RESEARCH PAPER

Investigating Governance Mechanism of Multi-sided Platforms in a Down Trodden Economy: A Case Study Analysis

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ABSTRACT

The study is conducted in the backdrop of struggling economy of Pakistan where digital ecosystem faces peculiar governance challenges with respect to operations of Multi-sided platforms (MSPs). These platforms allow users to create transactions and behave like a regulator to implement governance rules for the interacting parties. A thematic analysis is conducted through semi-structured interviews based on a theoretical framework. Various dimensions used for thematic analysis comprise of decision rights between interacting parties, governance controls and agreement on commercial terms. Findings reveal that an economy like Pakistan poses governance challenges to the digital industry related to level of technological know-how, lack of payment options and weak system of conflict resolution. Strong interdependence of interacting parties is identified as pivotal in determining governance level of a MSP, therefore a support mechanism is recommended for service providers to play their role in close liaison with the platform.

Introduction

The study investigates governance mechanism of Multi-sided Platforms, popularly known as Ecommerce platforms. These platforms include exchanges, search engines, social networks and software platforms. MSPs facilitate to conduct business over an electronic network, bypassing geographical hurdles and enhancing accessibility. Sloan School, Massachusetts Institute of Technology defines MSPs as technologies, products and services that create value primarily by enabling direct interaction between two or more customers or participant groups. Governance of platform refers to technical structure, accessibility, business strategy, pricing and external relationships (Hagiu, 2014).

MSPs have assumed a pivotal role in today's economy. Digital platforms serve billions of users worldwide, though they differ from each other in their context of use.

Table 1
Types of Multi-sided platforms

Platform	Type	Interacting parties
Alibaba, eBay, Amazon	Ecommerce	Buyers and sellers
Airbnb	Accommodation industry	Dwelling owners and renters
Uber	Ride services	Professional drivers and passengers
Facebook	Social media	Users, advertisers, content developers, affiliated third party sites
Apple iOS	Operating system	Application developers and users

Paypal	Online money transfer	Merchants and consumers
Google Play Store	Application platform	Users, developers
Daraz, OLX	Online marketplace having operations in Pakistan	Merchants, consumers, advertisers

(a) Multi-sided platform   **(b) Reseller**
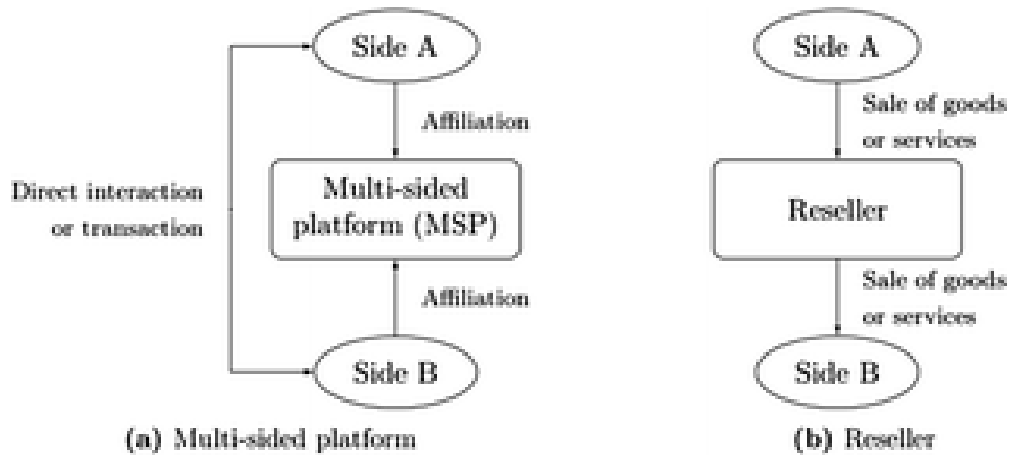
Pakistan ranks 46th in Ecommerce market with an annual growth rate of 5.7%. Revenues are projected to cross US$ 5.7 billion in 2023 (www.statista.com). It is estimated nearly 25% of internet users of which 60% are young people have adapted to online shopping due to convenience and time saving. Pakistan's digital market faces multiple challenges including payment gateways, lack of trust issue, unauthentic websites, counterfeit products, customer retention and weak IT infrastructure (Startup Pakistan, 2021).

Literature Review

Multi-sided platforms came into existence after the revolutionary invention of internet and commencement of Ecommerce activity. MSPs represent robust business model having qualities of adaptability and upgradation (Abdelkafi et al. 2019).

