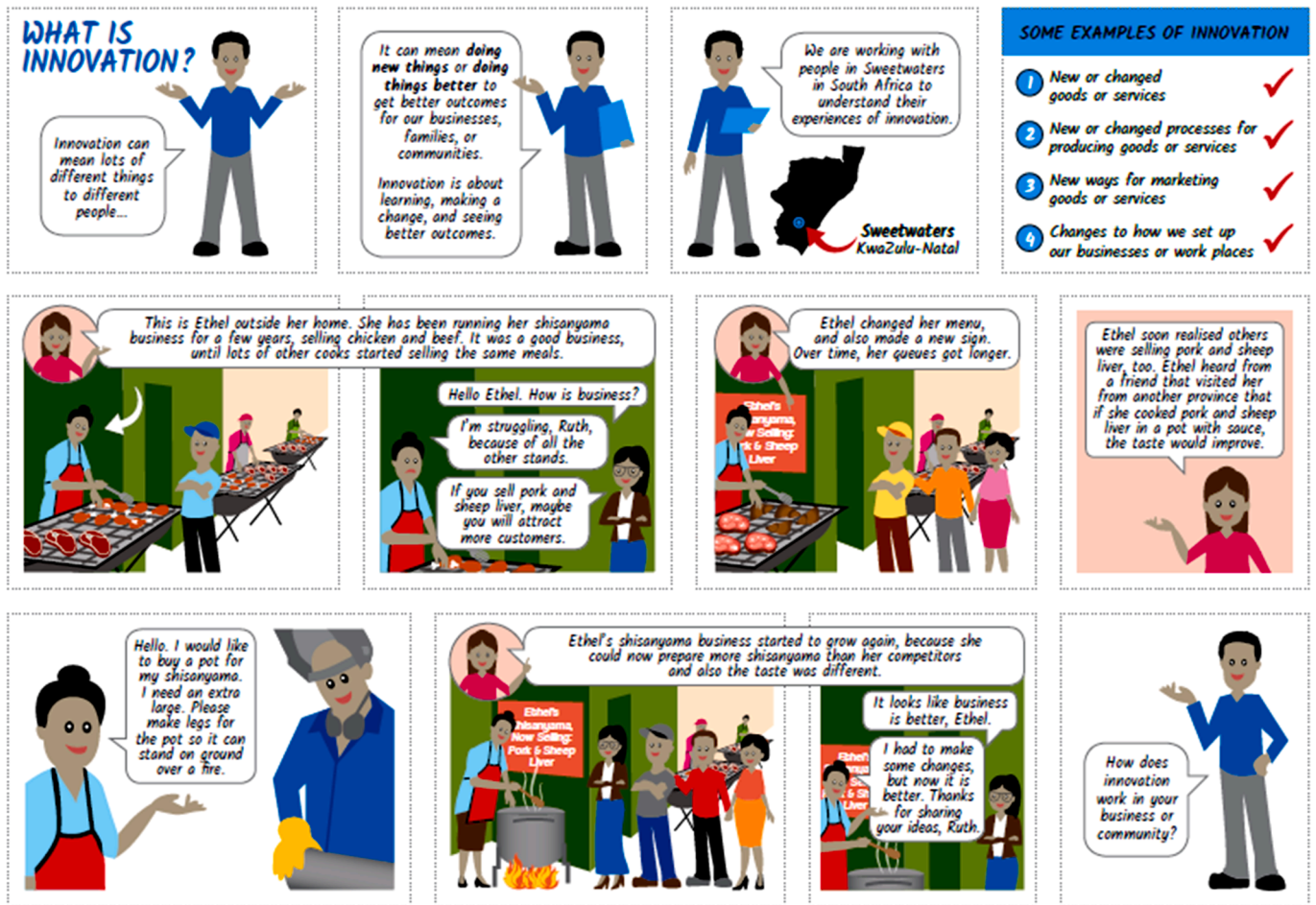


Fig. 2. Defining innovation in an informal business.
Source: Mustapha et al. (2021)

market, including their needs and preferences, buying trends and pedestrian movement patterns. 'Know-who' relates to an actor's social capital, 'knowing who knows what' and 'can do what' and forming relations with actors in possession of relevant knowledge, capabilities and/or physical and financial resources. This category of knowledge underpins the kind of knowledge of markets that helps with identifying opportunities for growth and entry into value chains (see Dube and Nair 2016).

