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Gaining Legitimacy for Inclusive Innovations: The Case of Mobile Payment Systems

Elsie Khakasa Onsongo
Friedrich Schiller University Jena
DFG Doctoral Programme: The Economics of Innovative Change
elsie.onsongo@uni-jena.de

Peter Walgenbach
Friedrich Schiller University Jena
School of Economics and Business Administration
peter.walgenbach@uni-jena.de

Abstract

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Jelcodes:O17,B52

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Keywords: inclusive innovation; legitimacy; formal informal; multilevel perspective; mobile money; developing countries

JEL Classification: B52, 017, E42, Z13

1. Introduction

In the early phases of innovation journeys, new technologies have low legitimacy, because they suffer from the 'liability of newness' (Freeman et al., 1983) and are perceived as strange, weird, or unfamiliar (Geels and Verhees, 2011). Therefore, for innovations to attain social acceptance, niche actors (otherwise known as institutional entrepreneurs in organisational literature) must engage in legitimation activities to convince actors in their social setting of the fitness of the new technology to existing norms, values, beliefs and definitions. In this paper, we evaluate legitimation strategies that niche-actors employ to gain social acceptance for their innovations. We consider the multi-regime context of a developing country in which inclusive innovations are deployed.

Inclusive innovation is a new form of innovation aimed at improving the welfare of low income groups in developing economies (Paunov, 2013). These innovations often involve the development of cheaper, bare boned versions of existing products, making them accessible to low income consumers (Kaplinsky, 2011a; Paunov, 2013). They also involve business process innovations that provide low income customers access to goods and services that were previously expensive or out of reach.

In order to analyse legitimation for inclusive innovations, we adopt the multilevel perspective (MLP) of sociotechnical change to frame the regime concept. According to Geels (2006a) a socio-technical regime consists of three interlinked elements: a network of actors and social groups; formal, cognitive, and normative rules that guide the activities of actors; and material and technical elements such as artifacts and infrastructures. While the provision or consumption of certain societal functions are dominated by one regime, certain functions are characterised by multiple complimentary or competing regimes (Konrad et al., 2008). In the literature, interactions between multiple regimes have only been addressed recently (see examples in Geels, 2007; Konrad et al., 2008; Raven, 2007; Raven and Verbong, 2007). Using North (1990) conceptualisation of formal and informal institutions, we distinguish two sociotechnical regimes in the provision, consumption and governance of financial services in a developing country context: the formal regime and the informal regime.

Legitimacy has been defined in various ways in social psychology, organisational literature and institutional literature (see Johnson et al. (2006) for an in-depth discussion). For our purpose, we turn to the institutional perspective of Suchman (1995) who defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions." (p. 574). Such social acceptance is not given, but rather formed through legitimation efforts—conscious actions by niche actors geared towards winning acceptance for the propriety and validity of the new technology. Suchman further identifies three types of legitimacy that can be conferred on an organisation or its activities: pragmatic, moral and cognitive legitimacy. A review of legitimation literature reveals diversity in the typology of legitimacy depending upon the context examined and the research problem being addressed (Dacin et al., 2007; Suchman, 1995). However, legitimation for innovations being deployed in sociotechnical regimes that are either poorly articulated with one another, or are undergoing transitions has yet to be addressed directly.

In this paper, we examine the legitimacy profiles, based on legitimacy types, that organisations adopt when launching inclusive innovations in a social setting undergoing transition. Specifically, we are interested in the multi-dimensionality of legitimation efforts in the multi-regime context of a developing country that comprises a formal and an informal regime. We develop a typology of legitimacy profiles based on the institutional setting of each regime. In our conceptual framework, we propose that for inclusive innovation to gain legitimacy in a developing country context, niche actors engage moral and cognitive legitimation strategies in the formal regime, and pragmatic and moral legitimation strategies in the informal regime. We attempt to illustrate the interaction between the evolutionary dynamics of a sociotechnical system and legitimation of innovations.

To investigate the usefulness of our legitimation typology, we apply it to a historical case study of M-Pesa, a mobile payments platform developed to foster financial inclusion in Kenya. In the case, we identify the developments in the sociotechnical system prior to the launch of M-Pesa, and subsequently, evaluate legitimation processes associated with this innovation in its early stages of use (2005 – 2010).

Using insights from institutional literature, we are able to address some gaps or criticisms of sociotechnical literature. Specifically, we shed light on niche-regime interactions in the MLP by examining how niche actors influence institutions (rules) at the regime level to legitimise their innovations, thus addressing the critic levelled on the MLP regarding its insufficient conceptualisation of strategies at the actor level, and its lack of attention to the micro-level unit of analysis (Genus and Coles, 2008; Markard and Truffer, 2008; Smith et al., 2005). We also provide a conceptual and empirical exemplar of how regimes can be operationalized on an institutional basis, thereby addressing the criticism that MLP case studies depict regimes as too 'monolithic' and 'homogenous', not adequately considering incoherencies and tensions within sociotechnical systems (Berkhout et al., 2004; Genus and Coles, 2008; Smith et al., 2005). We also contribute to the budding literature on multi-regime interactions with niche actors.

Beyond sociotechnical literature, our paper sheds light of how inclusive innovations gain legitimacy in developing countries. Research on inclusive innovation is at a nascent stage, and an indepth understanding of the institutional setting in which these innovations are deployed is necessary.

Our paper also addresses the following empirical question: In a world where conventional commercial banking systems were established as the primary delivery channel for formal financial services, how did mobile phone-based systems garner such success? How did the flagship service M-pesa, as a financial service innovation, acquire legitimacy in the Kenyan financial services system?

The following sections are organised as follows: Section 2 briefly describes inclusive innovations and the multi-regime setting in developing countries in which they are typically deployed. Section 3 describes the selection environment than innovations are confronted with, and section 4 and 5 deal with legitimacy in institutional theory, and strategies used by niche actors to gain legitimacy within these environments, respectively. A typology of legitimacy strategy profiles that niche actors would adopt to legitimise inclusive innovations in the formal and informal regimes is proposed. Section 7 presents a case study of M-pesa illustrating the legitimation efforts of the institutional entrepreneur.

2. Inclusive Innovation

New forms of innovation aimed at improving the welfare of low income groups are emerging in developing economies, collectively referred to as 'innovation for inclusive development', or 'inclusive innovation' (Paunov, 2013). These innovations often involve the development of cheaper, bare boned versions of existing products, making them accessible to low income consumers (Kaplinsky, 2011a; Paunov, 2013). They also involve business process innovations that provide low income customers access to goods and services that were previously expensive or out of reach. Various terminologies have been used to identify such innovations, some synonymous, and others referring to unique types of innovation outside the mainstream. Schumacher (1973) first articulated the term 'appropriate technology' in his discussion on the need to move towards smaller-scale, decentralised, labour-intensive and environmentally sound technologies and production systems. This term has subsequently been used when referring to technologies appropriate for low-income countries, espousing attributes similar to those advocated by Schumacher (Kaplinsky, 2011a). Terms such as 'pro-poor' and 'below-the-radar' innovation have been used to refer to innovative activities directed toward developing appropriate technologies for poor consumers (Kaplinsky, 2011b). The terms 'frugal innovation', 'cost innovations', 'resource-constrained innovations' have also been adopted when referring to efforts to develop products that have extreme cost advantages compared to existing solutions in response to the needs of severely resource-constrained consumers (Zeschky et al., 2011). These products often provide limited functionality, and are usually made of simpler, cheaper materials. Examples include Tata Nano, the world's cheapest car developed by Indian conglomerate Tata Group (Ray and Kanta Ray, 2011), and Chinese firm Haier's Mini Magical Child washing machine (Hang et al., 2010). The innovations mentioned so far are developed with a profit motive, typically by multinationals (or transnationals in the parlance of Kaplinsky (2011a)), or large firms situated in emerging and developing countries, all targeting markets at the 'bottom of the pyramid' (Prahalad, 2005).