Andrei Hagiu has carried out pioneer work on MSPs. In his fundamental paper (Hagiu and Wright 2015), he has identified two basic features – first, they enable direct interaction between two or more distinct sides; and second, the interacting sides hold controls on various terms including price and delivery of product or service. In the same study, it was further highlighted that variance exits across platforms in terms of how loose or tight their governance rules are.

Governance mechanisms are introduced by MSPs to influence participants of the platform. Alstyne et al. (2016) described governance as drawing rules for participation of various actors on a digital platform that cover their interaction, agreement on commercial terms and resolution of conflicts. Gorwa (2019) added that platform owners control the ecosystem of platform through governance rules. Hagiu (2014) remarked that the management of a platform takes key decisions regarding regulation of third-party actions, which affect value of the platform's ecosystem.

Hagiu (2009) highlighted that platforms typically have high up-front development cost and low marginal cost when they add users. Functions and features on the platform are aimed at reducing transaction cost for the interacting parties. However, sometimes it is observed that an added feature could add positive value to one party and negative value to another.

Further, design and architecture of a platform plays an important role as it serve two objectives: 1) it facilitates breaking down into autonomous applications; 2) it enables joining of different parts into a unified ecosystem. Tiwana (2013) expressed that growth of MSP, its applications and the whole ecosystem are facilitated through a combination of architecture and governance.

A key characteristic of MSP is referred as *Network effect* which determines value of offered services by considering number of users available on a platform (Shapiro 1994). If a consumer values a product because of its popularity with other consumers, it is referred as *Same-Side* network effect. Alternatively, a *Cross-sided* network effect is the one where demand by one side of users depends on the participation of the other side of users (Hagiu 2009). To be successful, an MSP must increase number of users by exerting network effects (Abdelkafi et al. 2019). Another study by Chu and Manchanda (2016) highlighted an asymmetry with respect to network effect on buyers and sellers. They found that base of sellers on a platform have a much larger effect on the growth of buyers than vice versa. Song (2015) remarked that the cross network effects between the two sides are grossly influenced by its governance mechanism.

Theoretical Background

The governance framework proposed by Tiwana (2013) serves as the underlying theoretical background for this study. This framework indicates three dimensions of governance; i.e. 1) Decision Rights (who decides what), 2) Control Mechanisms (how app developers are controlled, and 3) Pricing policies.

Decision rights are bifurcation of control between a platform owner and app developer. Tiwana explained that there are four types of decisions that are divided between a platform owner and an app developer: strategic and implementation decisions about the platform, and strategic and implementation decisions about individual applications.
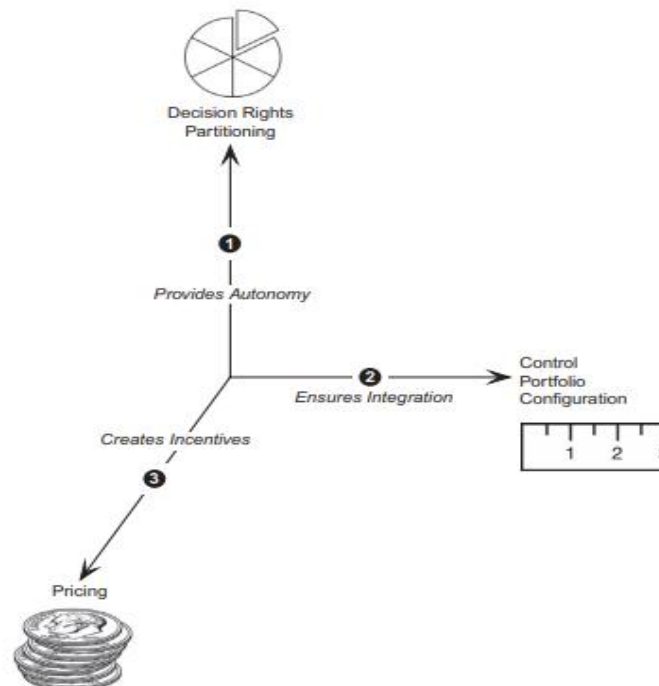
Control refers to the goal coordination between a platform owner and a service provider. A platform owner can employ different degree of formal control mechanisms like gatekeeping, metrics, and process control.

