



# Innovation resistance and mobile banking in rural Colombia

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## ABSTRACT

This research examines innovation resistance to a mobile banking and digital money initiative in rural communities. Despite studies on the impact of mobile banking applications on increasing financial inclusion, there is still a dearth of research on why innovation resistance persists in traditional, rural communities, particularly with respect to gender. This qualitative case study uses semi-structured interviews, participant observation, and semiotics to unpack the causes of resistance in a rural town and use this experience to elaborate on existing innovation theories. We conceptualise four factors that contributed to innovation resistance and highlight the need for a multi-faceted approach to addressing financial isolation in rural sectors. The themes embodied within these factors include the reconfiguration of rural life, the dematerialisation of cash, local and regional politics and gender relations. This case serves as an example of the historical situatedness of knowledge and the inter-subjective nature of human and social relations that affect technology acceptance. This is one of the first studies to apply active and passive innovation resistance literature to a rural context. We hoped to have emphasised a need to rethink digital initiatives for financial inclusion in rural communities. Furthermore, the idiosyncrasies of this case call for revisiting mainstream innovation resistance models to draw on interdisciplinary approaches that facilitate financial inclusion for marginalised communities.

## 1. Introduction

Implementing mobile banking is a form of digital technology that has been touted as a means to promote financial inclusion in rural communities (Chibba, 2009). While such initiatives have worked well in rural communities in East Africa (Gosavi, 2015; Morawczynski, 2009), less progress has been made in Latin America. Context-specific factors can produce various forms of resistance to mobile banking initiatives (Correa and Pavez, 2016) and call attention to what Rogers (1995, p.56) termed as the “consequences of technological innovation.” As an intangible service, mobile banking dematerialises physical cash and paper receipts and affects how people conduct transactions. It also has an impact on the social nature of relationships.

A number of theoretical lenses have been used to examine mobile banking including Innovation Diffusion Theory (Rogers, 1995; Püschel et al., 2010), Theory of Planned Behaviour (Giovanis et al., 2019; Ajzen, 1991), Technology Acceptance Model (Zhang et al., 2018; Liébana-Cabanillas et al., 2018; Davis et al., 1989), and the like. Furthermore, extant research on innovation diffusion manifests a pro-biased view of technology acceptance where consumers are

presumed to be open to new technologies (Rogers, 1995; Talke and Heidenreich, 2014). However, these quantitative approaches do not adequately capture the social and cultural contexts that impact on the acceptance and usage of digital technologies in rural areas. Therefore, this study utilises qualitative methods to fill a lacuna in understanding innovation resistance in rural communities, with a focus on mobile banking applications.

A history of exclusion from digital life has resulted in a persistent urban-rural digital divide. This is complicated because most innovations are urban-led (Salemink et al., 2017; Velaga et al., 2012) and an urban bias persists in innovation research (Shearmur, 2017). Despite this, it has been shown that rural communities do engage with digital technologies, if even on their own terms (Salemink, 2016). Furthermore, Young (2019, p.1) described how some rural inhabitants leverage digital technologies to “actively shape their position within a globalising world” and increase their economic and social agency. Philip and Williams (2019) examined the use of internet connectivity by micro-enterprises in digitally underserved rural communities. Given that 30% of Latin America resides in rural communities (Malaquias and Albertin, 2019), more research should be done to understand how innovation

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resistance arises.

This paper reports findings from a study that examines the implementation of a mobile banking and digital money system in the rural town of Hispania, Colombia. In 2011, the country's largest bank, Bancolombia, sought to create the first cashless society in Colombia created a highly discontinuous change for residents in a formerly bankless municipality. However, this effort was thwarted by the social complexities of rural life and the conflicting interests of multiple levels of government. Although the project formally ended in 2017, this initiative presents a compelling case because Hispania was also one of the first municipalities to be included in a nationwide initiative to increase wireless connectivity in rural provinces, called *Puntos Vive Digital*. We focus on the situational details of the case that unfolded over time to analyse innovation resistance through lens of the societal members and their direct and context-specific experiences (Denzin and Lincoln, 2017). As such, qualitative methods were applied to unpack the processes and meanings that underlie resistance to this innovation, deemphasising a measurement and analysis of causal relationships of quantitative approaches. Our study contributes critical new findings to the field of innovation resistance and technology usage in rural communities by:

- Presenting a critical link between the intangibility of mobile banking services and innovation resistance in rural communities.
- Promoting the inclusion of gender perspective as a critical construct in the context of innovation literature.
- Illustrating the need for a reconfiguration of the tradition barrier to extend beyond routines and include symbols that indicate technology acceptance.

Our research question then is: How does innovation resistance impact technological innovations implemented in rural communities? We uncover four factors that can inform our understanding of innovation resistance and stand as a counterbalance to dominant pro-biased literature on technology acceptance. We offer critical insights for improving the design and implementation of financial banking instruments for rural communities.

The next section is the literature review, which is followed by a case background that includes a critical analysis of the timeline of events. The methodology, findings, and analysis are then presented, followed by conclusion and recommendations.

## 2. Literature review

The literature review developed here attempts to map and assess existing contributions to understanding of innovation resistance. The review will help to specify the research question to address key areas for further development particularly with respect to innovation resistance in a rural context. The starting point of the review consisted of a systematic reflection on the innovation literature. Innovation resistance can be defined as a person's willing rejection of an innovation, either before or after evaluating the product's value. Ram and Sheth (1989, p.6) argued that resistance can result from the timing of adoption, the degree of change required of the user, or the perceived disruption that the innovation causes in the consumers' daily life and established routines, all of which may "conflict with the consumers' prior belief structure." Heidenreich and Spieth (2013) expanded Ram and Sheth's framework to include active and passive innovation resistance, which formed the two main branches of this review.

Our observation was that the presence of the tradition barrier in innovation resistance studies failed to capture the rural context. This led us to revisit tradition as a construct using the work of Hobsbawm (1983) and Cohen (2011), among others. Furthermore, our field work revealed a glaring absence of gender in the literature. Hence, we reflectively began to explore this literature and found it useful in locating gender as a central theme of the study and a critical contribution to the literature. The resulting interdisciplinary approach allowed us to more

comprehensively address the complexities of mobile banking in under-banked and unbanked rural areas and present a meaningful analysis of the social realities of innovation resistance and how those realities are understood for these communities.

### 2.1. Active innovation resistance

Active innovation resistance (AIR) is defined as a "negative" attitude that evolves from functional and psychological barriers, which results from an evaluation of the attributes of an innovation (Heidenreich and Spieth, 2013). If an attribute does not meet users' tolerance threshold then a negative attitude develops toward the innovation, which can lead to "negative word of mouth communication, complaining behaviour, and boycott" of the innovation (Kleijnen et al., 2009, p.353). This type of resistance constitutes a deliberate act that can stem from concerns related to finances, performance, and personal risks associated with adopting new products. Recent empirical work has shown how perceived risks generated active innovation resistance to innovations in the food production system in Mexico (Stanton, 2019).