A different category of innovations are developed by low-income groups to meet challenges that they face in their own communities. Such innovations are developed based on traditional or indigenous knowledge, sometimes combined with a range of externally developed technologies (Paunov, 2013). Grassroots innovation also referred to as social innovation exemplify this category of community innovation. According to Smith, Fressoli and Thomas (2013), grassroots innovations often involve groups such as civil society and local communities experimenting with social innovations, or developing technologies responsive to local situations and needs. Some examples of grassroots innovations are: a pedal-powered washing machine developed under the auspices of The Honey Bee Network in India, a home-made refrigerator (Practical Action, Peru) and bio-digesters for home energy (The Social Technologies Network, Brazil).

Paunov (2013) point out that many cases of inclusive innovation do not involve the technological development of goods. Innovation often goes beyond the product, into the business models adopted for development, implementation and diffusion of new products into new market. An example of business model innovation is the microfinance movement started by the Bangladeshi Grameen Bank, where traditional bank credit services have been adapted to facilitate provision of credit facilities to the poor through group lending services (Kabir Hassan, 2002). Paunov (2013) also claim that research and development spending for inclusive innovation tends to be low as innovations build on foreign technologies or combine indigenous knowledge with external knowledge bases.

3. Multi-regime dynamics in financial services in developing countries

The concept of system innovations emphasizes the co-evolutionary and interdependent nature of changes
in production, consumption and institutional patterns, which affect the architecture or structure of a system (Elzen et al., 2004). Among system innovation approaches, the multi-level perspective has increasingly been used in the analysis of sustainable transformation processes. It provides a conceptual framework for analyzing system innovations which result from the interrelated processes attributed to three analytical levels: (a) dynamics at the meso level of socio-technical regimes, i.e. configurations of technologies, production and finance structures, use patterns and institutional structures identified for specific periods of time, (b) dynamics emerging in niches associated with innovations, which still have to establish appropriate use patterns and institutional environments and, (c) dynamics at the socio-technical landscape i.e. broader societal, technological or ecological developments that may support or weaken the dominance of established sociotechnical regimes and open up windows of opportunity for new socio-technical configurations (F. Geels, 2005).

According to Geels (2006a) a socio-technical regime consists of three interlinked elements: (a) a network of actors and social groups, (b) formal, cognitive, and normative rules that guide the activities of actors and (c) material and technical elements such as artifacts and infrastructures. This is an extended version of Nelson and Winter's (1982) technological regime, which refers to shared cognitive routines (e.g. search heuristics) in an engineering community. These routines guide their R&D activities in similar directions, leading to technological trajectories. Rip and Kemp (1998, p. 340) widened the regime concept with the sociological category of 'rules':

> "A technological regime is the rule-set or grammar embedded in a complex of engineering practices, production process technologies, product characteristics, skills and procedures, ways of handling relevant artefacts and persons, ways of defining problems; all of them embedded in institutions and infrastructures".

Geels (2004) extends this rule-based definition of a regime beyond Nelson and Winter's technological domain consisting of engineers and designers to other domains consisting of social groups identified by sociologists as contributors to the patterning of technological development (e.g. Bijker (1997)), for instance, scientists, policy makers, users, and special-interest groups. These social groups interact and form networks with mutual dependencies, resulting in the alignment of activities. Using the parlance of organisational theory, they are organised by *institutions* i.e. rules and procedures that structure social interaction by constraining and enabling actors' behaviour[1]. The regime therefore represents highly institutionalized, yet not necessarily coherent rules (e.g. shared beliefs and values, routines, regulations, institutionalized practices, capabilities, etc.) that mutually construct and are constructed by actors in a system (Geels, 2011, 2004). This inter-group coordination is represented with the concept of sociotechnical regimes.

Technological transitions are conceptualized as a change from one more or less stable socio-technical regime to another (2005). Typical examples are the transition from gas to electricity in lighting, pumps and surface waters to piped water in water provision or cesspools to integrated sewer systems in sanitation (Geels, 2005, 2006b). While the provision or consumption of certain societal functions are dominated by one regime, as in the case of electricity provision based on central generation plants and large scale distribution networks, certain functions are characterised by multiple complimentary or competing regimes (Konrad et al., 2008). In the literature, interactions between multiple regimes have only been addressed recently. Raven and Verbong showed how radical innovations have created symbiotic relationships between formerly separated or only scarcely related regimes (Raven, 2007;

[1] We adhere to the frequently stated distinction between organizational actors– sets of actors united in pursuit of a common goal – and institutions – sets of rules which structure social interaction (North, 1991) (1990?).

Raven and Verbong, 2007). In a similar vein, Geels (2007) has shown how the interaction between two regimes in the music industry and the change of their relationship from competitive to symbiotic has contributed to the rise of a new music style. Konrad et al. (2008) use a case study of German utility sectors to elaborate on how the multilevel perspective may be enlarged to cover multi-regime dynamics in order to identify alternative development trajectories relevant for sustainable sector transformations.

Specifying regime boundaries has been identified as one of the challenges of operationalizing the MLP in transition studies (Berkhout et al., 2004; Genus and Coles, 2008; Smith et al., 2005). Following the recent conceptualisation of Konrad et al. (2008) and Fuenfschilling and Truffer (2014) based on institutional theory and the institutional logics approach, we draw regime boundaries depending on the density and strength of couplings between the elements of socio-technical configurations. A boundary between two regimes is said to exist, when couplings between constituting elements (actor networks, technologies, institutions) are stronger (e.g. if they are regularly enacted or difficult to substitute) within a specific regime than outside. In addition, a regime should be able to fulfil a certain societal function (mobility, food, shelter, health, etc) (Konrad et al., 2008). Consequently, we distinguish two sociotechnical regimes in the provision, consumption and governance of financial services in a developing country context: the formal regime and the informal regime.

