BOOK CHAPTER | Mobile Business Ecosystems

# Exploring the Forms of Power in the Mobile Business Ecosystems

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## Abstract

The interactions and interrelationships among players within the m-business ecosystem generate power relations whilst pursuing their goals. Meanwhile, existing research continues to overlook the existence of such power relations as is evidenced by the concentration of m-business research on consumer issues. The issue is worth studying because the real challenges surrounding m-service development are social and political. Using transaction cost analysis, this study outlines a framework to guide the discussions of studying power within the m-business ecosystem. The paper provides evidence using qualitative case study of a mobile content provider to explore power relations within the m-business ecosystem. The activities of the case firm, a mobile service provider showed the firm's interactions with competitors, a government regulator, and other ecosystem partners. The ensuing power relations were analysed and categorised to suggest the existence of four forms of power within the m-business ecosystem viz. collaborative power, concentric power, technical power, and competitive power.

Keywords: mobile business; power; critical realism; case study

## Introduction

The existence of mobile services (m-services) and mobile technology suggests the presence of a mobile business ecosystem involving players like device manufacturers, m-service developers or providers, corporate and individual customers, and mobile network operators (Choon, Hyung and Dam 2004; Bose and Chen, 2010). The interactions and interrelationships amongst these players have the potential of generating power struggles and political activity in the pursuit of egoistic goals. Sociology perceives power as either symmetrical or asymmetrical relationships between groups in society whereby one group dominates another and has more resources e.g. authority, prestige, money, property (Blalock 1989; Wilson 1973). These resources which change with time can result in one group influencing the other's behaviour to achieve group objectives (Blalock, 1989), thereby creating a situation which incubates politics and/or power play (Bradshaw-Camball and Murray 1991).

For instance, consumer pressure groups can decide to quit using an m-service with the aim of forcing government and mobile network operators to reduce tariffs and to improve coverage (see Cellular 2003, 2004). Despite such possibilities, extant mobile business (m-business) research has overlooked the existence of power and failed to provide recommendations of how power could be harnessed by m-business players. Worryingly, this is an observation within the broader scope of information systems research most of which ignores the frequent human activity that defeats the assumed pattern of rational behaviour (Avgerou and McGrath 2007).

Typically, there is a concentration of research on consumer and technology issues (Budu and Boateng 2013, 2014; Scornavacca, Barnes and Huff 2005). The current focus creates an overwhelming lack of understanding concerning the presence of power relations amongst m-business ecosystem players; a phenomenon worth studying because the challenges surrounding m-service development are rather the social and political aspects (Torvinen and Jalonen 2000). As power relations breed in any interaction between any two parties, it is worth understanding the power play and how firms could regulate or harness power to the benefit of both sides involved. This paper provides a response to this need.

The purpose of this paper is to explain the forms of power exists in the m-business ecosystem, in terms of its sources and forms as generated by players' activities. Egoistic objectives by the various players may be restrained or enhanced by the resources and power of another. Thus this paper argues that it is possible to explain m-business outcomes such as m-services through the awareness of power distribution amongst the players within the m-business ecosystem. This paper uses a case study of an m-services provider to demonstrate the existence of power relationships in the achievement of m-business outcomes such as m-services. Further, the ensuing discussion brings out functional explanations for sources and forms of power in the m-business ecosystem.

The next section presents a review of related literature concerning power, m-business and information systems development in general, followed by the methods involving data collection, presentation and analysis. The next section presents a case study of a Ghana-based m-service provider as evidence of the existence of power relations between and amongst its fellow players, followed by a discussion of the evidence. The last two sections present preliminary findings, expected contributions and conclusions respectively.

## Literature Review

### Mobile Business (m-business)
Balasubramanian, Peterson and Jarvenpaa (2002) have observed that m-business lacks a formal conceptualisation. However, there have been several notable attempts to point the way. For instance, Giaglis (2006) defines m-business as "... the ways in which mobile communication technologies can be applied to address the requirements of mobile users that need to access a varied range of applications and services through wireless access devices". M-business is also defined as the means by which multiple actors conduct discrete or relational exchanges of economic or social value via a wireless network (Woolfall 2006).