Szmigin and Foxall (1998) identified three forms of AIR including outright rejection, postponement, or opposition (see also Kleijnen et al., 2009). Outright rejection is an extreme form of resistance attributed to quickly assessing that a product does not offer "any worthwhile advantage" (Szmigin and Foxall, 1998, p.461). These consumers tend to prioritise the status quo and prefer to use "older and still dominating technology" (Woodside and Biemans, 2005, p.382).

Postponement can occur due to a behavioural context (i.e., situational factors (Belk, 1975)), whereby even though a customer may perceive value, he or she may not have the financial means or technological awareness to take advantage of it. In his adoption and diffusion theory, Rogers (1995) defined laggards as consumers who postpone use of technology until either other consumers manifest benefits from it or they discern a change in habits occurring around them before embracing a new technology. Situational factors also influence opposition, the third type of AIR. In this case, consumers collect information from the context and a lack of perceptible differential advantages would cause them to oppose or resist an innovation (Szmigin and Foxall, 1998). This form of resistance is also caused by persistence of habits or cognitive styles, whereby a user would not change behaviours *without concrete* evidence that the product would improve their lives. This would describe most consumers, with a disproportionately smaller set of consumers actually seeking change (Sheth, 1981). Chen et al. (2019) used survey data and analysis of variance to assess differences between the three types of AIRs. They found that postponers manifested the greatest likelihood of innovation adoption.

The strength of habits, reinforced by the concomitant relationship of traditions and socially constructed norms, can also create AIR because innovations constitute a *total* behavioural stream (TBS) of technology practice. This includes "all the behavioural steps involved" in the aggregated activity of shopping (i.e., searching for, procuring, and consuming a product) (Sheth, 1981, p.2). Mobile purchases and traditional purchases share some aspects of the TBS in that they both utilise an awareness of needs and the post-purchase use of the product. Innovations that alter the total behaviour stream rather than just a single behaviour would face greater resistance from consumers. Hence, mobile purchasing through the banking application would propose a new TBS if the user engages fully with technology for the aggregated shopping activity.

AIR is constituted by different types of barriers. The functional barrier is constituted by perceived risk (Joachim et al., 2018), which is the belief or fear that an apparatus may fail the user due to a lack of sufficient testing or, more likely, the user's lack of familiarity with or confidence in a technology. Psychological barriers occur in the possibility that an innovation will conflict with consumers' prior beliefs (Laukkanen et al., 2008). These barriers are tied to both tradition and image (Ram and Sheth, 1989). Tradition barriers are socially constructed and

regulated by the community. Hence, if an innovation is perceived to disrupt tradition, it might be met with resistance. The image barrier is tied to negative perceptions about the origin of the product, which are then transferred onto the innovation, thus creating resistance.

We can further nuance the image barrier through a consideration of the elaboration likelihood model (ELM) of persuasion theory (Petty and Cacioppo, 1986). The ELM presents two types of persuasion, the central route, whereby users evaluate the “true merits of the information presented” for the product; and the peripheral route, which relates to the existence of a “simple (visual) cue in the persuasion context” that induces change. When the message has high personal relevance to the receiver a more rapid attitudinal change is likely to occur (Manca et al., 2020). Furthermore, where low personal relevance to the receiver is present, a greater reliance on the source’s expertise becomes a greater persuading factor (Li and Suh, 2015; John and De’Villiers, 2020). Resistance related to the image barrier is also rooted in a product’s failure to persuade the user through effective communication of information and guidance and not on context alone (Petty and Cacioppo, 1986). The image barrier could diminish the effectiveness of the central route of persuasion process because of negative perceptions about banks and/or technology.

## 2.2. Passive innovation resistance

Passive innovation resistance (PIR) is a predisposition to resist innovations before evaluation (Heidenreich and Spieth, 2013). PIR can occur when consumers are satisfied with the status quo and are unwilling to engage with a new product for fear that an innovation would disrupt their psychological equilibrium (Ram, 1987; Heidenreich et al., 2016). This resistance emerges when the degree of change in routines (habits) required for the adoption of the innovation outweighs the perceived benefits (Heidenreich and Kraemer, 2015).

Heidenreich and Handrich (2015) developed a multidimensional PIR framework constituted by situational and cognitive aspects that underpin one’s inclination to resist change. Situational PIR is a situation-specific status quo satisfaction that hinders the inclination to adopt changes. Heidenreich and Handrich (2015) found that cognitive PIR has a stronger influence on consumers’ predisposition to resist innovation.

Cognitive PIR is the extent to which “an individual’s cognitive style hinders the consideration and adoption of new products” (Heidenreich et al., 2016, p.2). Oreg (2003) identified four personality-specific factors that shape cognitive PIR: The fear of losing control over established routines that provide a sense of equilibrium; cognitive rigidity, where stubbornness hinders the consideration of alternatives; emotional reaction, which is an inability to cope with the imposed changes of an innovation; and a user’s short-term focus on the inconveniences involved in adjusting to an innovation rather than on the longer-term benefits. In recent work, Stryja and Satzger (2019), p.1124 elaborated cognitive resistance as any “non-rational and negatively biased evaluation of an innovation”, such that consumers express an irrational and unconscious preference for “incumbent” products and services.

The tradition barrier also constitutes PIR and acts as a form of “inertia against a change of habits” (Chemingui and Iallouna, 2013, p.576), often without clear reason as to why an innovation was resisted (Kuisma et al., 2007). Tradition is underpinned by value systems and rooted in the cultural and social fabrics of rural communities who often prioritise the status quo, thus producing unconscious “perceptual and cognitive mechanisms” that constitute resistance and close off processing information about the innovation (Heidenreich and Handrich, 2015, p.883), resembling situational passive resistance that favours the status quo (Bandura, 1977). It is only when negative discrepancies occur between the expected performance of an existing practice and its actual performance do consumers feel incentivised to look for alternatives (Ellen et al., 1991). Intangibility produced by the dematerialisation of cash for banking can produce PIR, which is enhanced by the perceived

risk of the unauthorised use of one’s mobile phone or network reliability issues (Mallat, 2007). McDougall and Snetsinger (1990) showed that the greater the degree of intangibility, the greater the risk perceived by the user (see also Nepomuceno et al., 2014).

## 2.3. Gender in innovation

Gender is well researched in marketing and in technology acceptance literature, mostly as a control variable (Venkatesh and Morris, 2000; Krasnova et al., 2017), however, there is a glaring absence of the gender perspective in innovation (or innovation resistance) literature. Alsos et al. (2013, p.237) argued that this may be attributable to the “invisibility of ‘people’ in innovation.” The lack of specificity of the individual in innovation discourse increases the likelihood that gender would be overlooked. However, Ranga and Etzkowitz (2010, p.3) asserted that innovation is not gender-blind, but inherently biased due to “implicit, socially-constructed assumption that women are less innovative than man.”