The concept of categorising institutions as formal or informal was first developed by Douglass North (1990). He differentiates formal from informal institutions by the degree of formalisation, i.e. written and unwritten rules or constraints. Following this basic categorisation, various scholars have described formal institutions as rules and procedures that are created, communicated, and enforced through channels widely accepted as official. This includes state institutions (courts, legislatures, bureaucracies) and state-enforced rules (constitutions, laws, regulations), and organization rules, or the official rules that govern organizations such as corporations, political parties, and interest groups (Helmke and Levitsky, 2004). The written rules are normally enforced by third parties (Knight, 1992). Informal institutions on the other hand are described as socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels. De Soysa and Jütting (2007) extends this definition to include extensions, elaborations and modifications of formal rules outside the official framework. Informal institutions are largely self-enforcing (or enforced by the actors themselves) through mechanisms of obligation, expectations of reciprocity, internalised norm adherence, gossip, shunning, ostracism, boycotting, shaming, threats and even the use of violence, or simply because following the rules is in the best interests of individuals who may find themselves in a situation in which everyone is better off through co-operation (de Soysa and Jütting, 2007; Ostrom, 2009).

In many developing countries, the socioeconomic setting is structured into domains in which either formal institutions or informal institutions prevail. A discernable 'formal sector' or 'formal economy' governed by formal institutions is evident. Conversely, the 'informal economy' or 'informal sector'[2] comprises activities that involve the provision of goods and services not covered or insufficiently covered by formal arrangements (ILO, 2009). In their attempt to label or define the informal economy, researchers and policy makers have used terms such as hidden, underground, shadow, black, invisible, parallel, subterranean, or extralegal economy (Müller, 2010). Ayyagari et al. (2003) maintain that although the informal economy exists virtually everywhere, including in advanced countries, it is a dominant feature of low-income countries – where social safety nets and employment opportunities are scarce and wages are low – and it is expected to continue to grow. According to ILO figures (2002),

[2] The term "informal sector" is used to refer to micro and small enterprises (MSE) whose productive activities are neither illegal nor underground. The term "sector" does not make reference to a branch of economic activity, but "groups together similar kinds of production units, which in terms of their principal functions, behaviour and objectives have certain characteristics in common" (Hussmanns, 2004, pp. 3-4).

informal employment accounts for 72% of non-agricultural employment in Sub-Saharan Africa, and for 78% when South Africa is excluded. As a society develops economically, its social capital adapts accordingly, allowing informal institutions to be partially replaced by the formal institutions of a market-based economy (Stiglitz, 2001). This process creates a different type of social capital, in which social relations are embedded in the economic system, rather than vice versa (Nicholas and Maitland, 2007).

In this paper, we conceptualise the formal and informal regimes as comprising institutions in the formal and informal sector respectively. In addition, both regimes consist of not only economic actors such as entrepreneurs and employees, and organisations such as firms, but also associated social groups like users, special-interest groups and their respective institutions (and practices). Our proposition therefore is that in such a multi-regime context, niche actors at the micro level (otherwise known as institutional entrepreneurs in organisational literature) introducing innovations to a sociotechnical system at the meso-level adopt different profiles of legitimation strategies for each regime. We explore these legitimation efforts in the next section.

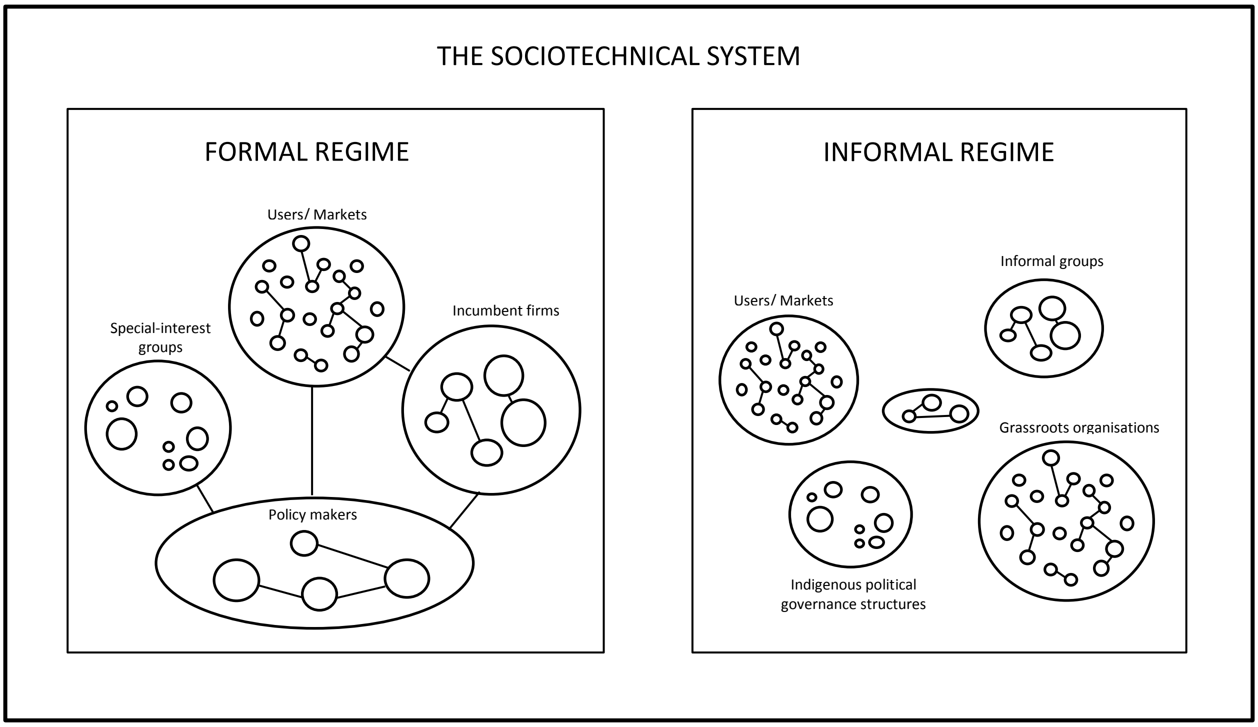


Figure 1: Networks of actors in a given sociotechnical system of a low-income country (sector unspecified)

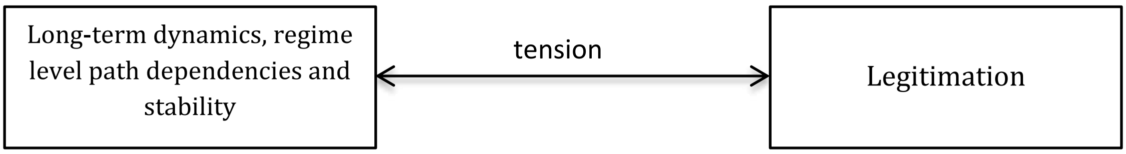
4. Legitimacy

In the early phases of innovation journeys, new technologies have low legitimacy, because they suffer from the 'liability of newness' (Freeman et al., 1983) and are perceived as strange, weird, or unfamiliar (Geels and Verhees, 2011). According to Freeman, Carroll and Hannan (1983), the "liability of newness" has at least two distinct aspects: first, the need for new entrants to engage in 'sector building', i.e. to define a sector that exists independent of particular incumbents; second, the creation of new, allegiant constituencies and convincing pre-existing legitimate entities to lend support. Therefore, we begin with the assertion that for innovations to attain social acceptance in a sociotechnical system, niche actors (or institutional entrepreneurs) must engage in legitimation efforts to convince potential users, policy makers, scientists, the industry (which may include incumbent firms), and special-interest groups of the fitness of the new technology to existing norms, values, beliefs and definitions. In this section, we explore the selection pressures that innovations encounter, the concept of legitimation, the types of legitimacy and strategies used by niche actors to gain [*and maintain*] conferred legitimacy on innovations.