These valuable definitions bring three main issues to the fore, that first, there is an existence of goal-directed players within an interdependent environment. For instance, whilst consumers seek quality of service and value for money, mobile network operators and m-service providers seek profit and competitive advantage, whilst government also seeks tax revenues, regulatory power, and compliance.  Second, the interaction and interdependence of these players can influence them to achieve or miss their set goal(s) or hinder other players from achieving theirs - the goal here is to obtain some edge within the highly competitive environment created by the interrelated activities of m-business players (Camponovo and Pigneur, 2003).

Third, the interactions inform social patterns that also result in a scramble for control, authority, and the ability to influence another player's actions and inactions. Therefore increased competition also results in increased innovation, price and performance rivalry amongst m-business players (Feurer and Chaharbaghi 1996).

The interactions between players are increasing due to enhanced transmission speed and network bandwidth. M-service providers have more opportunities to create new services, meet customer demands and increase revenue. However, such providers may be unable to do so alone, thus seeking various forms of collaborations including engaging with a third-party content provider via an open interface; working with a content aggregator, or gateway provider (Chen and Cheng 2010). The foregoing observations create a need to study the activities and relationships between the m-business players.

## Power

As intimated, an m-business ecosystem player's activities and relationships generate the need to influence other players to achieve goals. This need suggest the power that one player may have over another. Power refers to relationships between two or more actors in which one's behaviour influences the other's (Astley and Sachdeva 1984; French and Raven 1959; Hall 1999, p. 110; Pfeffer 1981). At certain times those with power exert influence by constructing the meaning of what others experience (Bradshaw-Camball and Murray 1991, p. 382). Here, the influenced actor behaves in a manner differently than she would have behaved without the influence (Bloomfield and Coombs 1992). Thus, we see power with the one who has the ability to get others to do what she wants them to do, even against their will if necessary, or to get them to do something that they would otherwise not do.

The foregoing definitions also suggest three noticeable issues. First, there is an actor with desired goals, which may differ from other actors'. The disparity leads to a second issue that, actors' desired goals may clash with each other. Consequently, there arises a third issue; the need to either negotiate with the other actor(s), or sacrifice one's desired goals, or overshadow the other actor(s) desired goals with some influence thereby achieving one's goals. Each of these options has its own contextual consequences, and thus presents a dilemma to the actor. That, an actor leaves a negotiation disappointed may be anecdotal but realistic, and can be a lesson for future negotiations. On the one hand, actors cannot consistently sacrifice their desired goals lest they be regarded as weak or powerless. On the other hand, even totalitarian actors cannot have their way all the time. Actors' pursuit of desired goals underlie the themes in power-based research including authority, centralisation, decision rights, participation in decision making, influence, and politics (Jasperson et al. 2002). The next section illuminates these themes and the power relations within m-business.

## Power in Mobile Business

Generally, most information systems research effectively ignores the frequent human activity that defeats the assumed pattern of rational behaviour (Avgerou and McGrath 2007). The same could be seen with m-business research which largely focuses on consumer and technology issues (Budu and Boateng 2014; Scornavacca et al. 2005), and arguably ignores the dynamics of interactions between the multiple players in the ecosystem. The m-business ecosystem is replete, however, with activities that breed power relationships that cannot be ignored. Extant research informs us of benefits of adopting m-services (see Schierholz et al., 2007; Rossi, Tuunainen, and Pesonen 2007); how companies pursue customer value with m-services (Methlie and Pederson 2007), ensure viability, reconfigure and sustain their business models (de Reuver and Haaker 2009; Johansson et al. 2012; Ghezzi 2012), and search for additional revenue sources (Gonçalves and Ballon 2011).

As these initiatives are largely by mobile network operators which dominate firm-level m-business research (see Anderson and Kupp 2008; Ballon 2007; Chang, Wang and Fu 2009; Srinuan et al. 2011), we cannot overlook the dependence of their success on the activities of other m-business players. For instance, if customers do not adopt a new 'valuable' m-service, then it is likely to fail; m-service provider loses revenue, and perhaps reduced profits.

Several other instances suggest power relations. On the one hand, m-business which revolves around mobile telecommunications technology software, hardware, networks, processes and people, holds potential in influencing human activity. On the other, the introduction of mobile technology is a process that involves interested parties intentionally using their power to affect the nature of implemented systems or services (Ahituv and Carmi 2007). Very often, the interminable journey of an actor seeking to achieve the goal of implementing an m-service, is interleaved with either sacrificing a goal for another actor's, or sometimes selfishly ignoring other another actor's goal. For instance, some mobile network operators withhold information from their subscribers concerning their rights to complain to the telecommunications industry ombudsman (see Sutherland 2007).

