ASSESSING THE EFFICIENCY, COMPETITIVENESS, AND EFFECTIVENESS OF DIGITAL MARKETS IN MALAWI

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Abstract

Digital markets have transformed the markets for communication and financial services in Malawi. Internet and mobile banking solutions enabled by digital markets have simplified the way individuals and businesses transact and presented consumers with a vast array of choices and options to meet their financial service requirements.

This paper reflects a recent study by Competition and Fair Trading Commission (CFTC) which provided comprehensive analysis of the digital markets in Malawi with focus of the study on upstream connectivity, cellular network technologies, internet service operations, as well as digital payment systems. For each service, the study analyses the structure of the market, the regulatory, competition and consumer protection issues. The study also analysed entry trends and identified elements of discrimination, anti-competitive agreements, unilateral and collusive conducts, abuse of dominance, and monopolies in the digital markets. For instance, the study observed that there is little competition in the digital markets space and more particularly high concentration of mobile network operators market which risks anticompetitive practices and has failed to generate consumer benefits.

The study also explored the significance and evolution of the markets, and conducts an analysis of strengths, weaknesses, opportunities and threats, in addition to highlighting some challenges and making recommendations for improvement. The study suggests that there is need for effective implementation of applicable laws as well as coordination and harmonized approach between the communications and financial services regulators. Further, the study observes that dealing with competition bottlenecks has potential to reduce cost of provision of digital services in the country.

1.0. Introduction

1.1. The nature and scope of digital markets

Digital markets broadly encompass the non-physical platforms which involve the online marketing of and payment for goods and services, as well as the electronic and software products that facilitate them. Collectively, markets based on digital technologies that enable and conduct the trade of and payment for goods and services through the use of electronic options in commerce (i.e., e-commerce), using the internet and/or platforms enabled by cellular network technologies constitute the digital economy (Oprescu & Eleodor, 2014).

The key enablers of digital markets are the internet and cellular network technologies such as the global system of mobile communication (GSM) or its subsequent improvements. Using associated software (such as search engines and specialized applications) and hardware (typically computers and mobile telephones), these technologies facilitate product advertising, money transfers, deposits and withdrawals. In turn, these permit the sale and purchase of goods and services, as well as money transfers and payment for bills due, without recourse to a physical market (hence, creating the digital markets).

Reliable internet or mobile telephone connectivity – and competition in the provision of these services – is, therefore, a critical aspect of the digital markets. The internet and cellular network technologies are fast becoming the core need of businesses in this era of e-generation (Abbasi et al., 2011; Fullam, 2017; Tan et al., 2010), and Malawi is catching up with this digital revolution, albeit more slowly than other global economies (Mangani, 2020).

The constantly growing importance of the internet and mobile technologies for the retail markets raises several competition concerns due to increased price transparency. An issue that seems to become more challenging is the effects of highly dynamic and sophisticated markets on competition. In this regard, analysis needs to focus on the main inevitable factors that are changing the environment in which competition regulation works; the question of whether competition regulators are well equipped to deal with such sharp changes, or are presumably outpaced by such changes; the role of competition enforcers in a knowledge-based economy; and how competition rules should be enforced in such markets (Oprescu & Eleodor, 2014).

The degree of competition in connectivity markets is mostly determined by direct and indirect network effects and switching costs. As a consequence of indirect network effects, platform markets may be more concentrated than other industries. However, this does not imply that every digital platform market is automatically highly concentrated. Therefore, the presence of indirect network effects is by no means sufficient for a monopoly or even high levels of market concentration to emerge. Moreover, competition between several platforms is not necessarily welfare-

enhancing when compared to monopolistic market structures. At the infrastructure level, two competition issues have received most attention, namely: (a) price- or margin-squeeze cases where incumbent network providers charge retail prices for internet and mobile connectivity access that make it unsustainable for competitors to operate in the market, given the incumbent's retail prices, and (b) the debate surrounding net neutrality and the risk that network operators or internet service providers would engage in price and/or quality discrimination with respect to different content providers or types of content (Staucap and Stuhmeier, 2015).