Innovations encounter selection pressures emanating from the environment in which they are being launched. Conventional economic analysis of technical change tends to focus on pressures that operate visibly at the level of the firm (such as pricing, competition, contracts, taxes and charges, regulations, standards, liability, profitability, skills and knowledge). Analysis at the level of the socio-technical regime, on the other hand, includes such factors, but goes beyond them to consider less economically visible pressures emanating from institutional structures and conventions. Pressures many emanate from changes in broad political economic 'landscapes', or wider socio-cultural attitudes and trends, e.g. changing ideologies among political and economic elites, or cultural ideals and public attitudes. Similarly, pressures emanate from within sociotechnical regimes that suffer from path dependency and lock in to incumbent technologies, policies, user practices or cultural leanings (Geels, 2004; Smith et al., 2005). It is for this reason that innovations are developed and tested in niches where they are shielded from these selection pressures.

However, in order for niche-innovations to succeed in a given social setting (the regime), niche actors must engage in activities aimed at intervening or altering the balance of selection pressures. Such activities act through the incumbent networks of actors and institutions, which are not necessarily cooperative or pliant (Smith et al., 2005). An essential part of these activities involve the legitimation of niche innovations to achieve social acceptance.

While regime changes (e.g. changes in rules, or discursive changes) may provide innovative practices with novel sources of legitimacy and power, the reverse is also true: niche practices, by demonstrating what is possible 'beyond the natural' (Giddens, 1984) may help legitimise more encompassing regime changes, and empower those involved in bringing them about (Grin, 2012).



Types of Legitimacy

Innovations would be considered legitimate when their qualities or features are perceived to satisfy the social expectations of their environment. Legitimacy has been defined in various ways in social psychology, organisational literature and institutional literature (see Johnson et al. (2006) for an in-depth discussion). For our purpose, we turn to the institutional perspective of Suchman (1995), who develops an broad-based definition that incorporates the evaluative and cognitive dimensions of legitimacy, and acknowledges the role of a collective audience. He defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions." (p. 574)[3]. In basic terms,

[3] In the management literature, two main approaches to legitimacy exist – strategic and institutional. The strategic approach views legitimacy as operational resource that organizations acquire from the social environment and thereafter use to gain other resources. On the other hand, the institutional perspective adopts a more passive view on organizations – they are regarded as being dependent on the social environment and that the managerial

legitimacy represents the evaluation of an organisation—in in our case, an innovation—by a social system, and is conferred by actors in that social system when innovations that conform to specific standards or expectations. Therefore, "legitimacy is possessed objectively, yet created subjectively" (Suchman 1995: 574). We apply this concept to the launch of innovations in a given social setting.

Following the work of Oliver (1991), Suchman (1995) provides two important and distinct approaches to legitimacy: the strategic and the institutional. The strategic approach "emphasizes the ways in which organizations instrumentally manipulate and deploy evocative symbols in order to garner societal support" (Suchman, 1995, p. 572), and as a consequence, this approach is relevant to the managers' perspective. In contrast to legitimacy from the strategic perspective, legitimacy from the institutional perspective emphasizes much wider (that is, organizational sector–wide) dynamics that are beyond the purposive control of any single organization (see "the iron cage" in Di Maggio and Powell, 1983). Combining both the strategic and institutional approaches to legitimacy, Suchman (1995) draws three broad types of legitimacy from literature based on the behavioural dynamic of the audience: pragmatic, moral and cognitive legitimacy.

Pragmatic legitimacy which rests on the self-interested calculations of an organisation's most immediate audience that the organisation has influence over, or direct exchanges with.

Moral legitimacy on the other hand which rests on the judgements of an organisations audience on whether its activity is the 'right thing to do'. Suchman (1995) posits that moral legitimacy encompasses (or overlaps with) normative and regulative legitimacy discussed in institutional literature. According to Scott (2003), normative legitimacy is compliance to broadly-accepted informal norms and values, where values are defined as "conceptions of the desirable" associated with "standards to each existing structures or behaviours can be compared with" (Scott 2003: 136). Norms contain the notions of "how things should be done" (Scott 2001: 54-55). DiMaggio and Powell (1983) maintain that organizations have to apply not only generalized societal norms but also a variety of standards that have originated in different professional fields. Often, the sources of normative legitimacy are the public opinion (expert and nonexpert) (Deephouse and Carter, 2005), and professional associations (Ruef and Scott, 1998). Regulatory legitimacy, on the other hand, is conformity to regulatory standards, rules and laws (Scott 2003), which by definition have formal character. In general, regulatory bodies (governments, trade associations, professional organizations) set "explicit regulative processes", which include rules, monitoring and sanctions in case of non-conformity (Scott, 1995, p. 35). Thus, the legal rules and regulations are formal institutions that represent source of regulatory legitimacy. Previous studies show that regulatory legitimacy is the first type that organizations try to acquire in order to gain legitimacy, e.g. Delmar and Shane (2004).

Cognitive legitimacy rests on an audiences' mere acceptance of an organisation or activity as necessary or inevitable based on some taken-for-granted cultural account. According to Ruef and Scott (1998), "cognitive elements are: rules that specify what types of actors allow to exist, what structural features they exhibit, what procedures they can follow, and what meanings are associated with these actions." Suchman (1995) maintains that the cognitive dimension of legitimacy is "the most subtle and the most powerful" as well as the most difficult to obtain and manipulate.

Suchman (1995) further asserts that the three types of legitimacy co-exist and interrelate in real-world settings. As one moves from the pragmatic, to the moral, to the cognitive, legitimacy becomes more difficult to manipulate, and therefore, more subtle, more self-reinforcing and more profound.

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decisions are being constructed by widely accepted belief system (Suchman 1995). Suchman combines these two perspectives.

5. Strategies for gaining legitimacy

Niche actors need strategies for establishing congruence between their innovations and societal expectations. According to Dees and Starr (1992), an entrepreneur must engineer consent, using powers of persuasion and influence to overcome the scepticism and resistance of guardians of the status quo" (p.96). Suchmann (1995) points out that actors may seek legitimacy by conforming to existing environments by seeking to position their organization within a pre-existing institutional regime. Alternatively, they might select a different regime that will grant the organization legitimacy "as is," without demanding many changes in return. However, as regimes are sometimes fragmented, gaps may exist within which actors can select among pre-existing, but not necessarily consistent, logics. As we shall see later, in a multi-regime context, niche actors adopt multi-faceted strategies to gain legitimacy across the whole social context. Finally, an organisation may manipulate their environments to develop bases of support specifically tailored to their distinctive needs (for instance Adrich and Fiol (1994)).

To achieve pragmatic legitimacy, the niche actor must meet the instrumental needs of various audiences in the given social setting. To achieve this, organisations adopt a *strategic manipulation strategy* through which they actively influence social expectations by swaying or even manipulating the perceptions of its constituency (Oliver, 1991; Scherer et al., 2013). The task thus may involve the marketing challenge of responding to the tastes of its constituency through advertising campaigns, the dissemination of (mis)information, lobbying, and other instruments of strategic public relations and impression management (Oliver, 1991; Suchman, 1995). Organisations may also identify and select constituents who value the specific activities or innovations that the organisation is providing (Ashforth and Gibbs, 1990). Further, it may co-opt targets that are considered credible to key constituents, who appreciate the organisation's activities (Suchman, 1995).