Nählinger et al. (2015) contended that the biased nature of gender labelling of innovation and its measurements instruments position women as less innovative. Linking this with Ranga and Etzkowitz’s (2010) argument raises the question as to what extent innovation studies drawn from survey data reflect differences in gender because the respondents are expressing or performing (Butler, 1999; Säll, 2017) a socialised viewpoint on technology that favours masculinity. Some of this has played out in the literature. For example, expressiveness and normative pressure were found to be stronger drivers of intention to use technology for women, particularly for expressing their “personal and social identity” (Nysveen et al., 2005, p.253). Belghiti-Mahut et al. (2016) found that women tended to be more affected by contextual factors. Similarly, Venkatesh et al. (2012) found that women were more likely to rely on external supporting factors (i.e., facilitating conditions) on behavioural intention. In rural communities, this could include inconsistent internet connectivity and a lack of outlets and opportunities to use the innovation (Salemink et al., 2017), which would increase perceived short-term inconveniences and catalyse cognitive PIR, particularly for older women, while negative evaluation of the service and facilitating conditions could produce AIR.

## 2.4. Innovation resistance in a rural context

As shown above, mainstream literature on digital technology resistance ignores the rural context and certainly has not applied AIR and PIR to rural communities. In fact, the dominant theory of technology acceptance, adoption-diffusion theory (Rogers, 1995), positions rural communities as laggards or late-adopters of innovation, resistant and shielded from this particular narrative of modernity (Bell and Osti, 2010). Resistance to innovations coming from outside rural communities might be attributable to the concept of conservative rurality, the preference for traditional practices “inherited from the past” over “free enquiry” (Cohen, 2011, p.213). Conservative rurality is tied to traditions, which Hobsbawm (1983, p.1) described as “overtly or tacitly agreed rules or rituals” that inculcate particular values and norms, reinforced through repetition that “establish continuity with a suitable historic past.” However, both concepts seemingly disassociate agency from rural people. In fact, Shucksmith (2018) criticised the practice of ignoring agency as a potential driver of change for rural communities, particularly when big business, government or other specialists exogenously develop interventions that are then applied to these communities.

Gollakota and Doshi (2011) found that local farmers in rural India did not see greater usefulness of telecentres over their traditional ways of sharing information, thus constituting a “symbolic rejection” based on the information available (Mittelstaedt et al., 1976). Gollakota and Doshi (2011) further argued that the predominant community-based learning practices did not extend to the more individualised engagement

with the Internet, indicating incongruence between the old and new systems (Cohen, 2011) and a lack of change in the total behaviour stream (Sheth, 1981). Tansuhaj et al. (1991) found a statistically insignificant relationship between traditionalism and consumers' willingness to try new products, while calls for further research to measure tradition and technology acceptance, particularly for rural communities, where tradition is more salient.

The tradition barrier was first utilised, though perhaps narrowly defined, by Ram and Sheth (1989) to denote resistance based on the cultural change for customers resulting from an innovation. Mainstream marketing literature on innovation resistance has diligently employed the tradition barrier for analysing technology acceptance (Chemingui and Iallouna, 2013; Heidenreich and Handrich, 2015; Kaur et al., 2020), where tradition produces a need for face-to-face interactions to feel confident enough to use an innovation, offsetting discomforts associated with new technologies (Parasuraman, 2000) or worse, "technophobia" (Meuter et al., 2003). As Laukkanen et al. (2007), p.421 stated, "the tradition barrier mainly implies the change an innovation may cause in daily routines", which go on to contest societal norms and values. Even Oreg (2009) found that a preference for "stable and consistent routines" created resistance. Hence, a tradition barrier emerged when routines took precedence over innovation acceptance. This reductionist viewpoint conflates tradition with routines executed by consumers and has become a mainstay in innovation resistance literature (Laukkanen, 2016; Kleijnen et al., 2009; Kuisma et al., 2007),<sup>1</sup> but falls short of effectively operationalising the tradition barrier to explain innovation resistance in rural communities.

This present study addresses this critical gap first by drawing on Hobsbawm's (1983) distinction between tradition and routine. He argued that routines are technical rather than ideological and do not have symbolic function. As such, they can be "readily modified or abandoned to meet changing practical needs" (Hobsbawm, 1983, p.3). Traditions, however, are embedded with ritual and symbolic functions that are likely to induce people to resist innovations that appear to challenge the value systems that the traditions support. For example, mobile banking would replace cash and institute a new total behaviour stream that alters the associated dynamics of routines for both mobile phone and cash-based transactions, reconfiguring the characteristics of the traditions that underpinned cash.

Innovation resistance in rural communities is not the same as innovation inertia, i.e., not reducible to the status-quo satisfaction aspect of passive innovation resistance (Heidenreich and Handrich, 2015). In fact, Adjei et al. (2017), p.2 dismissed the idea that rural communities were less prepared to accept and use innovation. Furthermore, Cohen (2011, p.213) reasoned that conservatism, often found in rural communities, does not oppose new creations as long as they leave the "old creations intact;" reminiscent of Sheth's (1981) observation that the strength of existing habits could nurture resistance to a new technology. Applying this logic to rural communities, new creations would not necessarily be opposed or resisted unless they "required or caused a destruction of existing value" (Cohen, 2011, p.213). But the co-existence of old and new systems complicates the total behaviour stream change needed for accepting new technologies (Sheth, 1981) and increases the likelihood of active innovation resistance in rural communities. We explore these complexities in the context of Hispania, Colombia.

### 3. Case background

The Antioquian municipality of Hispania was founded in 1925 and has a population of less than 5000. It is 98 km from Medellin and covers

<sup>1</sup> Notably, most of these studies were not based on a rural context. This, coupled with the ill-defined construct of tradition in quantitative approaches for understanding technology acceptance, necessitates a qualitative approach to understanding innovation resistance in rural communities.

an area of 58 square kilometres. Its economy is based on agriculture and coffee. It is a close-knit community rooted in strong, cultural traditions. The townspeople have had minimal interaction with digital technology and the town has no bank offices nor automated teller machines (ATM). Locals relied on adapted micro bank branches (*corresponsales bancarios*) provided by a pharmacy, a grocery store and two clothing boutiques. For this rural community, cash represented power, social class, and status, rooted in both a colonialist and feudalist past. Agriculture was the mainstay of the local economy and workers were paid in cash on a piecework basis in the town's public square once a week on "town's day", positioning physical money as a source of control of the land-owners over the working peasants.

The government, the bank and local businesses and consumers in Hispania shaped the context of mobile banking diffusion in Hispania. The bank and the government had their own interests and perspectives that affected the outcome of this innovation initiative. We will consider each in turn to build the case background.

In 2012, Colombia's largest bank,<sup>2</sup> Bancolombia, began its search for a pilot town to implement a new digital money application, called *Savings at Hand (Ahorro a la Mano)*. Once Hispania was selected, the Bancolombia project managers conducted observations in the town. In designing the app, however, the bank benchmarked the culture of the metro transportation system of Colombia's second largest city, Medellin, to develop a value creation and savings culture for Hispania. Planning for the Metro transportation system began in 1977 and launched in November of 1995. It is an integrated multi-modal transportation system that covers more than 34 km with 27 Metro stations and another 21 stations for aerial gondola cable cars and trams. In 2018, passengers took more 298, 000, 000 trips.<sup>3</sup> The metro system is a form of place-based innovation that combined physical and social programmes to build the only integrated transport system in Colombia (Corburn et al., 2019).