Pricing pertains to five types of judgments: which side to subsidize (service provider or end-user), for what duration, a choice between access versus usage fee, the structure of pie-splitting, decision about licensing.

Material and Methods

This is a multiple case exploratory study based on thematic analysis. Case study method is widely recognized as an effective procedure for theory development and extension (Yin, 2013). For the selection of cases, rigorous desk research was undertaken to identify MSPs who enjoy significant market position.

Themes around governance rules as observed in a struggling economy are identified and data is captured primarily through semi structured in-depth interviews. Research methodology can be broken down into following steps:

1. Unit of analysis of research will be a platform having an ecosystem comprising of platform owner/sponsor, sellers of various products and services and developers of various applications. Emphasis has been on case under consideration (an MSP), a focused and bounded phenomenon (governance mechanism) embedded in its context (MSP). The influences of the local (Pakistani) context of an MSP are taken into account.
2. Case study of various platforms operating in Pakistan has been conducted, envisaging their governance rules and practices. Theses platforms have been examined for overall challenges in governance (not comparison) including EasyPaisa and Daraz.
3. Research instrument comprises of an open ended/semi-structured interview questionnaire, covering governance aspects as identified by framework of Tiwana. Primary data is collected through semi structured interviews of platform owners/operators and service providers on these platforms. Responses of interviewees have been categorized on Decision rights, Controls and Commercial terms between platform and its partners (service providers).
4. Data has been presented in the form of excerpts from interviews. Responses have been kept limited in terms of relevance, richness and local context. Opinion of various respondents is collated, supported by findings from the literature review. This data presentation ensured a conceptual flow.

Results and Discussion

We conducted semi-structured interviews with open-ended questions to identify elements related to the study and underlying theoretical framework. Our findings are based on discussion and comparison with the reviewed literature. The interviews revealed certain thematic points which are grouped together to form a data model.

MSPs with significant market presence are selected for the study, namely, EasyPaisa and Daraz. EasyPaisa is part of Telenor Microfinance Bank which is the first and largest mobile banking platform in Pakistan, established in 2009. The other platform Daraz is part of international Alibaba group and constitutes the largest Ecommerce platform in Pakistan.

Table 2
Primary and Secondary data collection sources

Cases	Primary Data			Secondary Data (Number)			
	Interviewees title	No of Interviews	Duration (mins)	Social media pages	Press / Blogs	Articles	Videos
EasyPaisa	Head of Department	2	150	3	2	1	1

Daraz	Chief Commercial Officer	1	90	2	1	1	1
	Digital Head	1	60				
Bookme	CEO & Founder	1	120	1		1	
Blinkco	CEO	1	90	1	1		
	Head Commercial	1	60				
	Total	7					

As Hagiu (2014) explained that governance of MSPs can be broadly divided into non-pricing governance rules and rules for revenue sharing / other commercial terms. The former can further be bifurcated into access to platform and rules for the interacting parties.

To govern access to the platform, certain protocols dubbed as Application Programming Interfaces (APIs) are framed. A service provider has to comply with the recommended APIs to gain access to a MSP.

Platform Design and Integration

Design and architecture of a platform has critical importance in enforcing good governance and enhancing cross network effects. As Hagiu and Wright (2015) pointed out, the basic design of a platform should be able to reduce the transaction cost. Example Airlift is relevant here that failed to sustain after an impressive takeoff in Pakistan, primarily due to high operational cost that could not be brought under control.

EasyPaisa introduced a convenient and reliable way of money transfer for the masses who were otherwise dependent on limited network of branches and unreliable and inefficient informal means. EasyPaisa has become the channel of choice for mobile phone top up (catering to 20% of all such transactions), person to person (P2P) money transfer and utility bill payments. Digital applications facilitating such payments, including those owned and promoted by State Bank of Pakistan (SBP) and commercial banks, all sign up with EasyPaisa to share the pie. Additionally, EasyPaisa provides corporate solutions like salary disbursements, Business to Business (B2B) supply chain payments.

Envisaging the three dimensions of underlying framework, we started with Decision rights related to accessibility to a platform. Access is typically governed through design of a MSP. Interview with EasyPaisa revealed that while the platform follows the policy of 'openness' for strategic partners, a standard API based configuration is to be adopted by partners to gain access to the platform. EasyPaisa facilitates service providers in integration by providing guidance through own resource personnel. Decision right in this case stays with the MSP, but support is ensured for easy onboarding. Under no circumstances, a change is made at the core system level to accommodate a partner.