Other times, an actor's perception of a service determines the service's success or failure. Consider that some mature consumers do not adopt mobile banking because they think it is not valuable (Laukkanen et al. 2007). Such consumers' perceptions relate to whether mobile banking use was economical; whether mobile banking offered any advantage compared to handling financial matters in other ways; and whether the use of mobile banking services increased ability to personally control financial matters (Laukkanen et al. 2007). Here, we see that if a mobile banking service provider focuses on revenues, and increases its use cost, there is a likelihood of losing users because of the latter's perception of how the m-service is pricy (Mannukka, 2008).

In some situations, customers demand monetary incentives to use an m-service, or ask for improved quality of service to even provide information to m-service providers (Chorppath and Alpcan, 2013). Interestingly, intense competition in the provision of mobile voice service coupled with subscriber growth saturation is recently causing a decline in the average revenue per user, thereby affecting revenue inflow and profitability (Chen and Cheng, 2010). Providers thus have to create m-services that, simultaneously, subscribers will find affordable and useful, and will generate rent.

The implementation of regulatory frameworks like mobile number portability also holds power breeding potential. For instance, while a government pushes towards their kick-off sometimes to avoid international sanctions, network operators may oppose implementation of such frameworks because of the fear of losing revenue, and subscriber attrition. The subscriber then bears the brunt of such tussles. When operators can oppose no longer, they increase user switching costs through fees and long-term contracts (Garcia-Murillo, 2007), obviously forcing a stay against a subscriber's desire. Other times, an m-service provider, such as one providing SMS advertisements needs to gain permission from target consumers (Bamba and Barnes, 2007). Such consumers if given the option may opt-out. Thus there seems to be a forced enrolment of consumers unto certain m-services.

In summary, the m-business ecosystem experiences power relations which have been ignored by extant research. The ecosystem's players each have goals they pursue, sometimes to the detriment of each other, and other times consistent with their desires. The purpose of this paper is to demonstrate the existence, and explain the manipulation, of power by these players. The next section describes the research methods used in this endeavour.

## Theoretical Framework

Transaction cost economics (TCE) is one approach by which we can explore power amongst organisations. TCE explains the organisation of firms and the way they interact along a supply chain, and the transaction costs that arise during any form of economic organisation (Hobbs, 1996). TCE has four underlying concepts. The first is bounded rationality, which suggests firms' limitation in accurately evaluating all possible decision alternatives despite the firms' intension to make a rational decision (Simon, 1961). The second is opportunism which Williamson (1979) defines as self-interest seeking with guile. This definition suggests that businesses sometimes seek to exploit situations to their advantage (Hobbs, 1996). The third is asset specificity which arises when one partner to an exchange (firm A) has invested resources which can barely be used for something else other than that exchange (Hobbs, 1996). The fourth is informational asymmetry which suggests the inherence of incomplete, imperfect or asymmetric information in business exchanges (Hobbs, 1996). Information incompleteness refers to the situation where all parties to a transaction face the same, but incomplete levels of information. Information asymmetry arises when there is public information available to all parties but also private information which is only available to selected parties, so that all parties to the transaction no longer possess the same levels of information.

The foregoing TCE concepts provide several insights for the study of power in general, and especially the m-business ecosystem. First, an m-business ecosystem player (player A) may not consider all possible outcomes from entering a transaction with another player (player B). Such a situation may be a result of information which  player A lacks with regard to the transaction. Meanwhile player B may have such information. Here we see bounded rationality manifested on player A's side, and informational asymmetry on player B's side. Further, the extent to which player B withholds, exploits and seeks to benefit unfairly from the transaction suggest opportunism. Such benefits may be more pronounced if player A has transaction-related investments which is useless elsewhere – asset specificity.