The quotes from the two project managers below contextualises the argument that "newly developed technologies are likely to be urban-led" with ubiquitous connectivity, and little regard to rural needs (Saleminck et al., 2017, p.363):

We wanted to initiate a theme, a model of financial savings culture at hand. We called it "Ahorro a la Mano", because, the product is Savings at Hand. And this financial culture was going to encourage the reduction of cash. But, how do you create a culture? We decided to use the culture of our metro train here in Medellin. So, we talked to the designers of the metro culture and based on that model we created our Financial Cultural model (Project Manager 1). I told the mayor's office [in Hispania] that we would offer financial education talks and workshops. We worked with local institutions to make a mini fair in schools and in the town square and offered incentives for people to attend (Project Manager 2).

The resulting metro culture imposed a new total behaviour stream (Sheth, 1981) on Medellinians through the implementation of rules, surveillance, policing, administrative procedures and an information register (Osorio-Alarca et al., 2015), making culture a "dispositive for the normalisation and control of informal sectors of the city" (Brand, 2013, p.10). This approach changed daily routines and compelled riders to evaluate the technology, reducing passive innovation resistance. The bank perceived this radical innovation as a useful benchmark for the mobile banking app. Despite the noted failure of financial education programmes to deliver long-term effectiveness (Álvarez-Franco et al., 2017), the bank used campaigns, *ferias* (small local festivals), instructional workshops, and sponsorships of town events to educate the rural

<sup>2</sup> Source: <https://www.advratings.com/latin-america/top-banks-in-colombia>; on July 14, 2020.

<sup>3</sup> Source: [https://www.dane.gov.co/files/investigaciones/boletines/transporte/bol\\_transp\\_IVtrim19.pdf](https://www.dane.gov.co/files/investigaciones/boletines/transporte/bol_transp_IVtrim19.pdf); July 15, 2020.

**Table 1**  
List of the main and auxiliary services provided by Daviplata.

Savings account: Cash-in (deposits)	Pay utilities and phones (including pre-pay)
Savings account: Cash-out (withdrawals)	Digital Purchasing
Transfer person-to-person (including wages)	Credit risk and micro-lending (SMS-lending)

and unbanked people of Hispania and encourage them to download the app, open an account and use its six main attributes to transfer money, pay bills, and buy groceries (See Table 1):

Ferias and campaigns were crucial for overcoming passive innovation resistance, allowing for trialability and observability and resulting in a positive evaluation of the app for some. Evaluation also led to rejection for others, such that active innovation resistance emerged due to perceived functional and risk barriers.

The bank’s marketing communications strategies were intended to overcome image barriers associated with AIR and positively influence consumers’ evaluative processes (Ram and Sheth, 1989). In Fig. 1, the male model selected for the promotional material aesthetically resembles local people, creating a sense of relatability for locals in this bankless town. Furthermore, the use of “small” money in Fig. 2 (valuing approximately \$0.65 USD) connotes the relevance of the app for performing small transactions, typical of rural consumption patterns. This figure also depicts the model putting money into the phone, enhancing misperceptions held by many locals that their money would be lost if their phone were stolen.

Fig. 2 depicts an urban setting that shows two women possibly with a family relation (mother and daughter). Here, digital money is associated with modernity and could be seen as aspirational for rural consumers (i. e., the possibility of change and development through the use of digital money). This image suggests an attempt to overcome the tradition barrier by portraying change agents situated outside of a rural context. The image reflects their urban condition expressed in the interior design of the living room and the style of clothing worn, and even in the hair style of the women that probably would not be present in Colombian rural context. The binary coding of urban/rural here is based on the notion of contradiction and on the consumer’s ability to deconstruct the image and to “carve a unique cultural space” (Oswald, 2015, p.44) for seeing themselves in a different (presumably, cosmopolitan) imaginary. Heidenreich and Kraemer (2015) argue that using marketing instruments that induce “knowledge and information” should reduce consumers’ perceived performance uncertainty. Both Figs. 1 and 2 exemplify the bank’s effort to utilise the central and peripheral routes of persuasive communications, an approach in line with the hypothesis put forth by Aghakhani et al. (2020).

In 2012, Mr. Franky Gaviria Castaño was elected as the new mayor of Hispania. He was an advocate of the Internet and digital services and wanted to increase connectivity and the use of digital technology in the town.<sup>4</sup> Under Castaño, Hispania received training sessions and free Wi-Fi and became the first digital municipality of Colombia in 2013 as part of *Puntos Vive Digital*. The programme worked in collaboration with the town’s schoolteachers to train students on digital technologies. Furthermore, the then current president of Colombia, Juan Manuel Santos, together with the Ministry of Information and Communications Technology, allocated some 900 e-tablets to Hispania, supplemented with 180 tablets from the regional governor of Antioquia, Sergio Fajardo and the mayor of Hispania, totalling 1080 tablets. Furthermore, the governor of Antioquia, Sergio Fajardo instituted Ordinance 36 in 2014, which allocated 40 billion pesos (USD\$12.3 million) toward a new *Parques Educativos* (educational parks) programme to create science and



Fig. 1. <https://pbs.twimg.com/media/BIKlpnfCIAEe9Nt.jpg:lar>; Accessed on July 11, 2019.



Fig. 2. <https://i.ytimg.com/vi/PRluXS-bfLk/hqdefault.jpg>; accessed on July 1, 2019.

technology learning spaces for local communities and the creation of clubs for students and citizen mobilisation.<sup>5</sup> Such digital readiness facilitated Bancolombia’s introduction of its mobile banking app to this

<sup>4</sup> <http://cdim.esap.edu.co/BancoMedios/Documentos%20PDF/hispaniaantioquiapc2012.pdf>; July 10, 2019.

<sup>5</sup> <https://www.parqueexplora.org/proyectos/apropiacion-y-gestion-social/parques-educativos-de-antioquia>; on June 1, 2019.

previously unbanked municipality.

However, the 2015 election cycle yielded a new governor of Antioquia, Luis Pérez Gutiérrez, and a new mayor of Hispania, Jorge Alberto Vanegas Díaz. A political battle soon ensued and impacted on the diffusion of digital technology, unravelling the town's digital developments. In 2016, Pérez Gutiérrez reversed the *Parques Educativos* programme and redistributed the original funding to include nine educational citadels, culture centres, schools and libraries across Antioquia, drastically reducing budget for the *Parques*. The former governor (Fajardo) then sued Pérez's administration to restore resources for the education parks and won some of the lawsuits, with others still pending as of this writing.<sup>6</sup> In 2017, Governor Pérez withdrew financial support for the *Parques Educativos* programme, which interrupted Internet connection to the centres. As a result of the dispute between the former governor and the current governor, Hispania's educational park remained without Internet service for two years.<sup>7</sup> In 2018, the app, *Ahorro a la mano*, was rebranded by Bancolombia as *Bancolombia a la Mano*.