Historically, consumer protection in telecommunications markets has been linked to competition, with an emphasis on creating a vibrant marketplace through supply-side measures. In recent years, however, there has been growing recognition that informed and empowered consumers can, through demand-side choices, stimulate firms to innovate, improve quality and compete in pricing. By making well-informed choices among suppliers, consumers not only benefit from competition, but drive and sustain it.

Kumar et. al. (2018) note that consumers have multiple options to choose their products and services from, which has a significant impact on the pattern of consumer decision making in digital markets and further increases the challenges for the service providers to predict their buying pattern. On this basis, they propose a structural hierarchy model for analysing the changing pattern of consumer decision-making in digital markets by taking an Indian context. They observe that consumers are very conscious about innovative and trendy products as well as brand and quality, hence service providers must think about these important factors so that they may retain their consumers. In other words, competitive firms in the digital age will be those that embrace technology, notwithstanding the challenges that regulators and competition enforcers have to deal with in consequence.

Calvano and Polo (2020) study the economics of digital markets with particular emphasis on those features that are commonly deemed critical for antitrust. Noting that digital markets are often concentrated due to network effects and the need of large amounts of data for production, they review papers characterizing the nature of social harms caused by market power, as well as the role of competition for the market and in the market to offer relief to some of those harms.

1.2. Study Objectives & Methodology

In view of the foregoing, the Competition and Fair Trading Commission, through a consultant and with financial support from European Union, conducted a digital markets study to establish the levels of competition in various digital markets in Malawi. Apart from that, the study sought to understand the regulatory environment for the digital markets. Upon analysis of the findings, the study drew various recommendations to necessitate actions that would improve competition and consumer protection in the digital markets. A semi-structured questionnaire was administered to players in various digital markets. The questionnaires were

administered physically, and others were sent and responses received through email. The study findings are as outlined below.

2.0. Findings

2.1. The Structure of Digital markets in Malawi

The digital markets of interest and significance in Malawi comprise four key groups of service providers, as follows:

(a) Carriers of carriers (CoCs) (herein also called bandwidth service providers, or upstream providers) who operate optic fibre backbones that deliver IP transit (point to point bandwidth) to Malawi over fibre cables from coastal landing stations in South Africa, Tanzania, Angola and Mozambique. These are carried overland, by national operators in coastal countries to the Malawi borders;

(b) Internet service providers (ISPs) who are involved in the retailing of internet connectivity typically procured from CoCs. Some CoCs double as ISPs, while others are only ISPs. ISPs include internet; VPN connectivity; Unstructured supplementary service data (USSD) platforms for banks to help them connect to customers; Bulk SMS, enabling financial institutions to send text communication / notifications between the bank and customers having mobile phones; and voice session initiation protocol (SIP) trunk services;

(c) Mobile network operators (MNOs) who provide or support digital financial services using internet and cellular network technologies; and

(d) Digital financial service (DFS) providers, typically banks and non-bank operators that provide digital financial services, riding on internet or cellular network technologies. Apart from supporting the DFSs of other operators, MNOs tend to offer their own such services directly or through affiliate companies.

Please, refer to Table 1 for details on key subsectors, players, regulators and other stakeholders on digital markets in Malawi.

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Key digital market players			
Subsector	*Key players and market shares*	*Key Regulator*	*Others Key Players*
Carriers of carriers	Airtel Malawi	MACRA	CFTC FIA
	ESCOM		

Key digital market players			
	Globe Internet		
	inq.		
	OCL		
	MTL		
	Simbanet		
Internet service providers	Afrimax	MACRA	
	Airtel Malawi		
	Computech		
	Globe Internet		
	inq.		
	MTL		
	TNM		
	Simbanet		
Mobile network operators	Access Communications	MACRA	
	Airtel Malawi		
	TNM		
Digital financial service providers	All banks	RBM	
	Airtel Money		
	TNM Mpamba		

2.2. Regulatory environment of digital markets

The key legislation governing internet transmission, internet service provision and mobile network operations in Malawi is the Communications Act, 2016, and the Electronic Transactions and Cyber Security, 2016. The Communications Act, 2016, regulates the provision of services in the electronic communications, posts, and information sector; and provides for the establishment of the Malawi Communications Regulatory Authority (MACRA), *inter alia*.