In a bid to acquire moral legitimacy, organisations adopt strategies that address the principled ideals of their audience (Suchman, 1995). The most obvious strategy, according to Suchmann (1995), is to actually produce concrete, meritorious outcomes that satisfy constituents' tastes. For instance, the organisation may opt to develop innovations that directly address societal concerns such as sustainability. Additionally, the organisation may opt to engage in an open discourse with focal actors or societal groups to argue for the acceptability of its behaviour and innovative activity (Scherer et al., 2013). However, as the attainment of meritorious outcomes or the achievement of consensus on moral fitness is sometimes difficult, organisations typically resort to less direct approaches. For instance, organisations may opt to embed new structures, practices or innovations in networks of other already legitimate institutions, or associate the new object with respected entities in their environment (Oliver, 1991; Suchman, 1995). Organisations may also employ less direct strategies such as carefully chosen displays of symbolism (DiMaggio & Powell, 1983; Meyer & Rowan, 1991). The organisation may aim at signalling that it "labours on the side of the angels-even if these supposed indicators amount to little more than face work" (Goffman, 1967, cited in Suchman, 1995, p.588). According to Ashforth and Gibbs (1990), managers may, at the extreme, revise their core mission statements in order to give off a false sense of conformity to societal ideals.

To obtain cognitive legitimacy, organisations primarily aim at aligning their practices or innovations to established models or standards. DiMaggio & Powell (DiMaggio and Powell, 1983) argue that in uncertain environments, organisations may adopt mimetic isomorphism by mimicking the most prominent and secure entities in their fields. Alternatively, organisations may change their practices to meet the interests and legitimacy concerns of their most powerful stakeholder groups (Mitchell et al., 1997). In more established environments, organisations achieve cognitive legitimacy for their activities through formalisation, i.e. by codifying informal procedures (Zucker, 1991). Further, they may bring previously marginalised activities under official control, and establish hierarchical links with other well-established organisations in the given environment (Scott and Meyer, 1991). In a related manner, organizations often pursue professionalization, thereby linking their activities to external definitions of authority and competence (Scott, 1991), for instance by conforming to detailed formal requirements to obtain explicit certification. Fragmented sectors may however provide leeway for the organisation to promote unconventional alternatives (Suchman, 1995). Finally, organisations may attain cognitive legitimacy for unconventional activities by undercutting sectoral gatekeepers, or reduce the authority of central actors (Meyer and Scott, 1983). According to Meyer and Rowan (1977), as organizations occasionally find themselves unable to operate in a single, coherent environment, managers may attempt to control conflicts by selectively reconfiguring environmental constraints, either by segregating environments and catering to one at the expense of the other, or by integrating environments and demonstrating that organizational behaviours would be legitimate under any applicable standard.

According to Suchmann (1995), pragmatic legitimacy is the easiest to obtain and manipulate as it involves an organisation directly influencing its constituency. Establishing new grounds for moral and cognitive legitimacy poses a greater challenge as the need for collective action, as opposed to the persuasion of specific constituency, is more apparent.

What is the nature of the legitimacy dynamics in different sociotechnical systems that maintain various levels of stability? According to Suchman (1995), legitimacy dynamics tend to remain in close alignment in better integrated, firmly established regimes. However, frictions among pragmatic, moral and cognitive considerations are more likely in sociotechnical regimes that are either poorly articulated with one another, or are undergoing transitions. The key analytical task according to Powell (2007) is to ascertain which factors are important in particular contexts and the extent to which legitimation mechanisms work to reinforce the prevailing social order or undercut it. In addition, he asserts that attention to competing, multi-level, nested processes within fields and across nations bodes well for the robustness of institutional analysis.

2.3.1 Legitimation of inclusive innovations in a multi-regime context

In this section, we examine the legitimacy profiles, based on legitimacy types, that organisations adopt when launching inclusive innovations in a social setting undergoing transition. Specifically, we are interested in the multi-dimensionality of legitimation efforts in the multi-regime context of a developing country that comprises a formal and an informal regime. We develop a typology of legitimacy profiles based on the institutional setting of each regime.

In organisational literature, there is a diverse typology of legitimacy depending on the context examined and the particular research problem addressed (Dacin et al., 2007; Suchman, 1995). According to Scott (2001), institutions are the sources of legitimacy, and therefore, they determine the types of legitimacy conferred. Therefore it follows that, when launching innovations in a social context comprising of different institutional settings, niche actors would adopt different targeted strategies to gain legitimacy.

Pragmatic legitimacy

Pragmatic legitimacy, the least abstract form of legitimacy that Suchman (1995) discusses, offers at least one important illumination of the emergence of inclusive innovations in general. As seen earlier, niche actors seek pragmatic legitimacy by meeting the instrumental or substantive needs of their constituency. The essence of inclusive innovations is to extend products or services to improve the welfare of low income groups largely located in developing economies (Paunov, 2013). These innovations often involve the development of cheaper, bare boned versions of existing products, making them accessible to low income consumers (Kaplinsky, 2011a; Paunov, 2013). They also involve business process innovations that provide low income customers access to goods and services that were previously expensive or out of reach. Therefore, it is obvious that the targeted consumer of an inclusive innovation is low-income, marginalised user, typically located in the informal regime. As a consequence, actors in the informal regime would find inclusive innovations pragmatically legitimate to the extent that these innovations provide access to a product or service that they previously had no access to. Therefore, pragmatic legitimation efforts for inclusive innovations will be targeted towards the constituency in the informal regime.

Pragmatic strategies would involve advertising campaigns targeted towards actors in the informal regime. These campaigns would convey instrumental or practical features of the innovation as addressing specific needs of low income users, usually mirroring conventional services that are inaccessible to them. Further, public relation and lobbying efforts would be designed to appeal to the informal sector, for instance by highlighting the altruism of the niche actors towards marginalised users. In addition, pragmatic legitimation would be achieved by co-opting actors or symbols that appeal to the actors in the informal regime.

As pragmatic legitimacy has been considered the thinnest and most variable form of legitimacy, an inclusive innovation's legitimacy would swing into question should the niche actor fails to demonstrate the tangible, expected value of the innovation to users in the informal sector. We fail to see reason for niche actors to deploy these strategies on the formal regime, since inclusive innovations are essentially targeted at users in the informal regime.

Moral legitimacy

Moral legitimacy refers to the normative domain of propriety rather than self-interest, and it is accorded when activities are undertaken as they should be, in reference to broader norms in the particular environment. The question therefore is, are inclusive innovations perceived as proper and appropriate for addressing social concerns in a given context?