#### 4. Methodology

Innovation resistance has been analysed from both quantitative and qualitative approaches. Using survey data, Oh et al. (2019) developed a construct of innovation resistance and integrated it with the well-established technology acceptance model. Hong (2020) tested innovation resistance as a mediator on adoption intention and found that the construct had a negative and significant effect on intention to adopt. However, the limitation in quantitative studies is an inability to capture contextual factors that influence acceptance or resistance. Therefore, this present study uses qualitative methods because they afford a detailed examination of “concepts in terms of their meaning and interpretation” (Ketokivi and Choi, 2014, p.233). This can then be used to elaborate on the historical explanations of passive and active innovation resistance within the context of rural communities. Hence, the approach undertaken aligns with the third form of case research, theory elaboration, identified in the work of Ketokivi and Choi (2014).

This study falls within the category of resistance to digital innovation (Talwar et al., 2020). To date, scant research on innovation resistance actively engages with rural communities, however, these general theories proved to be a useful starting point in approaching this empirical context. In this regard, our study examines the boundaries of a unique social system (Schwandt and Gates, 2018) to consider why and how the mobile banking and digital money were met with resistance. Theory-elaborating case research afforded an opportunity to explore the multi-layered, complex interactions between state and local government actors, the largest bank in Colombia, and a town of less than 5000 residents without an “a priori formulation of propositions” (Ketokivi and Choi, 2014, p.236). Using this method enabled us to “partly reaffirm the contingencies” of innovation resistance theories, while integrating the role of services and gender (i.e., new contingencies) (Ketokivi and Choi, 2014, p.236). Theory elaboration occurred through the integration of several theories that helped to draw out critical insights into the contextual and situational factors that intertwined with technology acceptance and usage to produce innovation resistance. Using theoretical sensitivity (analytical temperament, interpretive, and critical skills) (Lo, 2016), we elucidate and theorise four key factors that underpinned resistance to mobile banking and digital money in Hispania.

<sup>6</sup> [https://www.google.com/url?q=https://lasillavacia.com/silla-paisa/pelea-los-parques-educativos-fajardo-va-ganando-70674&sa=D&ust=1560434591663000&usg=AFQjCNHFlw6wkWmLKdZOpqcZ6\\_3EMciQw; on May 15, 2019.](https://www.google.com/url?q=https://lasillavacia.com/silla-paisa/pelea-los-parques-educativos-fajardo-va-ganando-70674&sa=D&ust=1560434591663000&usg=AFQjCNHFlw6wkWmLKdZOpqcZ6_3EMciQw; on May 15, 2019.)

<sup>7</sup> Source: <https://www.elcolombiano.com/antioquia/parques-educativos-e-n-antioquia-sobreviven-sin-dinero-y-a-su-suerte-OI10907108>; Accessed: July 11, 2019.

#### 4.1. Data collection and analysis procedures

The project drew analysis from interview data from multiple perspectives including local merchants, local government officials, the bank, and consumers, totalling 36 interviews over a period of four weeks in Medellín and Hispania in May 2017. Initial in-depth interviews conducted with the project managers were useful in identifying key issues for the study and key informants in the town, including gaining access to the mayoral office. Twenty interviews were conducted with consumers until theoretical saturation was reached (Glaser and Strauss, 1967). The research team conducted personal canvassing (Gerber and Green, 1999) of the town's merchants, concentrated in the town square, and conducted interviews with both users and non-users of the app. For the consumers and merchants, semi-structured interviews were implemented to allow for more flexibility in the follow-up questions. This was essential to capture the variance of interactions and user experiences with the technology (Eriksson and Kovalainen, 2015). Additionally, four in-depth interviews were conducted with the bank's project officers at the bank's headquarters in Medellín at two different stages of the data collection.

#### 4.2. Interview protocol table

Interviewee category	Number of Interviews	Length of Interview	Gender	Topic Discussed
Local Government	2	40 min each	Female	Infrastructure: connectivity, statistics, security, policies, alliances, and projects
Local Consumers	20	15 min each (average)	Mixed	Perception: technology acceptance and security
Local Merchants	5	30 min each	3 males and 2 females	Perception: acceptance and security
Local School Officials	4	45 min each	Males	Usability: training, ease of use, technology education, projects
Education Park Administrator	1	30 min	Male	Infrastructure: connectivity, statistics, security
Senior Bank Project Manager A (Medellin)	2	60 min each	Female	Usability: training, ease of use, technology education, financial education.
Junior Bank Project Manager B (Medellin)	2	60 min each	Male	Usability: training, ease of use, technology education, financial education.

The research team used time in between the Hispania interviews to apply a “constant comparative” method to the data (Corbin and Strauss, 2007). This is where preliminary analysis and discussion of interviewee responses are conducted line-by-line immediately following an interview and before the next interview. During these interval, extensive notes were taken and new codes were added or existing ones reframed using open coding (Matteucci and Gnoth, 2017). As such, additional follow-up questions were developed for subsequent interviews. The team also reverted back to the bank's project managers at headquarters with follow-up questions or clarifications.

The data were transcribed by two research assistants and newer or refined codes were added through open coding. To ensure reliability, the codes were reviewed separately by two members of the research team. The team then applied axial coding to the data with the assistance of Atlas.ti software. Axial coding is a second stage coding process that

allows the researcher to re-evaluate the broad categorisations developed in the open coding phase. Through this process, the “fragmented data subsets” are brought back together in a coherent fashion (Silver and Lewins, 2014, p.164). Finally, selective coding was employed to develop four key factors that contributed to innovation resistance in Hispania. This process allows for the creation of a “story that interrelates the narratives” of the case (Creswell, 2013, p.87). To ensure validity, our research approach aligned with validity-as-culture (Denzin and Lincoln, 2017; Creswell, 2013), whereby multiple points of view were derived across different types of stakeholders. This afforded access to greater complexity of the case. Furthermore, the research team reassessed the research mission and topic through an iterative process of data collection and reflection on relevant theories.

#### 4.3. Secondary data

The study also draws on a selection of news articles and published interviews by government officials to construct a comprehensive picture of events that led to innovation resistance. We triangulate the interview data with marketing adverts from the bank’s campaign and applied semiotic analysis to examine and decode embedded signs, symbols, and language to illustrate how the bank itself contributed to the production of innovation resistance (Danesi, 2015; Mick, 1986; Oswald, 2015).

### 5. Findings and discussion

Following a developmental logic, this study identifies four factors that spurred innovation resistance and offers critical insights for the development and diffusion of financial technologies.

#### Factor 1 The Reconfiguration of Rural Life and Trust.

More than one-third of Hispania’s inhabitants live in the outskirts of the town.<sup>8</sup> They work during the week and go into town for one day per week (*el Día del Pueblo*) to shop, sell their harvest, receive wages, attend church, and socialise with friends and acquaintances; practices and habits that constitute an extant total behaviour stream (Sheth, 1981) and provide equilibrium for the townspeople (Szmigin and Foxall, 1998). Digitalising cash payments and the dematerialisation of key aspects of shopping day would have altered the routines that underpin “social networks, institutional capacity, and trust (i.e., social capital)” which Shucksmith (2018, p.167) asserted to be important components for the “wellbeing and prosperity of rural people.” For some inhabitants, this change would have created forms of distrust of the technology, potentially generating active and passive resistance.