Considering the foregoing analysis, we realise that either player holds the potential to cause the other to act in a way that it would not without such influence. In other words, one player can have *power* over the other. Player B can share that important piece of information to player B, and change the dynamics of the transaction, or supply some other piece of information which could also have another effect. Within the broader scope of the m-business ecosystem, we know that the players range from telecommunication companies, m-service providers, regulators, private consumers and corporate users. All such players can exhibit informational asymmetry, opportunism, bounded rationality and asset specificity, and could either influence or be influenced as a result of the power that breeds from such exhibition. The next section

## Research Methods

This study adopts Critical Realism (CR) to demonstrate the existence, and explain the manipulation, of power by m-business players. The purpose of using CR was to enable the researcher to "get beneath the surface to understand and explain why things are as they are, to propose structures and mechanisms that shape observable events" (Mingers, 2004). CR assumes that the perceptions of reality are value-laden continuously, but there are relatively enduring "underlying structures and mechanisms" (Dobson 2002). With the aim of understanding these relatively enduring structures and mechanisms underlying social phenomenon, CR aims to explain social phenomenon instead of predicting (Elster, 1998, p. 45). CR was useful for this study because it helped uncover the hidden and underlying structures i.e. power relations behind the activities of m-business players' activities.

A qualitative case study of a Ghanaian m-service provider was conducted to understand the power relations between its stakeholders vis. government, customers, mobile network operators, and even other m-service providers. This method is suitable to accompany CR (Easton 2010). This study's characteristics also provide ample responses to Benbasat, Goldstein and Mead's (1987 p. 372) checklist for the choice of case study in information systems research. In other words, the power relations in the m-business ecosystem cannot be studied from outside an ecosystem player; is a contemporary event; and does not need to be manipulated, but studied as is. Further, as the phenomenon being studied was inseparable from its context, the case study method used an all-embracing method which incorporated specific techniques to guide data collection and analysis in direct relation to the illustrated theoretical assumptions (Hakim 1987, p. 67; Yin 1994, p. 13).

### Selecting Case Company

This study had a criterion for selecting the case m-service developer (Benbasat et al. 1987). First, the chosen company had to be engaged in the creation of m-services as an enterprise output (Heeks 2008). Second, the case firm had to have been in business for at least two years and having more than two m-services. This criterion was to ensure the availability of longitudinal data to reflect interactions with other m-business players over time. Using formal letters, personal visits, email, website contact forms, and phone calls, the authors contacted fifteen candidate firms including mobile network operators, a government regulator, m-service developers and mobile content aggregators. However, two m-service developers showed interest to participate in the study. Only one of the case firms is presented in this paper due to paper length restrictions.

### Data Collection

Based on the tenets of CR research, and case study research, this study used evidence from more than one source to achieve the research purpose (Benbasat et al. 1987). The sources included documentation, archival records, interviews, and examination of physical artefacts (Yin 1994, p. 78).

**Documentation and Archival Records**: This source included written material e.g. memoranda, newspaper clippings, and formal reports the case company shared in person and via electronic mail. Archival records made available include an organisational chart.

**Interviews**: This study employed both open-ended and closed-ended questions posed to managers and staff of the case company. An interview guide was used to solicit general information e.g. products, number of staff and dates of employment, and past and recent m-service projects. The managing director granted permission to use a pre-tested voice-recording device to capture responses to interview questions alongside paper notes. The paper notes served as cues for follow-up questions missing in the interview guide. The managing director and three senior managers participated in interview sessions. There was a general interview with the three senior managers to have an insight into the firm's core activities and projects, then one interview with the Managing Director, followed by a lengthier interview with the senior managers. A final interview was scheduled and conducted with the senior managers after three months.

**Other Sources of Evidence**: To enhance data triangulation, data from other relevant sources were examined. First, the content on the case firm's website and other websites were analysed. Other secondary data sources include phone-based communication (using SMS and mobile instant messaging with firm managers, and email communication with firms and institutions mentioned by MCC's managers during the interview sessions. Relevant data collected from all sources discussed above formed part of the final case write-up which was sent to MCC's managers for cross-checking. For instance, the General Manager of Mobile Content.com sent an updated version the company's organisational chart via email after cross-checking the case study.

## Data Analysis

Data analysis in this study focused on categorising the forms of power relations within the m-business ecosystem. Data was coded based on the kind of influence which players had on each other, and the related outcomes. Further, the study uses Critical Realism's three domains of the real to provide explanations of the outcomes observed in the presented evidence. MCC's m-services were identified, followed by the all interactions that took place with other m-business ecosystem players to arrive at the m-service. Next, the power forms are deduced.