On a global scale, the development and diffusion of 'appropriate technologies', 'frugal innovations' and even 'social innovations' has garnered attention as populations—and with them, consumption—in low-income countries has begun to grow rapidly (Kaplinsky, 2011a). Innovation has been seen as a solution to poverty in the developing world, not only through economic growth benefits that come with improving capabilities, but also in providing appropriate technologies to low-income users that enable them to participate in mainstream markets. Inclusion, and by extension, inclusive innovation have become societal ideals, as the 'right thing to do'. Therefore, niche actors seeking moral legitimacy must demonstrate that their innovations are not merely profitable, but directly address the ideals of inclusion and poverty reduction as an external norm. These ideals appeal to actors in both the formal and informal regime.

In addition, Suchman (1995, p. 585) describes the moral legitimacy of organizations as the result of ''explicit public discussion'' and in his view corporations can win moral legitimacy only through their vigorous participation in these discussions. Consequently, niche actors gain legitimacy for their innovations by deliberately engaging in normative public debates regarding social justice and social inclusion, engaging actors in both the formal and informal regimes.

As we saw earlier, niche actors seek moral legitimacy by embedding innovations in networks of other already legitimate institutions, or associate the new object with respected entities in their environment (Oliver, 1991: Suchmann, 1995). The informal regime typically consists of a plethora of institutions and practices. As the innovation will primarily be used by actors in the informal regime, it is imperative for the niche actor to demonstrate that procedures embedded in the innovation align with these institutions. Thus, moral legitimacy may be conferred if the niche actor demonstrates compatibility or conformity between the innovation and informal practices. Alternatively, the niche actor may manipulate the constituency to accept innovations embodying procedures that depart from or contravene these informal practices. In the formal regime, moral legitimation of inclusive innovations may be achieved by associating inclusive innovations with the conventional goods or services that they seek to extend or replicate, illustrating similarities in procedure or robustness.

The use of symbolism in the form of framing, images, metaphors or even public performances has been effective in attaining legitimacy for organisations (see for example (Geels and Verhees, 2011)). Niche actors gain moral legitimacy by associating their inclusive innovations with 'symbolic vehicles of meaning' (Swidler, 1986, p. 273) such as beliefs, art forms, informal cultural practices such as language and rituals of life. These symbols may be regime-specific, or transcend specific regimes to resonate with the whole sociotechnical system.

We see therefore that efforts to attain moral legitimacy for inclusive innovations may be applied to both the formal and informal regimes.

Cognitive legitimacy

According to Suchmann (1995), cognitive legitimacy is "more subtle, more profound and more self-sustaining once established" as it refers to the basic, preconscious, taken-for-granted assumptions about the nature and structure of social activities such as innovation. Cognitive legitimacy is most difficult to attain or manipulate, as the expected *taken for grantedness* of an organisation's practices or innovations is achieved over time,

To obtain cognitive legitimacy, organisations primarily aim at aligning their practices or innovations to established models or standards (Zucker, 1991). As seen earlier, cognitive legitimacy strategies concern formalisation and professionalization, and linking with external definitions of competence and authority. Therefore, there is an apparent objective to establish legitimacy in the formal regime through formalising previously informal aspects of inclusive innovation. In particular, the process of bringing informal practices under the jurisdiction of formal authorities legitimises inclusive innovations among regulatory and administrative authorities in the formal regime. Niche actors therefore might codify informal practices embodied in their innovations to gain acceptance within the formal regime.

As we have already seen, inclusive innovations interact with both the formal and informal regimes. As the organisation may be launching an unconventional innovation that may conflict with expectations of incumbent actors, or conflict with existing formal institutions, legitimation may involve undercutting sectoral gatekeepers or reducing the authority of actors in the formal regime (Meyer and Scott, 1983).

The Conceptual framework

In summary, it is evident that niche actors face diverse institutional pressures in a given social setting. Therefore different legitimation strategies are deployed depending on the nature of institutions in given sociotechnical regime. We propose the following typology of legitimation strategy profiles for inclusive innovations launched in a setting that consists of a formal regime and an informal regime.

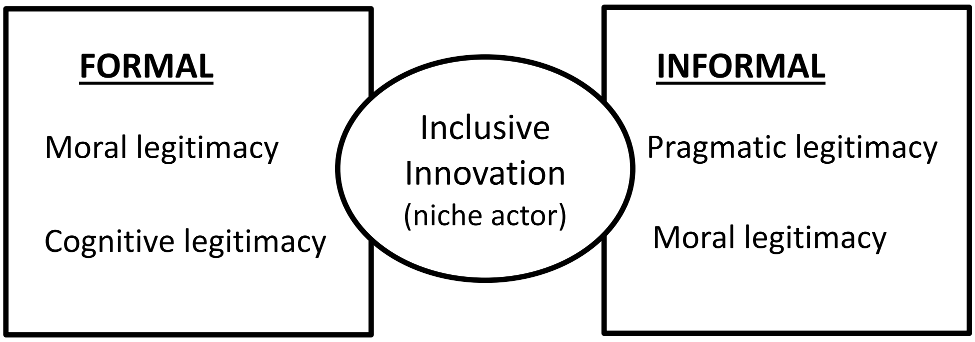

Figure 2. Typology of legitimation strategy profiles for context in which inclusive innovations are deployed

6. Methodology and data sources

We investigate the usefulness of our typology of legitimation strategy profiles by applying it to an historical case study. We adopt a case study methodology, because case studies are well suited for exploratory research, rich in context and enabling for tracing of processes and causal mechanism (Yin, 2009). Rather than orienting towards general laws or correlations between dependent and independent variables, this approach aims to uncover the social mechanisms that underlie certain processes; in our case the mechanisms that link legitimation, institutions and inclusive innovation.

We use a historical case study of M-Pesa, a mobile payments platform that was developed to foster financial inclusion in Kenya. We study legitimation processes associated with this innovation in its early stages of use (2005 – 2010). We analyse how the actions of the institutional entrepreneur addressed legitimation of M-Pesa in both the formal and informal regime, and the eventual embedding of the innovation in the whole sociotechnical system.

The case study is based on multiple data-sources, which allows for triangulation (Yin, 2009). In his literature review, Powell (2007) identified various methods that have been used to collect data on, and measure legitimacy. Among them are archival research that permits assessment of organisational documents to account for changes in meaning and the transformation of organizational practices and identities[4], texts and interviews used to chart changes in symbolic meanings during societal transformations[5], tracking changes in rhetoric in public debates[6]. In our case, we use a combination of these data sources. We use secondary sources such as academic histories of mobile payments. We also primary sources, such as reports from Kenyan regulatory authorities, company annual reports, reports prepared by donor agencies, research institutes and consulting firms, major Kenyan newspapers, news clips, documentaries, advertisements and websites. In these sources we not only focused on arguments in verbal discussions and debates, but also on advertisements, slideshows, book covers and posters, because these are important ways through which actors convey meaning.

(We are currently conducting semi-structured interviews with relevant actors to check our interpretation of the case and fill in some gaps).