We found that this kind of local knowledge was key for identifying and capturing opportunities - but only if the business owner also had the necessary 'know-how' developed through previous retail experience. All of the informal traders in our study who had survived beyond three years and had grown to become employing businesses, had worked in the industry for several years. Although they were not highly educated, and few had completed secondary school, they had built up experience in the formal industry first.

Work experience in the retail sector was crucial for developing the 'social ability to cooperate and communicate with different kinds of people and experts', which is important for building relationships (Lundvall 2016: 137) with customers as well as with other external actors. This points to the importance of soft skills such as communication, having a positive attitude, enthusiasm, reliability, time-management, adaptability, work ethic, networking and effective problem-solving – all essential skills that informal traders tend to lack. A university-based actor best articulated the challenge she experienced:

How business is done here, is really different to how business is done in town...sometimes the business people, some of them, it can feel

like, they are doing you a favour. I think sometimes, the lack is their attitude and their approach. (University interviewee 2)

Another challenge informal traders faced was acquiring the necessary knowledge to do their own costing and financial management or marketing. For these kinds of management know-how, they turned to formal knowledge producers at the TIH, as best articulated by one informal trader:

In 2008, I got a job as a chef at [a well-known hotel]. Every day I prepared fresh fruit salad and vegetables... While I was there, I got an idea of providing these healthy meals in my community. But I didn't know where and how I was going to do that as it was going to be something new...I met a lady who works for [the small business development NGO at TIH]...I got a coach and a mentor which helped me so much to understand my business and mostly my customers. The information that I got from them made me strong and that was when I knew I was going to run my business at [the TIH]. (Informal trader D)

5.1.1.1. Scientific knowledge and facts. All the fruit and veg sellers reported that the most important knowledge for their type of business is to understand the seasonal nature of fresh produce. Selling low quality produce that is not in demand led to a loss of earnings, as customers often requested a discount for goods perceived to be of low quality, and stock that had gone bad had to be discarded. They gained this knowledge through previous work experience, and learning from friends and other informal traders.

One knowledge gap reported by street vendors related to finding innovative cheap ways to store and display fresh produce during the hot summer months to reduce spoilage. Addressing this gap requires scientific knowledge or 'know-why' (Lundvall 2016: 112). This is one area where universities could contribute but, in general, the informal traders did not report the need to engage with universities or research institutes to address these storage solution needs.

5.2. Alignment between entrepreneurship and innovation models

Our analysis of institutional norms, values and practices in the local setting highlighted the importance of collective agency, which includes pooling resources, and helping others through procurement, as one informal trader explained:

Culturally, if somebody is sleeping outside, culturally we say, "come here, you can sleep on the couch, but I'm not going to let you sleep outside". That's how we do things in the township. (Informal trader N)

5.2.1. Collective entrepreneurship, an institutional void

Given the importance of tacit knowledge and experiential learning, it may be expected that interactive learning and collective action or what Lundvall (2016: 94) refers to as 'collective entrepreneurship' would be valued.

Collective action was a key feature of how some informal traders solved problems in their businesses, to grow opportunities and move beyond necessity-driven survivalist enterprises. For example, informal traders operating from the TIH attempted to work around the constraints of lack of marketing 'know-how' and funding by collaborating to produce pamphlets that they could use for advertising to people located '5-minutes away' on the other side of the TIH gates (Informal Trader D). It was still too costly to attempt this on their own, and they eventually requested assistance from TIH management.

Collective entrepreneurship tended to be more common amongst the non-South African informal traders, to identify ways to overcome challenges and share knowledge and learning. For example, a group of Basotho fruit and vegetable traders 'put some money together' to purchase a second-hand vehicle that they used for collecting stock from the fresh produce market, and to start a side business transporting other traders to the market and delivering their fresh produce (Fruit and Veg Seller 3). These traders reported that they shared knowledge and resources to assist each other, as articulated: It is good to work with other people just like now I work with my brother. If I was working alone I wouldn't have the other business in the mall (Fruit and Veg Seller 3).