## Evidence of Power Relations in M-business

### Firm Profile

Mobility Consortium Company (hereinafter referred to as MCC) is a limited liability company which started business in 2004, and could be described as a leading Ghanaian m-service provider. The company's mission is to connect mobile users with affordable and innovative access to reliable, exciting and up-to-the-minute information though their handsets, utilizing SMS, MMS, IVR and WAP to deliver products with real value to local subscribers. MCC has a three-member board of directors, one of which is the managing director. A general manager serves under a managing director who reports to a five-member board of directors. Four senior managers i.e. one each for Information Technology (IT), Value-Added Services (VAS), Business Development and Solutions (BDS), and Finance and Administration (FA), report to the general manager. Each senior manager has one middle-level manager, some of whom have other subordinates. MCC's m-services are categorised as Music and Entertainment; Sport information; Chat and Dating; Informative; Interactive Multimedia and TV; Religion and Motivational; Financial and m-Commerce; M-Transact; and Mobile Marketing.

### Power Relations in Serving Customers

MCC started business by offering mobile short codes through which listeners send short messages to radio stations when stations wanted to be more interactive. The IT Manager intimated that the radio stations give out MCC's short codes to enable their listeners contribute to their programmes via SMS daily. Some of these stations include Joy FM, Peace FM, and Radio Gold.

Television reality shows' popularity was rising in year 2008, and television stations collaborated with mobile network operators to organise more of such shows. For instance, whilst Ghana Television (GTV) ran Ghana's Most Beautiful, a female pageant show, TV3 Network ran Mentor, a music reality show. MCC took advantage to create a short code through which viewers could vote for their favourite contestant(s) via premium SMS. Winners and evictees were determined by the number of viewer votes, which also translated into revenue for all organising parties including MCC. MCC's success with the voting service enabled it run a similar service for an adult television reality show Big Brother Africa hosted in South Africa or Nigeria, and airs on paid satellite television known as *DStv* from by MultiChoice Ghana Limited. Ghanaian viewers could vote for their favourite housemates via an MCC short code.

MCC extended the short code service to providing local and international sports information to subscribers. MCC, more importantly, also created the Results Checker, and the School Placement service for the West African Examinations Council (WAEC), and the Ghana Education Service (GES) respectively. The former affords parents and/or candidates in the Basic Education Certificate Examinations (BECE) to receive their results via SMS. The latter allows parents and/or candidates to request the details of the senior high school in which the candidates have been placed (by GES' Computerised School Selection and Placement System).  USAID, a United States international development partner in 2012 was running a project to train health practitioners on how to use Zinc to treat paediatric diarrhoea, and thus needed a mobile-based solution that could collect feedback from, and test the knowledge of the trainees.

USAID sent information and weekly quizzes to the trainees. Therefore, in a typical week each trainee received about three messages – two as lesson recaps, and one as a quiz. Trainees who provided correct responses to a certain number of questions in a month won a reward.

> "So we built the platform for USAID. It sends a tip on Monday, Wednesday, and Friday, and a quiz on Tuesday to the trainees. It also sends appropriate feedback about the trainees' answers to quiz questions." (BDS Manager, MCC).

> "This is not possible; there is no free short code to meet such a requirement." (VAS Manager, MCC).

By default, all short codes require payment to request or send a message. The BDS Manager explains that USAID wanted a collect-call-like system. Thus, MCC made some changes to the default short code setup by going around the short code to avoid the billing.

> That is where we had to do a lot of work – to rewrite a script – and then tie it to a bulk SMS account although it will pass through our SMS gateway. We already had a framework, but it did not support what they wanted, so we had to change the framework. (VAS Manager, MCC).

MCC is working on a similar service for the Social Security and National Insurance Trust (SSNIT). MCC is currently waiting on mobile network companies to supply short codes. This m-service would allow SSNIT contributors to check their social security contributions and/or student loan balance by sending a free message to a short code. The information is tied to the contributor's mobile number to ensure information security. The VAS Manager intimates that

> "SSNIT also requested for a free-way service in which contributors can send and receive information free. Even though there was no free short code, it was easier to convince the mobile network operators to improvise because of SSNIT's large customer base."

## Power Relations in Government Dealings

MCC started the results checker service in the year 2008 in response to candidates' frustration accessing results from examinations council either by visit or by post. According to the VAS Manager,

> "The traffic over the results checker's short code suggested people's acceptance of the service. MCC's results checker was the preferred choice over a scratch card also available then."