[4] Ventresca and Mohr (2002); Mohr and Guerra-Pearson (2007)
[5] Rao, Monin and Durand (2003)
[6] Suddaby and Greenwood (2005)

7. Case study: The legitimation of M-Pesa (2006-2010)

7.1. Developments in the sociotechnical system (pre-mobile money)

The number of mobile phones globally far exceeds any other technology that could be used to market, sell or deliver products and services to customers. This is especially true for developing countries where the rate of mobile phone penetration has grown dramatically over the last decade (See Figure 2 for an illustration). As a consequence, mobile phone technologies offer lucrative opportunities to merchants and service providers. Apart from the traditional telecommunication services provided via mobile phones, value-added services such as the provision of financial services are now available via mobile phones in various parts of the world. In parts of the developing world, the use of mobile phones to provide financial services has gained prominence in the last decade. The cases of M-PESA in Kenya, WIZZIT in South Africa and G-CASH in the Philippines have received a lot of attention due to the success they have achieved in extending financial services to marginalised population segments.

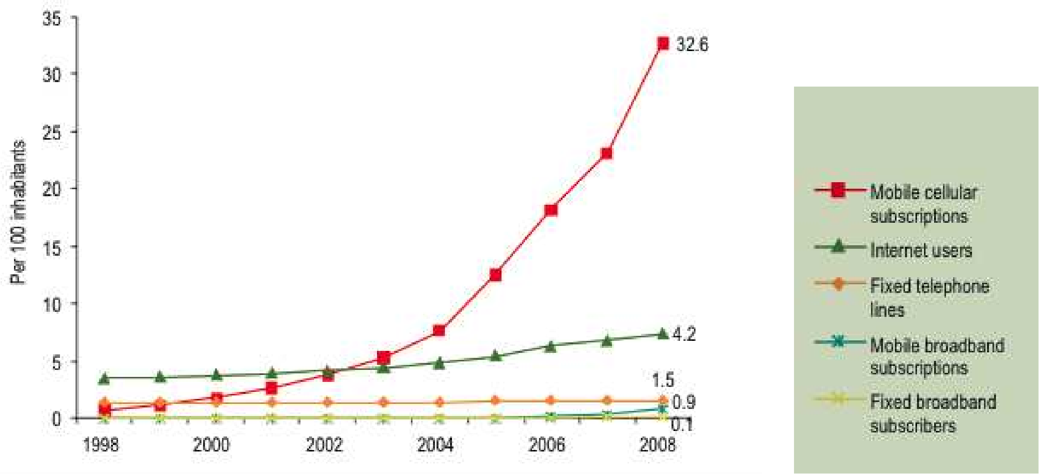

Figure 3: The growth of information and communication technologies in Africa (per 100 inhabitants). Source ITU World Telecommunication/ ICT indicators database 2009

Using the MLP framework, Table 1 summarises the developments in telecommunications and financial services in Kenya during the period spanning from 1999 to 2005. The MLP will be used in this case study to briefly describe the early phases of sociotechnical change in the payment system in Kenya.

Table 1. Developments in financial services and telecommunications in Kenya between 1999-2010

Level	Sociotechnical developments
Landscape	• Millenium Development Goals: Pressure on governments and the private sector to foster inclusive development to eradicate poverty • The launch and spread of Internet connectivity in developed economies; costs of computing devices dropping dramatically; • Mobile phone service subscription rates globally increased globally • Ubiquity of electronic payments systems, adoption of electronic delivery channels like ATMs, debit and credit cards, internet banking, etc
Sociotechnical regime (financial services and telecommunications in Kenya)	• Inequality and social exclusion in financial services in Kenya: unequal distribution of banking facilities; high cost of transactions • Entrenchment of informal banking services such as Rotating Savings and Credit Associations (ROSCAs), Accumulating Savings and Credit Associations (ASCAs), and Welfare/Clan groups (WCG)

	• Liberalisation of telecommunications policy, facilitating increased penetration of mobile phone services
Niche	• 2003: Development of a payment and remittances platform targeting the unbanked population in Kenya, dubbed M-Pesa • 2005: Rollout of M-Pesa among the unbanked population • 2007: National launch of M-Pesa. • 2010: M-Pesa service had over 10.3 million registered users (21% of the population, or 46% of the adult population), 17,700 M-PESA agents were in operation, half located outside urban centres, surpassing the total number of Postbank branches, post offices, bank branches and automated teller machines by nearly five times

7.2. Launch of M-Pesa: Building Legitimacy

[*work-in-progress*]
Legitimation efforts were conducted both the formal and informal domains (or regimes). Actors and institutions in these two major regimes can be considered as the 'audiences' of legitimation efforts.
Which strategies (pragmatic, moral or cognitive) were employed for each audience?
What regime changes (maybe due to landscape pressures, cracks in regime alignments at the meso-level, etc) created sources of legitimacy?
How did activities at the micro-level (niche) provided sources for legitimacy through demonstration effects… that M-pesa is possible, is a solution to a societal problem, etc?

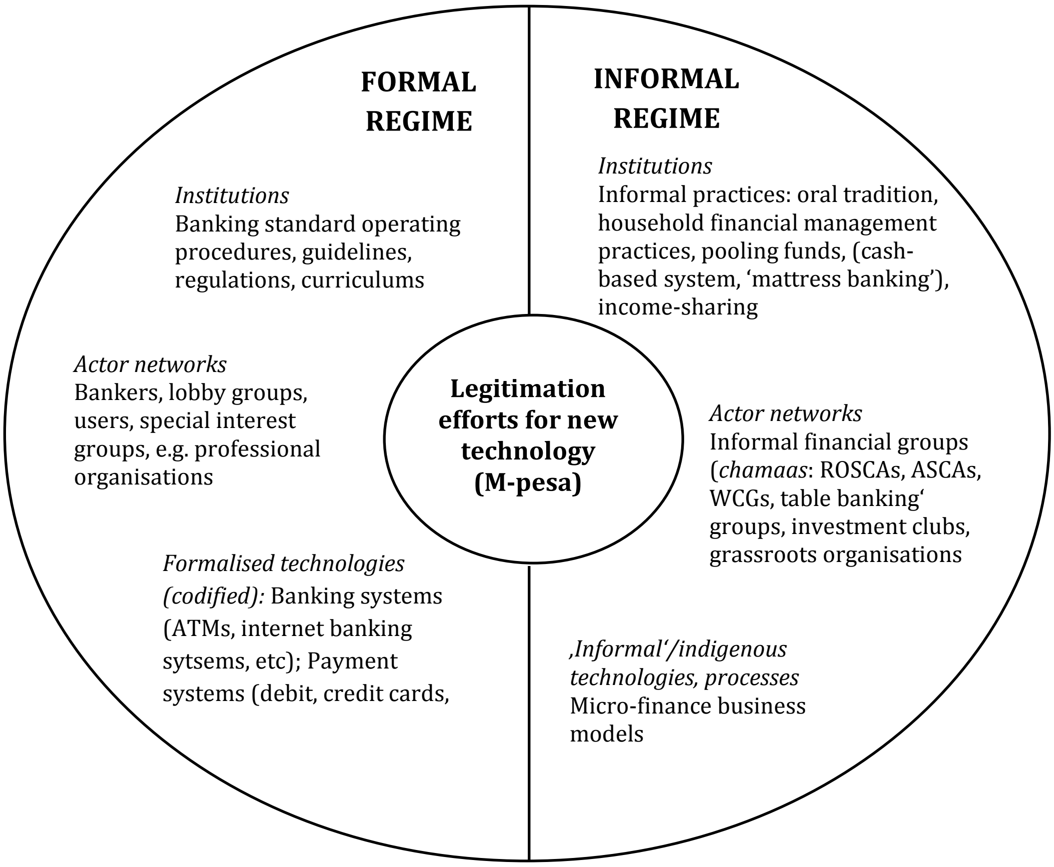

Figure 4. The multi-regime context in the financial sector in Kenya

Legitimation in the formal regime

Sources of legitimacy from evolutionary dynamics:

