

Digital Platforms: A Policy Framework for Developing Countries

Carlo, Maria Rossotto¹, Prasanna, Lal Das², Elena Gasol Ramos³, Eva Clemente Miranda⁴, Mona Farid Badran⁵, Martha Martinez Licetti⁶, and Graciela Miralles Murciego⁷

The views expressed in the paper are the authors' only.

Digital platforms are a disruptive force in developing countries, forcing policy makers to design policies to encourage platforms' broad adoption, while proactively addressing emerging risks. This policy framework should address four points. First, the definition of multisided-platforms; second, emerging business models; third, technology and behavioral enablers; and, fourth, platform competitive dynamics.

Digital platforms in emerging markets are a new phenomenon that deeply disrupts local economies. A full range of tools to exploit the opportunities platforms create, while addressing risks, is not available to policy makers; regulators, such as competition authorities and telecom regulators, are almost learning *while* doing, including on sensitive matters such as monitoring anticompetitive behavior and mergers. Platforms in high income markets followed an evolutive process. By contrast, developing countries play technology catch up, can leapfrog. Electronic identification in India is, for example, a massive effort to create, *ex novo*, a digital platform to support digital services, driving market maturity towards digital behaviors. This creates additional pressure on policy-makers, to rapidly address changing market conditions with limited analytical tools. The existing literature on digital platforms can help policy makers develop an effective framework for government action. Policy makers should address four aspects: first, the definition of multisided-platforms; second, emerging business models; third, technology and behavioral enablers; fourth, platform competitive dynamics.

Digital Platform Definition

Multi-sided platforms (MSP) are multisided marketplaces allowing for members of each side to interact through tools that facilitate matching, searching, exchanging, and carrying out transactions (Evans 2013). MSP benefit from positive network externalities, as the utility of each side increases with the increased number of participants on the other side. The increase in the economic utility of a product or technology as more customers start using complementary products or as more suppliers offer complementary products, is called indirect network effect (Clements 2004). Actions by upstream or downstream platform

participants also affect each other, suggesting the need for policy makers to assess upstream and downstream markets. In addition, the definition of digital platforms does not fit within traditional corporate 'provision of goods and services' making it difficult to define transactions carried out within the platform to a given jurisdiction. This creates taxation issues, considering the recent EU state aid cases against Amazon (Luxembourg) and Apple (Ireland). Defining MSP in their jurisdictions can guide policy-makers in emerging markets identify taxation-related issues.

Platforms Business Models

A first analysis of emerging business models for multi-sided platforms (MSP), is present in Rochet and Tirole (2003), where the bargaining power of different participants drives revenues. Digital platforms organise decentralised information, making it available to market participants, and drastically slash transaction costs, creating new markets. Platforms can have 'loss leader segments' and 'profit making segments'. A critical distinction, with anti-trust implications, is the distinction between 'transaction-based' platforms, and 'non-transaction based' platforms. Recently, the Organisation for Economic Co-operation and Development (OECD) indicated that, when analyzing possible anti-competitive behavior, "if a market is a non-transaction market, looking at externalities is sufficient. If instead the market is a transaction market, then one should also check if there are transaction costs or, more generally, limits to the bilateral setting of prices among buyers and sellers or if there are platform constraints on pricing between customers on the two sides." (OECD 2018).

Using social networks, digital platforms can leverage a 'long tail' of market participants, increasing participants

¹ Lead ICT Specialist, The World Bank, crossotto@worldbank.org

² Lead Digital Strategist, The World Bank, plaldas@worldbank.org

³ Senior Private Sector Development Specialist, The World Bank, egasolramos@worldbank.org

⁴ Private Sector Development Specialist, The World Bank, eclementemiranda@worldbank.org

⁵ Associate Professor, Faculty of Economics and Political Science, Cairo University, mona.badran@feps.edu.eg

⁶ Competition Policy Global Lead and Lead Economist, The World Bank, mlicetti@worldbank.org

⁷ Senior Economist, The World Bank, gmiralles@worldbank.org

(‘tail lengthening’) or expanding transactions (‘tail fattening’). The value to advertisers of capturing long tail marketing data fosters marketplaces, such as MercadoLibre and americanas.com in Latin America. Hybrid models join MSP-enabled transactions and locational marketing. Four models emerged:

- Commission-based
- Subscription-based
- Advertisement-based
- Service-based

Platforms in emerging markets often mirror business models in high-income markets. Careem is a Dubai-based ride-sharing company, operating in 53 cities in the Middle East, North Africa, and Asia. The advertisement industry’s relative underdevelopment is a constraint to certain models. This factor may limit the platforms’ ability to subsidize the downstream, end-user side of the business. In addition, limited development of the advertisement market may encourage ‘transactional’ models (often developed by global,



Figure 1. Physical and Virtual Enablers

Source: Authors’ own compilation

foreign platforms), to the detriment of pure marketplaces, which tend to be local. Policy-makers should assess the maturity of the advertisement industry, and its impact on business models: are there specific deficiencies that make a developing country particularly vulnerable to value-capturing models introduced by foreign platforms?

Platform Enablers

Digital platforms are the product of an evolutionary process mixing physical and behavioral enablers. Physical

enablers include digital infrastructure (broadband internet networks, cloud, security), smartphones, laptops and other consumer equipment, payment tools, geo-localisation, and ancillary enablers (e.g. distribution, logistics, intermediary goods), (Figure 1).

Market and behavioral enablers are essential (Figure 2). Consumers shift their core attitudes from buying goods to access-based consumption, leading to a peer-to-peer economy where platforms increasingly mediate interactions, typically coordinated by peer-based trust relationships. Individuals casually participate in economic activities



Figure 2 .Market and Behavioral Enablers

Source: Authors’ own compilation

through privately owned resources (assets, labor), which would otherwise remain idle. Platform enablers have policy implications

Developing countries often lack a ubiquitous and affordable broadband internet infrastructure (Kelly and Rossotto 2012), and internet access is uneven among population groups (urban vs. rural, gender, age, and income divide). Some countries lack digital payments. Physical and virtual platform enablers in developing countries require dedicated policies, technical assistance and investments. Ecosystem enablers were key to Alibaba’s development. Tsai (2016) emphasises “the integration of three critical elements, which are trading platform, payment system and logistics network, forms the solid infrastructure for Alibaba e-Commerce business ecosystem”.

Sometimes, the specific economic condition of an emerging market may incentivise a more widespread platforms adoption with respect to high-income markets. Mobile-based payment tools in Africa addresses lack of alternative digital payment methods and inferior physical options,

allowing for rapid scaling-up. Digital platforms to match labor supply and demand gained traction in Ukraine, the Philippines, and Russia, leveraging competitive wages and skilled resources. Constraints may encourage innovation. Faced with local logistics shortcomings, Jumia Egypt, an online marketplace, has built its own motorcycles and delivery fleet. Finally, a question for policy makers is whether access to capital constrains platforms growth. Large scale platforms will attract considerable investments, but local startups will experience challenges.

Platform competitive dynamics

The dominance of a platform, arising from network effects ('winner-takes-all'), may raise competition concerns, if the dominant platform abuses its market power. However, penalising dominance per se may be inefficient as dominance can also benefit consumers and spur innovation. Reaching a 'critical' mass drives platform dynamics (Evans 2013). Ruutu et al. (2017) propose a system dynamics simulation model of platform competition, highlighting three cases. In the 'chicken-and-egg' scenario, no platform achieves a critical mass. In the 'winner-take-all' scenario a vendor locks-in the participants into one dominant platform, even in presence of 'multi-homing' options. The final scenario, called by other authors 'winner takes some', provides for a "collaboration and competition scenario in which several platforms coexist in balanced competition." (Ruutu et al. 2017). Various models studied the conditions for multiple platforms to grow first, and then co-exist in competitive markets. Network effects, 'critical mass' factors, and reversibility of participation create entry barriers, likely to be more critical in developing countries.

Network effects may lead to situations where a proprietary platform may be socially desirable, as it partially internalizes two-sided indirect network effects and direct competitive effects on the producer side. Ruutu et al. (2017) indicate that "if platform adopters are able to react quickly, achieving a critical mass may be difficult because the platform firms cannot accumulate enough resources for sufficient platform development". Open interfaces (reinforcing cross-side network effects) and user data transferability, can accelerate initial growth. These points will shape policy choices in developing countries.