However, a change in government in the 2008 elections resulted in another company being contracted to print scratch cards for checking the results on the Internet.

> "All of a sudden, they (government) said 'no more SMS." because someone has printed scratch cards. So they started with the cards and we had to stop." (VAS Manager, MCC).

In addition to the 're-introduction' of the scratch card system, there were other reasons why MCC's system lost popularity. According to the VAS Manager, even though the scratch card was about 20 cents dearer, it could be used three times, and the results could be printed — features which were not available via SMS. Unfortunately,

> "Even if people preferred our SMS option, MCC could still not compete with the scratch card company because officials from the examinations council and the education service had approved the card over the SMS system." (VAS Manager, MCC).

## Power Relations with Competitors

Another m-service MCC rolled out in its early stages was to offer caller ring-back tunes and wallpapers for downloads. Two new mobile networks vis. Spacefon and Buzz had entered the market to compete with a monopolistic OneTouch (now Vodafone). The new competitors collaborated with MCC to deploy a new service in which calling parties were treated to a subscriber-selected song – instead of the normal mono tone to signal a connecting call – until the call is answered. Currently, this service is replicated, and still running on all six mobile networks.

MCC moved to create the school placement m-service when it lost the results checker service contract. The VAS Manager explained that

> "An m-service that guarantees at least 300,000 users every year is bound to have competitors encroaching; everyone tries to win the contract through lobbying. To beat such competition, you need to think on the go."

The decision to focus on the school placement service was also a response to the challenges parents and guardians faced in knowing which senior high schools to which their wards had been placed. Hitherto, one had to visit all three or four chosen schools before knowing the school in which one has been placed. Alternatively, one had to go to the offices of the education service or wait for a placement letter in the mail. MCC thus recognised the opportunity to start an m-service for candidates to check their school placement. Even though MCC still runs the school placement service, the contract went to a competitor for some time before MCC won it again.

> "MCC previously had it for two years, and then due to a change in government, it changed hands to a competitor, and then returned to us." (IT Manager, MCC).

## Power Relations in M-business Ecosystem Dynamics

MCC underwent some internal restructuring to ensure efficiency and effectiveness. In years 2011 and 2012, when the number of mobile networks increased from four to six, MCC extended its services to cover them all. The extension caused a reshuffling of personnel. The company hitherto had about four people managing the relationship with, and services deployed on, each mobile network. Typically, an MCC manager responsible for network A was in charge of ensuring that all MCC's services run smoothly on that network. This arrangement changed to one in which each service was assigned to one manager, creating roles like Information Services Manager, and Education Services Manager.

> "The board of directors decided that we shifted from brand management to network management." (VAS Manager, MCC).

MCC also dropped some of its m-services, because, first, those services were not generating as much value as previous e.g. general bulk SMS. MCC dropped other services like Crack-a-Safe promotion to avoid monotony in the market, and to maintain an image of innovation. MCC shed the bulk SMS in May 2012 because many firms begun to replicate, and there was also decreasing monthly traffic. Currently, MCC uses bulk SMS for non-commercial purposes like sending notifications.

MCC has also begun the development of two groups of smartphone apps; those for in-house ownership, and those for other interested corporate consumers. MyZone and Cards Cafe are two of the in-house apps. MyZone is a response to the threat new data-enabled instant messaging apps like Whatsapp, and Tango pose to SMS-based m-services like short code text-ins. MyZone is to serve as an instant messaging application for sending text-based messages, exchanging photos, and to have group conversations with contacts at a much cheaper rate than traditional

services. Having foreseen the potential for such non-SMS based apps to affect revenue from SMS traffic, MCC designed MyZone to encourage people to spend money.

> "There is a store in the chat application, where you can buy music, wallpapers, games... so you can actually browse the app, and when the store is updated you get a notification to perhaps make a purchase using mobile money or your airtime." (VAS Manager, MCC).

Over time, MCC hopes to customise MyZone for media houses so they can seamlessly interact with their audiences. Cards Cafe, a fun greetings card app also allows users to send picture messages and as a celebratory electronic card. Recipients can view the card even without installing Cards Cafe on their phones. MCC is considering rebranding these apps since they are not network-specific. However, sometimes the mobile networks want them exclusively to enhance their competitive edge, and possibly to attract people to use particular services. (VAS Manager, MCC).