In terms of digital financial services, the key laws are as follows:

a) The Banking Act, 2010, which, *inter alia*, provides for the regulation of the business of banking.

b) The Reserve Bank of Malawi Act, 2018, which, *inter alia*, establishes the Reserve Bank of Malawi and imposes on it powers and duties related to banking, currency and coinage. The RBM has an overall supervisory and regulatory authority in all matters relating to banking and non-bank financial business in the country. It licences and supervises the operations of electronic

funds transfers. The RBM also reviews and assesses prices that service providers are charging customers.

c) The Financial Services Act, 2010, which, *inter alia*, provides for the supervision and regulation of financial institutions.
d) The Payment Systems Act, 2016, which, *inter alia*, provides for the operation, regulation and supervision of payment, clearing and settlement systems, payment instruments, remittance service providers, electronic money transfers, card issuers, and travellers' cheque agencies.

2.3 Assessment of Competition and Fair Trading in Malawi's Digital Markets

2.3.1 Competition and fair trading in IP transit, ISP and MNO services

The primary reason for MACRA's converged licensing framework (CLF) – which provides for four different types of licences – is to facilitate competition by lowering the cost of investment. As a result of this and other factors, there is growing competition in the bandwidth, ISP and MNO spaces. In particular, an operator need only obtain a license for a specific digital market product, while collaborating with other investors through backward or forward linkages. Nonetheless, a single operator can obtain several of the four licenses issued by MACRA. The CLF allows both public and private investors to apply for licences to carry our respective services. It reportedly removed several bottlenecks and barriers to entry.

However, the licensing fees are considered by some to be on the higher side[1], and a deterrent to entry. New entrants are also required to satisfy capital requirements and other minimum requirements. Obtaining USSD addresses also requires MACRA approval in order to avoid clashes. New entrants also face prohibitive costs to ride on towers owned by existing operators. In some cases, tower operators are not responsive to applications to use their towers by new entrants.

The implication is that new entrants must be of very significant size (in terms of capital for investment) to consider entry and to be successful. Entrants with such significant investment would be unlikely to come to Malawi because of the perceived small size of the market. Therefore, the lack of support for new entrants is entrenching the extant Airtel-TNM duopoly, keeping digital service prices excessively high, and keeping customer experiences at a lower quality level than would otherwise be the case.

The limited competition in the MNO space is a big challenge. With only two MNOs accounting for 99% of the market, the duopolistic nature of the market creates the risk of collusion which has far-reaching effects on the affected products across the country, as well as consumer welfare. Provision of integrated products (internet,

[1] For example, licenses for international connectivity services and national MNOs were at US$50,000 and US$100,000 respectively, renewable every two years.

hardware, customised applications) has been a key strategy used to cope with growing competition and declining tariffs. MNOs are equally doing integration – e.g., selling phones together with data packages.

Discriminatory restrictions imposed by some local councils create barriers to entry. Lilongwe City Council once had an arrangement that restricted the erection of poles for cables, so that only a few would monopolise this investment, probably as a way of managing too many poles in the city. This required some ISPs to procure this service from their competitors. The decision was rescinded. Similar restrictions have been witnessed in relation to the digging of trenches for fibre cables, and are misaligned with the objective of lowering data costs.

Official market share statistics for ISPs are unavailable. Therefore, the investigation relied on information provided by individual players. However, it is very clear that each ISP's market share has been declining significantly over time due to increasing competition. For example, before the implementation of the Malawi Research and Education Network (MAREN) - which seeks to provide internet connectivity to education institutions – in 2005, it is reported that Globe Internet used to provide internet to 70% of Government ministries, departments and agencies (MDAs), but the share is now insignificant. The absence of aggregation means that each ISP brings small volumes at high cost from the sea. Continued investment in fibre when wireless options are available is questionable, and it is projected that some of the investment will fold up.

ISPs tend to target different markets and to price-discriminate based on market attributes. Some target final consumers, while others are nationwide or sector-specific. For instance, Inq. largely save corporations in the cities.

ESCOM has a major share of border connectivity, and government subsidisation initially permitted it to undercut prices, but the power company is too inefficient to compete in a market where its presence may not even be easily justified. ESCOM's initial pricing structure was considered by some of its competition to be below cost of investment, and only possible because its project was financed through a government-guaranteed Chinese loan[2].