The following quote illustrates how some of these attributes were favourably evaluated while other attributes were not.

... but I think that’s where you need to have trust. If, for example, there is a money transfer to a family member or a friend then they are more likely to have confidence in the technology, so they can withdraw the money. However, in the case of unknown merchants, locals are more suspicious and reluctant to pay digitally. They need to know the merchants better first. (Local Merchant, male).

An inherent culture of social intimacy and symbolic stability characterises rural communities (Bell and Osti, 2010), which is reinforced through personal, face-to-face contact. Therefore, the attributes that reinforced intimate bonds were favourably evaluated and practiced, namely, the transfer money to family members and close friends. However, users were more hesitant to apply this service to pay for transactions with local businesses, as the merchants may have been perceived as outside of the private circle.

In essence, the dematerialisation of cash (Belk, 2013) reconfigured

<sup>8</sup> Source: [http://www.dane.gov.co/files/censo2005/PERFIL\\_PDF\\_CG2005/0535317T000.PDF](http://www.dane.gov.co/files/censo2005/PERFIL_PDF_CG2005/0535317T000.PDF); accessed: January 31, 2020.

the public and private spaces (the shops and family, respectively) where interactions became mediated by and through digital technology, which inadvertently created distrust of using the app for transactions outside of the family. While locals seemed to share and enjoy a uniformed social fabric, the advent of digital money revealed a clear demarcation between the private spaces of family and friends and the public spaces of the merchants. This demarcation can be associated with the tradition barrier for the adoption of technology, where people are less inclined to adopt a technology if they have a strong desire for human contact and face-to-face interactions are used to build trust in the transaction (Laukkanen and Kiviniemi, 2010).

Factor 2 Where’s the proof? Risk and the intangibility of mobile banking.

A second form of resistance emerged in the locals’ expressed need to have physical evidence of a transaction (i.e., paper receipts). Notice the quote below:

I do not understand how to pay the bills for public services by a mobile phone and it is quite funny, because I need my receipt, I love to have the paper receipt stamped– Townsperson A.

This sentiment was expressed by more than half the respondents during fieldwork. The bank’s efforts to digitalise everyday life tasks through the mobile banking value proposition would have represented a new set of behaviours and potentially unwanted changes to the status quo of rural life. Thus, the cash-based practices that reinforced particular aspects rural life that had, to some extent, produced satisfaction and a sense of belonging. Sheth’s (1981, p.2) argues that “perceptual and cognitive mechanisms” orientate people toward preserving habits rather than continuously seeking new behaviours. These mechanisms serve to foster passive innovation resistance. The bank’s project manager discussed the users’ fears about the radical change to mobile banking:

People think that when the mobile phone is stolen the money is stolen too, that they lose the account and the money. They are uninformed. They think “Oh! My mobile phone has been stolen then I lost my money.” That is misinformation. (Bank Project Manager 1).

This sentiment was also expressed by a local merchant:

People simply cannot believe how the app works. They say, “How is this possible, how do we make money, I come and bring you the money to put it on my cell phone, and how is that?” I try to explain that digital money works the same way as going to the bank. If the phone is lost or damaged, she can cancel the account and open another. You have to always give them the confidence that the money will not be lost if the phone is lost. But you also have to warn them that if they lose the phone and their password is not safeguarded then they could lose their money. So, the important thing is that the password is guarded. (Local Merchant, 3, female).

Both sentiments show that a lack of experience with mobile banking technologies led some locals to believe that money was actually *inside* the phone; a message that may have been inadvertently reinforced through promotional materials (see Figs. 1 and 2), leading to the perception of performance risk and active resistance (Nepomuceno et al., 2014).

Merchants also expressed concerns about security and privacy because receiving payment through the app would require their personal mobile number, which was meant to be posted on the shop signage advertising the app. One merchant expressed the following:

I feel like for security reasons, I do not like showing my mobile number because many times it can lead to extortion for many types of things. So, sometimes I ask the customer when they are paying if they want to use the app. Then they can have my mobile number and the payment comes out completely. (Local Merchant 4, male).

The app uses the personal mobile numbers as account numbers

between users to execute transactions. In most cases, the merchant's mobile number would also be the shop phone number. Therefore, revealing this information publicly not only represents a privacy concern (Hamby et al., 2018), but also an issue of security (Mani and Chouk, 2018; Kaur et al., 2020) due to extortion activities by criminal groups that regularly occur in rural Colombia.<sup>9</sup>

In addition, the digital money implementation resulted in two forms of distrust. First, there was a lack of trust in the bank itself. The town had no prior banking presence, in fact, the bank refused the local government's requests to build a physical branch in Hispania, obliging consumers to use a service called the *corresponsal bancario* at independent shops, that acted as local intermediaries. Customers could use the *corresponsal* to withdraw cash, transfer money between accounts, to send money to people and pay utility bills. The bank never developed face-to-face relationships with users, relying instead on the local "bank correspondents." Therefore, implementing mobile banking would have further eroded whatever relationship existed between the locals and the bank and diminished the trust of locals with respect to the technology, constituting an image barrier (Laukkanen and Kiviniemi, 2010). The image barrier was exacerbated by the locally held suspicions about the altruism of the initiative and negative perception of the bank. Notice the project manager's experiences in this regard:

Many people in the town distrust Bancolombia, because they believe that we will somehow profit from the services that we offer for "free". This is why social education is important to overcome customers' perceptions that Bancolombia are all about profiteering from them. So, we created workshops to show that Savings at Hand also brings social benefit. So, they could better appreciate the system and take care of it. (Bank Project Manager 1).

Workshops could positively influence the locals' impressions and build trust in innovations (Räisänen and Tuovinen, 2020). The information transferred during this process constituted an invitation to those who are motivated to abandon passive innovation resistance. However, the information could also lead to active innovation resistance if it is perceived to contribute negatively towards the evaluation of the characteristics of the technology emerged, particularly in the context of being contrary to rural habits.

Hence, a strong presence of the tradition barrier would thwart the bank's efforts to persuade consumers who were sufficiently satisfied with the status quo. Consequently, these consumers would be less likely even to process information about the innovation, resisting a communication-induced attitude change, weakening the effectiveness of the central route to persuasive communication as articulated in the elaboration likelihood model (Petty and Cacioppo, 1986).

#### Factor 3 Conflicting Interests among Stakeholders.

As demonstrated in the case background, the broader context of technological advancements in Colombia became a political conflict between the former and current governor of Antioquia. The interruption of internet provision service during the early days of the Pérez administration disrupted the Internet training programmes and diminished the effectiveness of the electronic tablets distributed in Hispania. Both internet connectivity and the tablets would have served as primers for facilitating the ease of use of the app by familiarising users with the manual navigation of the devices. The mayor's office commented the following regarding the effects of this political stand-off:

At the moment we have an inconvenience. The education staff at Punto Vive Digital trained local residents on Internet-based services in accordance with the partnership agreement with the regional government. However, with this change in administration, we have

been without the Internet for several weeks, they told us that it would be re-established soon. So, these days we have had to bypass the use of computers and instead, focus on other priorities not related to technology or the Internet and strengthen our cultural and social agendas (Hispania, Mayor's Office).