Such customisations would be extended to future client apps, because developing and launching an app does not guarantee marketability. Hence, building the app for specific organisations may higher acceptance since their clout and customer base would be push factors.

> "Ghanaians have not yet adopted apps fully. So for an app to be fully in the market, you have to use the appropriate bodies to get them out there." (VAS Manager, MCC).

The BDS manager refreshingly notes that m-service providers are generally focused on information-based services, but MCC is moving towards enterprise solutions. He adds that, MCC is bent on providing m-services that benefit Ghanaians; MCC brings such services to the individuals' phones to make life easy.

## Discussion

In what forms does power exist in m-business? In which arrears of m-business does power exist? This section presents answers to these questions against the background that "power has to do with relationships between two or more actors in which the behaviour of one is affected by the behaviour of the other" (Hall 1999, p. 110). As suggested by the Woolfall's (2006) definition of m-business, multiple actors engage in discrete or relational exchanges of economic or social value. Woolfall's definition recognises that both transactional and relational elements in the context of social exchange exist in m-business (Bagozzi 1975; Macneil 1980). Further, no single player can single-handedly provide its customers with a complete solution, and thus need mutual alliances (Pigneur 2002).

Such alliances or partnerships become purposive strategic relationships between independent firms with compatible goals, striving for mutual benefit, and acknowledging high mutual interdependence (Mohr and Spekman 1994, p. 135). Thus, as seen from the case, MCC formed partnerships with radio and television stations to provide SMS-based feedback, and voting m-services respectively. Such partnerships suggest collaborative power, viz. the power to assemble otherwise disparate parties to achieve a successful m-business outcome. Whilst the service-level agreements of such a service suggest discreteness, any financial or profit-sharing agreement will constitute an economic exchange.

In addition, Porter's (1985) speaks of the existence of rivalry amongst firms in an industry. Similar, firms within the m-business ecosystem also compete for project contracts from various clients - government and private sector. One player attempts to replicate, add-on, or substitute another player's service. Sometimes, the player uses interpersonal skills — which MCC's VAS Manager calls lobbying — to win contracts, which translates into more revenue and/or profits which other players may not be earning.

The player's influence here over that other party to award the contract to none else, and go gain that competitive edge over the industry's rivals suggests competitive power. Any new information system requires resources throughout its lifecycle from analysis and design to implementation and maintenance. Webb and Schlemmer (2008) identifies IT-based resources such as IT knowledge (the extent to which a firm possesses a body of technical knowledge about objects such as computer-based systems; IT operations (the extent to which a firm utilises IT to manage market and customer information, and IT objects (computer-based hardware, software and support personnel). Further, controlling the supply of such resources to other players generates power (Astley and Sachdeva 1984). From an m-business perspective these technical resources, especially IT knowledge, are needed to achieve outcomes such as the creation of m-services. Whilst some players like content providers possess such resources which others like USAID does not, the former can dictate what can or cannot be done. Other times, the possession of technical abilities forms the basis of providing a service beyond expectation, usually for more rent paid by the requesting player. This kind of influence suggests technical power.

To add to the above, the creation and introduction of IT can be seen as a process that involves interested parties intentionally using their power to affect the nature of the systems that are put in place (Jasperson et al. 2002). Heeks (2006) identifies government and chance as part of the system of competitive advantage; while chance influences firm strategy, structure, and rivalry; and factor conditions, government affects and is affected by demand conditions, and related supporting industries. Government's possession of such power, even as shown in the case study, demonstrates its ability to unilaterally affect m-business outcomes like awarding a contract to, or changing a supplier. Similarly, a content provider can choose which contracts to chase or not. MCC's BDS Managers shared a scenario in which MCC declined to pursue a church pastor's request for a shortcode-based m-service for collecting tithes from congregants, because it was "impossible". On the other hand, USAID succeeded in making MCC build a collect-call-like system which defeated the original design of shortcode services. We see that each player has some inherent power which is sometimes used to overcome other players in achieving egoistic outcomes — concentric power.

## Conclusion

This paper set out to provide evidence of power within the m-business ecosystem; a phenomenon which existing research has seemingly overlooked. M-business has been treated with a technology deterministic ideology. The few firm-level studies have ignored the power issues that arise due to the interrelationships amongst m-business players. The analysis of a case study illuminated the existence of four forms of power viz. collaborative power, concentric power, technical power, and competitive power.

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