Despite this pricing advantage, however, ESCOM has been inflexible and irresponsive to market trends because bandwidth wholesaling is not its core business. As a result, OCL is now dominating the market in the first tier of the competition, offering cheaper and more efficient service. By some estimates, OCL unit charges are about one-tenth of ESCOM charges. As a result, most ISPs have significantly reduced bandwidth purchases from ESCOM. It is estimated that the power company now has 30% market share on backbone bandwidth[3], a decline from

[2] OCL lodged a complaint to the CFTC regarding the unfair competition posed by ESCOM, but was not assisted. Instead, OCL re-looked at its business model and was able to effect huge price cuts to out-price ESCOM

[3] ESCOM's customer base for bandwidth is split as follows: Government – 40%; MNOs (TNM & Airtel) – 30%; other ISPs - 20%; Corporates -10%.

a very dominant position in the recent past. It is very unlikely that ESCOM's operations will allow it to repay the loan without recourse to the Treasury.

There is significant trading within related businesses. The acquisition of Burco by TNM means that the company has both ISP and MNO operations. Similarly, Airtel procured tower services from Malawi Towers, its sister company (under the same ownership) until 2021.

Based on investment size, a three-tier competition framework is inherent in upstream connectivity service provision as follows:

Tier 1: Comprises, *inter alia*, Airtel, ESCOM, OCL
Tier 2: Comprises, *inter alia,* Simbanet
Tier 3: Comprises, *inter alia*, Bengonet, Globe Internet, inq.

In order to mitigate some of the effects of competition, some MNOs have diversified to invest in their own networks (e.g., Airtel)[4]. It is, however, likely that service level agreements (SLAs) between connectivity wholesalers and service providers would continue to operate to provide back-up and ensure 100% uptime availability. Nonetheless, back-up SLAs cost less than plan A SLAs. Similarly, it is anticipated that OCL's entry into the internet wholesaling space will assist in driving tariffs down.

2.3.2 Competition and fair trading in digital banking services

The legal and regulatory environment generally facilitates entry into the digital banking space, and licencing requirements are considered generally reasonable by the banks. The introduction of digital products is encouraged by the regulatory environment with the financial inclusion agenda as long as the product complies with the requirements to give consumers the freedom to choose products that suit them. The environment allows trial runs of new services with regulatory frameworks developed simultaneously as new services are introduced to the market. The resulting competition is generally dealt with through deeper innovation and aggressive marketing.

There are no formal restrictive regulatory provisions in the digital banking space. However, banks tend to have natural competitors determined by size and capital sources. Indications of leader-follower tendencies in tariff setting may be attributed to the absence of distinct product differentiation, and/or collusion. While setting tariffs independently, the industry displays oligopolistic tendencies that are only checked by bank-specific differences, notably differences in their capital costs.

The central bank acknowledges that some of the requirements for licencing or authorization of service providers, like minimum capital, can be a hindrance to some

[4] At the time of this study, Airtel was slowly moving away from procuring connectivity from OCL as it was establishing its own networks. Apart from pricing issues, Airtel argues that quality, service delivery and services are reliable and service support is guaranteed through this initiative.

prospective market players, as not all of them can meet the thresholds set in different sectors of the financial industry. However, such requirements are set in consideration of viability and adequate provision of services and protection of interests of consumers and the general public, among others.

Commercial banks are now more creative in coming up with digital products and services, and this has resulted in a healthy competition with the MNOs and other service providers offering similar services. In addition, more and more prospective players are submitting applications to enter the market.

Recent trends in the banking sector have seen a limitation in competition through mergers and acquisitions in the commercial banking space. For instance, FDH Bank acquired 80% shareholding in Malawi Savings Bank in 2015; The National Bank of Malawi acquired Indebank the same year, while MyBucks Banking Corporation acquired 50% of New Finance Bank Malawi in 2017 and 100% shareholding in Nedbank Malawi Limited in 2019; and First Merchant Bank (Now First Capital Bank) acquired 100% shareholding in Opportunity Investment Bank Malawi in 2017. These acquisitions mean that there are fewer banks now than would have otherwise been the case, hence competition has been reduced.