In contrast, South African informal food traders were disadvantaged by their weak business networks and less frequent collaboration in pricing and other business activities (see Charman et al., 2019b). Although it is common practice for those selling similar products to cluster along the same street or in the same area, and they may share resources, learning through interacting was limited. This was partly due to differences in language (Informal Fruit and Veg Seller 1), but also a lack of trust and lack of a strong culture of interactive learning.

The clustering can be seen as an outcome of imitation, which is an important learning strategy in the informal sector, but the high levels of imitation hindered interaction and knowledge exchange. Participants in the Photovoice workshop expressed general agreement that fierce competition and 'stealing' of ideas was a constraint to sharing ideas and knowledge:

So, for me, I don't even feel like sharing my ideas sometimes with other young girls because I feel like – the next thing, tomorrow you have your own...and you do it exactly the way I do it.

Lack of trust hindered knowledge sharing and learning in the training programmes offered through the hub:

Most of them are Black Africans and you know how jealous they are about sharing ideas. We don't talk about our businesses...I always tell them...You can't steal someone's talent. If I see that someone doesn't know something that I know I always share it with them.

Collective agency was thus critical to shift trajectories, but collective learning was an institutional void (Turker et al. 2017) for many informal traders.

5.2.2. Alignment with university models

Our analysis emphasised the significance of alignment between the locally-embedded entrepreneurship and innovation models and institutions, and the models promoted through the RU interface mechanisms, to bring about change. In Section 3, we found that the university adapted their offerings to the local context, to some extent, but, in general tended to follow a more conventional knowledge-transfer approach. The TIH was experimenting with new institutional forms to enable the inclusion of community-based actors, which required institutional work in the local setting towards the construction of new identities as social innovators and entrepreneurs. In Section 4, the forms of knowledge, innovation and institutions of informal traders were analysed in depth, to deepen the understanding of the institutional work required to create new trajectories. The analysis showed that collective action was crucial for innovating and doing business in the resource-poor township context, but operating as a collective did not always result in collective learning, with learning through doing, using, imitating and searching strongly established in the practice of informal food service businesses. In the next section, we draw on this empirical analysis to create a typology of models of engagement.

6. An empirically-grounded typology of models of engagement

Fig. 3 presents an empirically grounded typology of how the university may act as change agent through its engagement activities with informal local businesses, based on two dimensions: the alignment between models of innovation and entrepreneurship, and the alignment between modes of learning and forms of agency. The typology is populated by analysis of the alignment between local conditions and locally-embedded models in the informal food services system, and the models embedded in the RU engagement mechanisms and institutions (Table 2). Four types of models of engagement are identified, with differing degrees of alignment: 1) a "traditional small business development model", 2) a "traditional knowledge transfer model", 3) a "socially-responsive engagement model", and a 4) "demand-driven participatory model".

6.1. Traditional models

Type 1 can be described as a "traditional small business development model". It is aligned with the dominant, necessity-driven model of entrepreneurship and innovation, as the focus is on addressing common challenges faced by the majority of informal traders. It is based mainly on a traditional knowledge transfer model that promotes individual agency and individual gain, more than collective agency and collective gain, and is typically promoted through dyadic relations, from an "expert" to a beneficiary. The model is more likely to foster innovation activities involving incremental and process changes, and experiential learning. Examples of this engagement model include mentorship and coaching received through engagement with students as part of their service-learning activities, such as those facilitated by the science shop, or by expert consultants through RU's community-based hub. The walk-in services and training typically offered by small business development NGOs also tended to follow this type of engagement model.

Type 2, a "traditional knowledge transfer model", similarly focuses on the individual, but differs in that it focuses mainly on promoting opportunity-driven entrepreneurship and innovation activities that