The comments from the mayor's office reflect a frustration in the town's inability to advance its own vision of technology development. The images below show the outcome of the lack of continuity between the policies of changing administrations. The gap in wireless internet connection led to neglect even in communicating updates on the websites of the education park. This image last update shown on Fig. 3 was July 16, 2015. The second image shows no updates for the past "1519" days and counting.

The political fight interrupted planned activities in Hispania and consequently the development of cognitive abilities for using the innovation technology, producing cognitive passive resistance in locals. Hence, the innovation proposed by the bank was not properly evaluated by those who were less accustomed to digital services and internet navigation. The educational park and a functioning, digitally enabled town would have increased familiarity with digital technologies paving the way for the more advanced innovation of the app. Instead the app became a radical innovation and was perceived as a highly discontinuous change to the habits of locals and thus, as expected, was met with high levels of passive innovation resistance (Heidenreich and Kraemer, 2015). The interruption of Internet service also deteriorated the facilitating conditions for technology acceptance and led to a negative attitude that evolved from perceived functional barriers, creating a negative evaluation of the innovation.

Furthermore, the local government pushed for an incremental innovation with the request of a physical bank with an ATM, which would have provided experience with traditional banking services (savings account, a bank card, and automated teller service). The quote below shows that the local government had a different vision for the town than the bank, even though the local government was not rejecting technology altogether (as shown in their acceptance of e-tablets and Wi-Fi):

We have demonstrated a need for a bank branch to be built here for some time now. We experienced an increase of economic activity, especially from the emerging coffee industry nearby. The mayor's office also wished to strengthen the municipality as a tourist reference here in the region.

We have also received many pensioners from Medellín. So, all these factors necessitate a local bank here. We also host town hall meetings of several companies in the jurisdiction and there is a lot of construction going on. We have interest from private investors. This year we sent a request to both Bancolombia and Davivienda, but they have not given us an answer. (Hispania's Mayor's Office).

The town's openness to innovation is in alignment with Young's (2019) argument that rural communities can and do engage with digital technologies even though the transition from a bankless society to a cashless one would have imposed a new total behavioural stream, two degrees removed from their present circumstance. The local government prioritised a physical bank branch over digital money created a value barrier (Ram and Sheth, 1989; Laukkanen et al., 2008), such that the lack of financial service experience inhibited the townspeople's ability to compare a previous service to the innovation, obscuring the perceived "relative advantages" (Rogers, 1995) of going cashless.

#### Factor 4 Gender and Innovation Resistance.

The fourth factor relates to gender roles. The local women managed the savings and budgeting, while the men earned the money. Anecdotally, these gender roles are the norm throughout Antioquia, reflecting a well-known Antioquian expression, the woman is the boss of the home (*la mamá es la jefa del hogar*) (Velásquez, 2010). Notice how the project manager reflected on this idiosyncrasy in their approach to the town:

<sup>9</sup> Source: <https://www.efe.com/efe/america/politica/autoridades-de-colombia-crean-un-comando-especial-para-enfrentar-la-extorsion/20000035-3904183>; July 1, 2020.



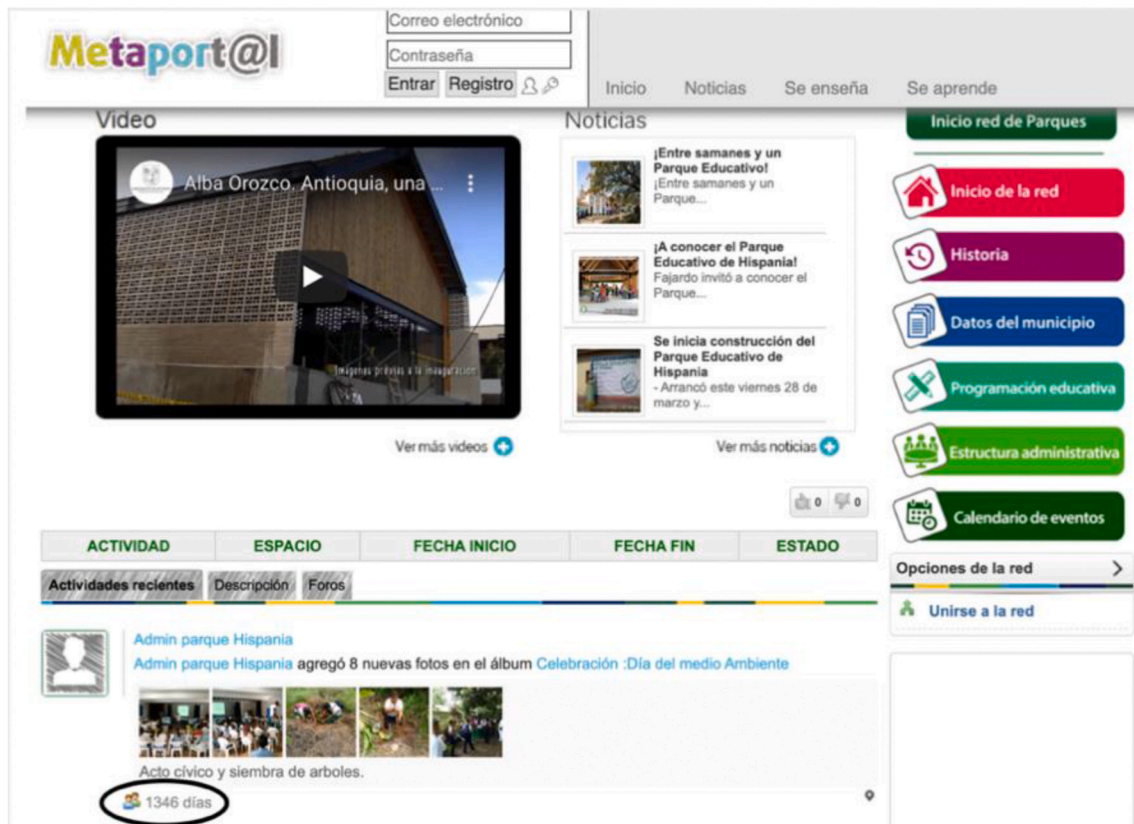


Fig. 3. Source: <http://mp.antioquiatic.edu.co/groups/parque-educativo-hispania>; Accessed on August 5, 2020.

We recognised that even though the father holds the power, the women also hold a critical role and are very savings oriented. They maintain the finances and everything. However, when we introduced the service to them, they responded that they must ask their husband's permission. They said, 'No, I think that account is very good, I love it, but I have to wait and speak with my husband, to see if he likes it.' So, regardless of whether the women are the ones who organise the finances, the husband is the one who will say yes or no, although she is a great influence on the family. (Project Manager 1, female).