Network effects and critical mass considerations could skew competition in favor of foreign platforms. However, there is evidence that local platforms in emerging markets can emerge as strong competitors. Leveraging domestic market size, Alibaba and Alipay emerged as global leaders (Tsai 2016). Go-Jek is a 'unicorn' in Indonesia, and leads the local ride-share market. Russian digital platforms revenues exceed \$17 billion (World Bank 2018), as Yandex,

a Russian engine, retained two thirds of Russia's addressable market, surpassing the revenues of Google Russia by a factor of three. Russian social media network Vkontakte outranked Instagram, Facebook, and Twitter in monthly messages sent, exceeding 60% share (World Bank 2018). Contrary to the idea of sweeping 'data colonialism', at least in large emerging markets like Russia, Indonesia and Brazil, there are counter-examples of local platforms effectively facing foreign competition. What determines a 'winner-takes-some' scenario in emerging markets? One hypothesis, consistent with standard MSP theory, suggests that in a two-sided market, 'winner-takes-all' prevails, *unless* there is sufficient consumer differentiation to determine an oligopolistic scenario. A further question is the sustainability of 'winner-takes-some' scenarios, considering technology advances such as artificial intelligence, which will, perhaps, reduce linguistic or cultural effects on consumer differentiation. Another aspect is whether local platforms can compete only leveraging large domestic markets: foreign platforms dominance is a more acute risk in small, poor countries.

While most of the debate focuses on dominance, platforms also raise other competition concerns: colluding algorithms, restrictive vertical agreements and potential anticompetitive effects of market consolidation. In addition to network externalities, two other factors characterise digital platforms dynamics. The first is *envelopment*, a business strategy by which a platform leverages its digital or brand presence, to expand its business to services outside its initial core. While traditional analysis of 'tying' as anticompetitive practice does not necessarily hold, the rationale is similar. As a digital platform, Google offers access to its platform to third party service providers, such as online translation software. However, it also develops its own online translation software. Client-supplier analysis in traditional industries calls for non-discriminatory access to a distribution platform to be granted to third party suppliers, especially when an economic agent acts as distributor and retailer. A similar analogy exists in digital platforms. Access to the search engine should be granted on a non-discriminatory basis to all third-party providers, including in-platform providers. Regulatory intervention may be warranted. The European Commission fined Google €2.42 billion for market dominance abuse (advantage to its own shopping service in search results). Brazil opened a similar investigation.

The second strategy is *partnerships*. Latin American platform MercadoLibre partnered with convenience store and financial services chain Oxxo, to integrate its distribution and service channels. Careem partnered with food delivery ChaCha, to address Pakistani's market. While partnerships

can enhance efficiency, they also raise competition concerns. Google's financial incentives for the largest smartphone and tablet manufacturers to exclusively pre-install Google Search on their devices, has been considered a vehicle to foreclose competitors. Following a recent investigation in Russia, Google committed to remove restrictions and allow third party applications on all devices. Assessing the competition impact should include effects on both downstream and upstream markets (Frieden 2018). Innovation should be considered in the assessment (Wahyuningtyas 2018).

The *use of data by digital platforms*, currently core to the debate, influences market dynamics, beyond consumer protection concerns. The use of data by dominant platforms can become abusive, absent strict controls either externally or self-imposed. The latter has worked poorly. If data is the price consumers pay to access a given service, such as 'connecting' via Facebook or 'searching' via Google, lack of transparency with data use might constitute abuse of dominant position equivalent to price gouging. This line of reasoning brings to consider data as a potential *essential facility*, where the arguments applied to infrastructure access extend to data. This concern is compounded in developing countries. Africa's mobile operators have an unmatched quantity of users' data, displaying thus a dominant position around commercially sensitive information, absent adequate regulation. Platforms need user data to keep advertisers onboard. Data portability, enabling users "to transfer data from one electronic processing system and into another, without being prevented from doing so by the controller" (Graef et al. 2015), could be a powerful enabler.

Finally, *many actors cannot access platforms in emerging markets*, including consumers without access to internet networks or without smartphones, and SMEs with limited technology access. Hence, a possible rationale exists for proactive interventions to promote broad technology diffusion. Incentives for global platforms to localise their businesses and partner with local firms could be encouraged.

In conclusion, analysing these four pillars of the economic literature may guide policy makers towards appropriate policy frameworks for digital platforms in emerging markets.

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