- Landscape pressures of poverty reduction and financial inclusion, globalisation
- Regime changes:
    - Policy: Changes in regulation for telecommunications facilitated proliferation of mobile phones in Kenya: competition rules, anti-trust rules; changes in guiding principles (liberalisation); changes in problem agendas for telecoms
    - Culture: Changes in symbolic meanings of technologies, especially the mobile phone;
    - Technology: Changes in search heuristics (from PDAs to mobile) and technological frames, problem solving strategies
    - Users, markets and distribution networks: changes in user competencies, changes in user practices for communication

Legitimacy conferred by *formal* institutions:

- **Moral legitimacy**: conforming to altruistic ideals
    - Aligning M-Pesa's vision with normative objectives of financial inclusion
    - Mimicking established institutions:
        - Transactions structured similar to banking transactions: use of similar terms (deposit, withdrawal, PIN access to account, etc)
        - Linking M-Pesa payments to schools, churches, small business, etc
    - Patriotic symbolism: messages connecting M-Pesa and economic development, national unity

- **Cognitive legitimacy**: conforming to established models or standards
    - Attempting to adhere to strict banking regulations: Know Your Customer regulations, risk management, fraud prevention and protection ; changes in formal regulation of payment systems due to influence from Safaricom
    - Formalising person-to-person transactions
    - Codifying informal procedures in informal financial groups: formalising transactions, formalising micro-credit practices
    - Undercutting the banking lobby that attempted to curtail M-pesa adoption: changing role perceptions of policy makers

Legitimation in the informal regime

Sources of legitimacy from evolutionary dynamics:

- Regime changes:
    - Culture: Changes in symbolic meanings of technologies, especially the mobile phone;
    - Users, markets and distribution networks: changes in user competencies, changes in user practices for communication; A parallel financial system operating the ROSCAs, opening opportunities for microfinance systems (inclusive innovation that takes advantage of micro-savings, micro-investments, micro-lending)
    - Industry: Untapped demand for financial services. User preferences (needs) did not align with current product offerings in financial services

- Technology: Underdeveloped infrastructure that didn't meet the needs of the masses. Failure of conventional money transfer systems (Local money orders and postal orders, Western Union, Money gram, etc)

Legitimacy conferred by *informal* institutions:

- **Pragmatic legitimacy**: conforming to instrumental demands
  - Marketing: Advertising M-Pesa in rural and low income areas, enlisting lead users

- **Moral legitimacy**: conforming to altruistic ideals
  - Incorporating informal practices in M-Pesa functionality: e.g.
    - P2P payments
    - micro-payments
    - exclusion of paperwork
    - use of Swahili language, simplified interface using basic phones
  - Use of small, established businesses as agents
  - Linking M-pesa to small business: agriculture

8. Discussion

We contribute to the literature on sociotechnical change and organisation literature on legitimation by linking various legitimation strategies adopted by niche actors when deploying inclusive innovations to multiple regimes in a context undergoing a historical transition. We illustrate how niche actors employ different strategies for each regime due to differences in the institutional setting.

Preliminary consideration of the inclusive innovations here has suggested that within the formal regime, moral and cognitive legitimacy have the strongest relevance. In the informal regime, pragmatic and moral legitimacy have stronger relevance.

[worl-in-progress]

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10. Appendix

How M-pesa Works

A typical M-PESA transaction went as follows. A Customer C would deposit physical cash with an M-PESA agent who would then transfer the equivalent value of electronic money into the customer's phone. The M-PESA agent's e-money float would reduce accordingly, while Customer C's personal float would increase. Customer C can then send e-money to a friend, relative or a merchant, in this case Customer D at their own convenience. Once Customer D receives the funds, the e-money value in her mobile phone increases accordingly. She then visits an M-PESA agent in her locality to withdraw physical cash by transferring a given value of e-money from her phone to the agent's reserves. The M-PESA agents then reconcile their e-money reserves with the physical cash-at-hand, both which fluctuate throughout the day based on deposit and withdrawal transactions carried out. Reconciliations are also subsequently made with the M-PESA account held by Commercial Bank of Africa.

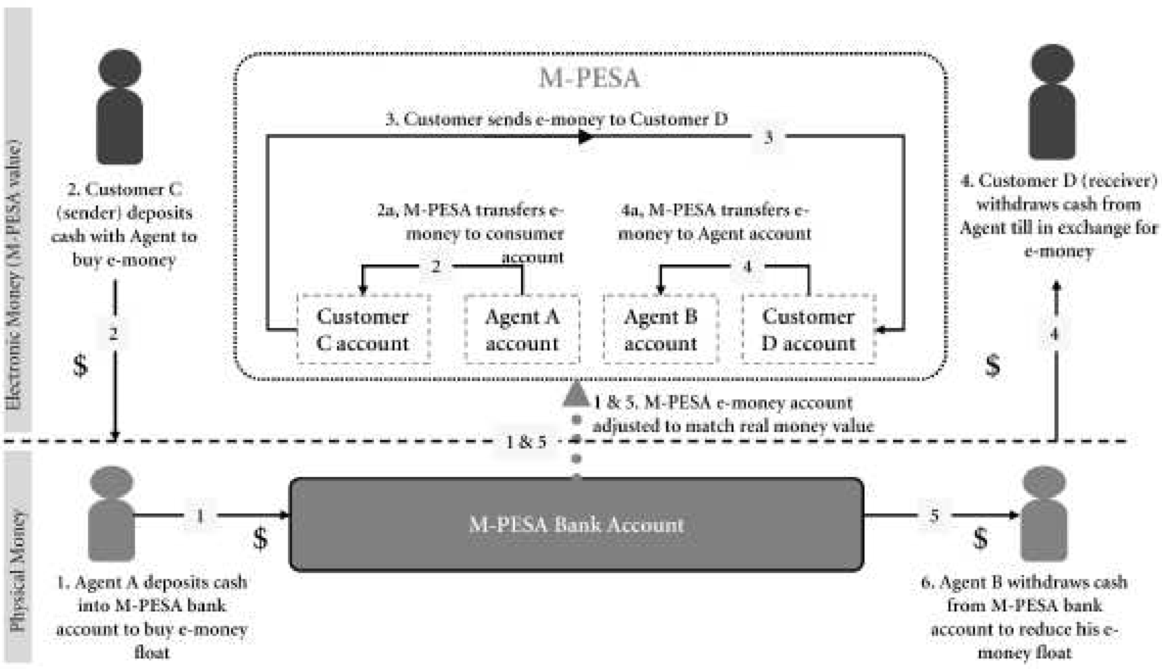

Figure 5 : Overview of the M-PESA service. Source: Hughes and Lonnie (2007)