Taking the project manager's reflection on her experience with the town at face value, this comment reflects a situational condition that fosters a form of active innovation resistance (namely, postponement) due to tradition barriers and social risk (Kleijnen et al., 2009), both socially-constructed forms of rural life. We contextualise her reflections through Fogelberg Eriksson's (2014), p.166) argument that the relationships between the sexes can have an effect on seemingly "gender-neutral" contexts of innovation. This aligns with Blake and Hanson's (2005), p.686) assertion that women are "socially located within places differently from men", which could increase the social risk for these users of technology. Juxtaposing the project manager's reflection with data collected from local women in Hispania can deepen our understanding of the gender perspective of innovation (Ranga and Etkowitz, 2010):

Generally, we use the app more than men, but because men turn over their salaries to the women to manage. But I have been working for 3 months at the corresponsal and I do not recall any Bancolombia campaign to promote the initiative (local female merchant 1).

As Nählinder et al.'s (2015) argument suggested, women are often seen as recipients of innovation rather innovators. However, our findings show that these women were willing to use the app, which aligns

with Laukkanen's (2015) finding that men rather than women manifest more uncertainty avoidance in technology use.<sup>10</sup>

Before the digital app, family and friends in rural communities formed cash-based savings circles, known as a *natillera*. This was an informal arrangement where mostly women in a family were responsible for saving and contributing some predefined amount of money per week or month to a community "pot". The deposits were manually recorded on paper and the money was deposited into a *corresponsal* account. The money was used to fund various fundraising activities or for loans to add more revenue to the savings pot (Gómez-González et al., 2016). This family tradition would conclude in mid-December, with payouts synchronising with the Christmas Nativity season. Bancolombia absorbed the dynamics of this savings and support system into the mobile banking digital space as Saving Circles. Notice how one local respondent described it:

Bancolombia came to offer the initiative so that we could use it. They explained how it worked and trained the local women how to make the "natilleras" savings groups in the app and they taught us how to fill out check books and make deposits. But as soon as they left and took away the bank associates, we did not use it again. (female respondent).

The bank used a local custom to explain the benefits of using the app for savings and focused training on the women because they normally managed the *natilleras*. However, once the bank associates left, the old *natillera* tradition resumed. The bank associates constituted change agents (Rogers, 1995; Räisänen and Tuovinen, 2020) who differed in

<sup>10</sup> Laukkanen (2015) found that both male and female relationships with uncertainty in the tradition barrier were significant at the 5% and 1% level. However, males had a correlation of 0.30, while females exhibited 0.11 positive effect.

background from users and had greater expertise, which could hamper effective communication about the innovation, which is why Rogers (1995, p.18) argued that change agents and participants should be homophilous across social and personal variables but heterophilous regarding the innovation. In a rural context, this would be pertinent to achieving long-term success (Matthews, 2017; Blythe et al., 2017). The increased perceived risk and intangibility (see factor 2) associated with the digitalised saving circles were mitigated by the change agent's presence. However, the agent's departure altered the contextual factors for innovation use, increasing the perception of risk and uncertainty, which is said to influence women "more easily" (Belghiti-Mahut et al., 2016, p.169).

Lastly, innovation resistance also developed in the town's older women. Notice the observation below:

The people who use the app the most are young people, who are more tech-savvy. With Ahorro a la Mano, around 12 operations can be performed.

It is difficult for the older women to even find out their balance because they cannot always remember the PIN or what to do to make a withdrawal. So, they have to look for people close to them to help them make the payment or when one helps them, because they are obliged to do so but they become suspicious, because they believe that helper would steal their retirement savings. (Local Merchant 2, female).

The local merchant's credible experience with older consumers is reminiscent of Oreg's (2003, p.680) description of consumers' fear of losing control particularly with changes "imposed on them rather than being self-initiated." It also materialises the sense of helplessness of the technology vulnerability barrier elucidated in the work of Manu and Chouk (2018). This behaviour from older women could lead to AIR because the lack of understanding and confidence, particularly in the early stages of technology use, leading to greater dependence on facilitating conditions (Venkatesh et al., 2012). Furthermore, once technology routines are in place, in this case, use of the *corresponsal*, it is more difficult for them to "override their habit to adapt to a changed environment" (Venkatesh et al., 2012, p.165).

## 6. Conclusion

The findings of this research provide insight for understanding innovation resistance in rural communities and have implications for managerial decision-making and the implementation of mobile banking in underserved communities. An in-depth study of innovation resistance in rural communities is particularly relevant for emerging markets that suffer from a digital divide and ironically, where technology is conceived as the most cost-effective means of closing the divide. The four factors identified in the study contributed to innovation resistance and require new ways of explaining this phenomenon in rural communities. The idiosyncrasies found in Hispania and in the bank and government's actions bring forth significant challenges for academics, industry actors, and public policymakers in addressing the needs of unbanked and underbanked communities.

### 6.1. Theoretical implications

This study has contributed to the development of theory in three ways. First, the dynamics associated with this innovation represent a proposed change to how tradition is understood as a barrier to innovation, calling for the differentiation of the tradition barrier from routines, which Hobsbawm's asserted can be readily modified or abandoned. The tradition barrier as utilised in innovation resistance literature evaluates the innovation from a technical perspective. Traditions are laden with symbols that represent small, collectivist communities. Hence, we propose that innovation models encompass the intrinsic relationship of

traditions of rural life and the extent to which the innovation dynamics propose to modify the value systems that underpin traditions, rather than only focusing on the technical routines that can be easily observed.

Our research showed that the gender perspective on innovation warrants further consideration. In rural communities, money is the materialisation of work and some family traditions around the seasonal holiday and women are the central pillar of a tight-knit collectivist community collectivist who manage the savings and run the household. Their inclusion in innovation design and implementation matters because they constitute a critical aspect of an ecosystem that can affect the outcome of innovation processes. This is an example of why it is important to mainstream the gender perspective throughout the designing and implementation of innovations.

This study also showed that rural communities are not inherently opposed to digital technologies. However, greater success would be achieved through enhanced support mechanisms, particularly for innovations that originate from outside of the community. The characteristics of the individual, perceptions of value and risk, and situational and cognitive factors background are all relevant factors for understanding the potential for innovation resistance. Furthermore, innovation resistance literature pays scant attention to the role of political interests. This case illustrated how multiple stakeholders ultimately thwarted the digitalisation efforts and nurtured nodes of innovation resistance in the community.

Two areas of future research emerge from this study. The first area pertains to how including the gender perspective can help to uncover more creative innovation strategies, potentially reducing resistance. In particular, integrating gender as a construct in the design and implementation of the mobile banking app for rural communities could provide a meaningful gateway into the broader rural community, precisely because of the pivotal role that women play in financial management for the family. The innovations could be diffused based on existing traditions that can be technologically mediated, and, to this extent, deepen the involvement of the community with the process. Second, future research should centre on service ecosystems and the institutional view for understanding innovation in a rural context, especially because the digital gaps require dependence on institutions to support implementation strategies for mobile services initiatives. The service ecosystem perspective could enhance our understanding the interactions between multiple actors and how this builds a system, especially for collectivist communities typical of rural environments.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrurstud.2020.10.035>.

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