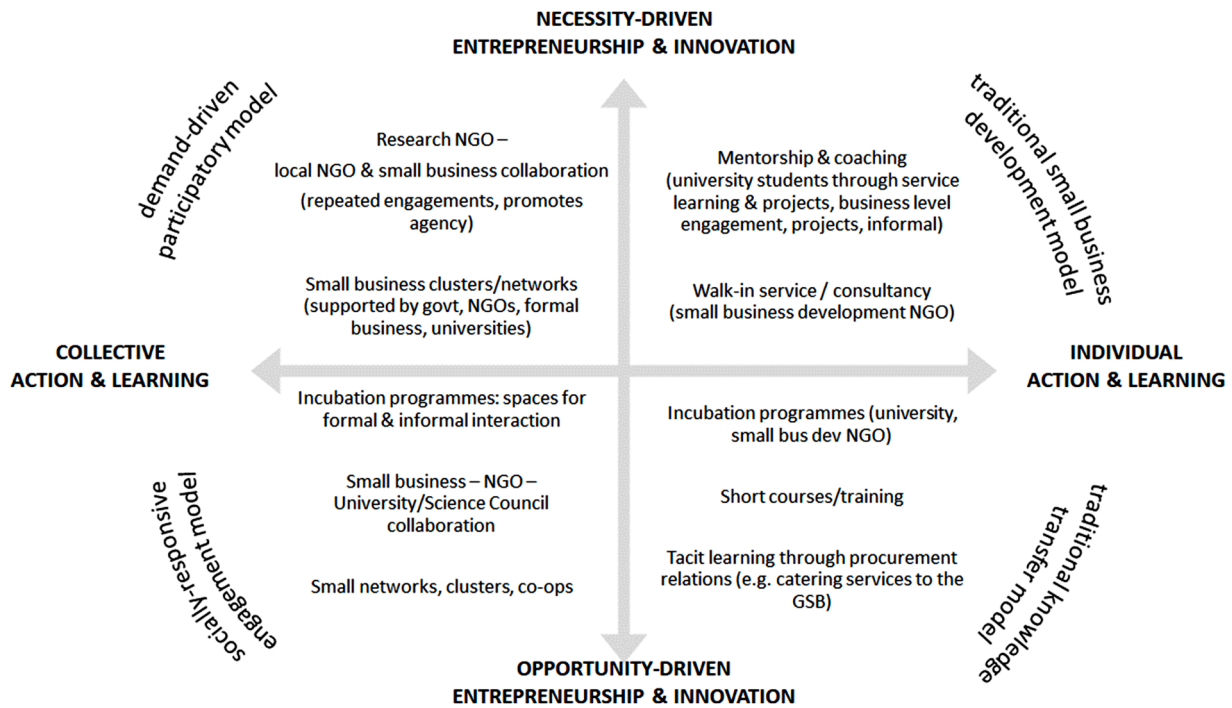


Fig. 3. Typology of engagement models based on the key mechanisms promoting learning and innovation in the informal food services local system.

involve significant changes, such as a change in business model. Programmes and initiatives based on this model of engagement tend to focus more on addressing knowledge challenges requiring specialised technical knowledge. The focus is on skills training and gaining knowledge to take up opportunities to upgrade, enter industry value chains, and so on, rather than implementing incremental changes in order to survive. Most of the programmes and initiatives of RU’s community-based hub are based on this type of engagement model, such as tacit knowledge exchange through procurement relationships with informal traders. Facilitating local networks and collective learning was not a strategic focus. Although the incubation programme encouraged social impact and interactive learning, it was still the individual or the individual business that was expected to use the knowledge to take action and benefit.

6.2. Socially responsive models

Type 3 and Type 4, a “socially-responsive engagement model” and a “demand-driven participatory model”, are based on bottom-up processes of engagement that promote forms of knowledge exchange involving bi-directional flows of different forms of knowledge. Collective agency and collective learning are crucial for implementing the bottom-up processes, and collective well-being is an important outcome. These engagement models require greater attention to considerations about who is included in the processes through which knowledge is generated, and how knowledge is transformed into more easily acceptable forms, and circulated within the local system. These models of engagement show greater potential to facilitate new trajectories to disrupt path dependencies in the local context.

Type 3 and Type 4 differ in the main type of entrepreneurship and innovation model promoted, and thus also the main modes of learning fostered. Programmes and initiatives based on the “socially-responsive engagement model” focus more on promoting opportunity-driven entrepreneurship and innovation. Similar to the traditional knowledge transfer model, this usually involves the application of specialised technical knowledge to address challenges experienced by community-based actors, but the process through which solutions are identified and applied is driven more actively by the agency of community-based

actors. Emphasis is placed on facilitating opportunities for building local networks, and the exchange and circulation of knowledge amongst the community-based actors. In this way, the potential for social inclusion and the promotion of collective agency and collective learning can be increased.