The banks have also been competing on online banking platforms. It appears there has been a lot of following each other on introduction of such products. With small changes in product names, it is appreciated that that intellectual property legislation may not be invoked and disrupt competition.

2.3.3 Competition and fair trading in non-bank DFS

Competition in the non-bank digital financial services space is at least as stiff as in other digital markets. This space has an admixture of both the big operators (i.e., TNM Mpamba and Airtel Mobile Commerce) as well as an increasing number of smaller operators (e.g., Wealthnet Finance).

The licencing fees charged by MACRA, currently in the region of K0.5 billion to K2 billion for MNOs, are payable every two years as part of the renewal process. These are debatably considered by some to be on the higher side, and a barrier to entry into this space. Although the fees do not discriminate on the basis of the nationality of investors, differential income levels that work against Malawi imply that the burden of raising the fees is higher among Malawian investors.

2.3.4 Risks to producers and consumers of digital market products

Fraud is the biggest challenge facing digital products, and there has been a rise in cases. This is because digital markets require sharing of enormous personal information, which puts both the information and money at risk. Enabling factors include low literacy levels and rising criminality.

Cyber security risks are a great concern in the industry. The most common form of attack is social engineering or identity theft where scammers obtain PINs and their phone numbers through sim swap to effect transactions on their account. Inadequate protection of consumer data by financial institutions may lead to it being accessed by unscrupulous persons. Technical and operational innovations are required to meet customer expectations of full system security

Some of the measures being employed by operators to mitigate these risks include increasing civic education by banks and MNOs and ensuring that that there are proper controls on the digital products by, among others, investing in anti-hacking and other preventive solutions.

Despite the significance of the risk of fraud, digital transactions are still better in dealing with the vice than cash-based transactions, because the former leaves a trail while it is harder to trace cash-based payments. On the other hand, the use of cash facilitates money laundering as well as inability to track the proceeds of crime even where digital systems are compromised to facilitate fraud.

4.0 Recommendations on policy and legal changes

in order to promote competition, consumer protection and fair trading in the digital markets of Malawi, the following recommendations were submitted:

a) The consumer protection law needs to be reviewed to strengthen the CFTC's mandate to protect consumers of digital services in general, and DFS users in particular.

b) The implementation of the Communications Act should be strengthened to enhance the regulation of internet protocol (IP) transit and ISP infrastructure.

c) The law should either prohibit the practice of wholesalers doubling or trading as retailers, or require such companies to separate their wholesale and retail businesses, and to ensure that the commercial terms offered to third parties are the same as those offered to their internal retail arms.

d) MACRA should be more responsive to public concerns and consumer welfare considerations in setting tariffs, while ensuring the generation of normal profits by service providers

e) The process of developing outstanding regulations in support of the implementation of the Electronic Transactions and Cyber Security Act, 2016, should be given due attention.

f) MACRA should begin to compile comprehensive market share data for IP transit, IPS and MNO services, allowing disaggregation at the level of products or services provided. In this regard, MACRA should obligate operators to provide the necessary data in line with the law.

g) Because it has multifaceted connections, consideration should be made for the digital market to be regulated as a unique service that combines the financial and communication services. The law should appreciate the complex nature of the digital market, and formulate an acceptable regulatory strategy that gives confidence to stakeholders, allowing flexibility and plurality.

h) The duopolistic MNO market structure requires a much stronger regulatory framework to mitigate welfare-dampening collusion. Consideration should be made to promote service competition by allowing new MNOs to ride on existing towers at strictly regulated prices in order to avoid the duplication of infrastructure investments, which is a key barrier to entry.

i) The Government should consider legislating overhead or satellite options as well as other options that would eliminate the need for multiple trenching by various upstream internet operators

j) The Government should champion the enhanced creation of an effective cloud-based Malawi Internet Exchange based in Lilongwe, and own the facility as a carrier-neutral manager. In addition to minimising the risk on the security of national information (particularly national security information and information that facilitates money transfers), having locally stationed servers through centralised cloud internet infrastructure would speed up digital transactions.

k) The regulatory framework should ensure that banks and other providers of platforms for digital payment systems are able to resolve failed transactions within seconds unless fraud is suspected, and develop robust dispute settlement regimes that the public will be made aware of.

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