None of RU’s programmes and initiatives identified through the research were strongly based on the “socially-responsive engagement model”, despite the formal institutionalisation of social responsiveness. We can identify ways for RU to improve the reach and long-term impact of its engagement mechanisms by better aligning with the “socially-responsiveness engagement model”. The community-based hub for example, could improve its key initiative, the incubation programme, by making meeting spaces at the hub more accessible so that participants could continue networking amongst themselves and with other actors outside the programme, rather than the current financial and security blockages experienced. The science shop and departmental engagement activities showed potential to facilitate local networks, and inclusive knowledge generation, transformation and circulation through joint identification of problems and solutions. A strategic focus at RU on facilitating interactive learning spaces (Arocena and Sutz 2000) that stimulate community-driven processes, informed by understandings of local forms of knowledge and institutions, is one way change could be realised.

Type 4, the “demand-driven participatory model” focuses more on promoting necessity-driven entrepreneurship and innovation. Emphasis is on supporting experiential learning rather than a science, technology and innovation (STI) based mode of learning and innovation, which involves the application of specialised technical and codified knowledge. Examples were found in the participatory research projects and small business development projects led by NGOs active in the township. We could only identify one example that involved RU’s hub, in collaboration with the TIH, NGOs and community-based actors, to address security concerns at the TIH.

As our research suggests, the “socially responsive” and “demand-driven participatory” models of engagement show greater promise for bringing about social change. With an emphasis on promoting collective agency and collective learning, these models are best suited for addressing the institutional void related to collective entrepreneurship.

6. Conclusion

The paper aimed to provide new insights into how universities promote agency, to address the tensions and asymmetries that arise when performing their role as change agents in resource poor local settings. It draws on a single case-study, but the in-depth conceptual and empirical focus on engagement interface structures, forms of knowledge and institutional work in both “the university” and “local community” was able to yield much value.

The research highlights the degree of institutional work required within the university itself, to break path dependant patterns of knowledge production and community engagement. The creation of internal and external interface structures was not sufficient, on their own, without the creation of new normative values, standards, framings and networks that redefine the boundaries of the university through linking and including community-based actors. The promotion of agency is thus critical, which in turn, requires new knowledge combinations, learning strategies and building knowledge transformation capabilities in local communities.

Mechanisms such as science shops or community-based hubs that foster long-term institutionalised engagement with community-based actors show potential for catalysing social change. An advantage is that these mechanisms bring the university closer, physically and in orientation, to addressing the specificity of local knowledge needs. Our research on modes of learning and innovation in the informal food services local system, using the LIPS lens, shows that these mechanisms could potentially facilitate social change, but, the programmes and initiatives promote specific kinds of formal knowledge linked to modes of learning embedded in institutions that are not aligned with the local. Change requires stronger alignment with the distinctive forms of ‘know-how’ and ‘know-who’ knowledge and innovation that exist at local level, as well as those forms of ‘know-what’ and ‘know-why’ knowledge that can catalyse new trajectories of opportunity-driven entrepreneurship to link informal traders to local and regional value chains.

We therefore found that for the university to act as a change agent, aligning with locally-embedded institutions and practices, and promoting collective agency and collective learning was key. It is crucial to pay attention to the institutional processes through which knowledge is generated, how easily the knowledge can be applied by community-based actors, and the extent to which the knowledge is shared and circulated amongst local networks.

Extrapolating from the case study research, we identified four types of engagement models, each related to different models of entrepreneurship and innovation and thus different modes of learning. To strengthen their role as change agents, university actors can use the typology as a tool to assess their current practice and to inform future strategies. Ultimately, the research shows that for socially responsive and participatory engagement models to work, they must be strongly informed by the kinds of institutional work that is vital to enable survivalist enterprises to adopt new modes of learning and knowledge.

These insights go some way to inform contextualised conceptualisations of new models of the university and community engagement, and can be refined further, through extension to more local settings, and other contexts in the global South.

CRedit author statement

Il-haam Petersen: Conceptualization, Methodology, Formal analysis, Investigation, Original draft preparation, Project administration. **Glenda Kruss:** Conceptualisation, Supervision, Writing- Reviewing and Editing, Funding acquisition

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