EasyPaisa being a microfinance bank is regulated by SBP and therefore abides by strict rules for code of conduct and data privacy of users. The bank currently handles a subscriber base of 15 million mobile users, whereas the number of service providers on their platform exceeds one hundred. The representative informed us that user data is properly 'masked' at all times even when stored on a cloud.

Table 3
Date points for Thematic analysis - Multi-sided Platforms

Dimensions of Governance	Related mechanism	MSPs	
		EasyPaisa	Daraz

Decision rights

	Access to platform	Integration though standardized APIs	Integration though standardized APIs
	Openness / Innovation	Openness is desired, subject to AML/ regulatory compliance.	Openness is supported.
	Support for service providers	Reasonable support available for seamless integration.	Runs a formal program for development of sellers to conduct online business.
	Communication among developers	Not available	No formal forum is available

Control

	Operational cost	Primary concern for the platform. Cash handling cost is significantly reduced through elimination of agent's commission.	Policy of cost reduction is actively followed.
	User data protection	Regulatory requirement. Customer identity is protected through appropriate system checks.	Mandatory protection. Internationally recommended protocols have been implemented for user data protection.
	Harmful behavior	Continuous monitoring through dedicated team. Violation could trigger warning, even forced exit.	Seller's conduct is closely monitored. Appropriate action is taken if a complaint is received.
	Conflict resolution	Lopsided procedures support the platform. Significant partners are accommodated.	Only major sellers are accommodated if their demand is justified.
	Product development cost	Not participated by platform though desired by partners.	No precedence.
	Switching / exit cost	Not a concern due to limited choice available in market	Sellers are allowed to sign up with any other ecommerce platform.

Pricing

	Asymmetry in value sharing	Asymmetry exists. Flexible with significant partners like large telecom companies.	Asymmetry exists. Sellers with large volumes are given leverage in pricing.

MSP is supposed to supervise conduct of service providers as a governance rule. EasyPaisa has adopted adequate policy covering anti-money laundering and risk aspects. Appropriate checks have been incorporated in the design of the platform. This helps them to monitor transactions taking place on the platform. EasyPaisa boasts in-built protocols to check misconduct and takes action against reported incidents that may range from warnings to black-listing.

Decision rights rest with the owner, typically when the number of related MSPs is limited. EasyPaisa has one significant competitor, i.e. Jazz Cash, therefore most service providers sign up with both these platforms including banks, thus complying with their governance rules.

Through our interviews, we tried to get an insight into the control mechanisms of EasyPaisa related to data secrecy and conduct of their partners and operational cost. A major cost for the platform was identified as cash handling cost that consists of commission paid to agent network of more than one hundred thousand across Pakistan. These retailers serve

as transaction booth for EasyPaisa. The company used its market position to force agent network to accept a zero commission regime, where EasyPaisa will not pay any transaction charges. They were allowed however to charge a fee to the client though. The policy proved to be successful as it contributed significantly to profits. In the local market where digital landscape is an emerging phenomenon, large MSPs are able to leverage their position as users have limited choice.

Sharing of commercial terms between a platform and service providers also appears tilted towards platform. Our interviews revealed that pricing follows an asymmetric pattern, i.e. terms negotiated with various partners differ from one another, depending on their potential for value creation. Partner organizations that have ability to make sizeable revenue contribution are offered attractive commercial terms. For instance, telecom operators like Ufone are paid a reasonable 2% commission on purchase of balance by its subscribers via EasyPaisa platform.

The other MSP, Daraz showed identical governance protocols. Onboarding to platform is managed via uniform APIs. Daraz runs a coaching program for entrepreneurs for to establish and run an online business. This handholding contributes towards enhancing network effects for Daraz, which is considered a key success factor for a MSP.

Daraz encourages innovation through development support, thus emphasize the concept of 'co-creation' of value by platform and its partners. This also underscores their mutual inter-dependence for sustainable operations. Respondent from Daraz mentioned a reward policy for partners who generate value proposition for the platform. Reward and punishment policy is recognized as an effective governance tool to manage partner's conduct. In order to safeguard their repute, MSPs actively monitor conduct of their partners and take corrective measures.

Asymmetry in negotiating commercial terms is also found in the case of Daraz. More favorable terms are offered to partners having potential for better revenue contribution. There are no restrictions from Daraz for the seller to sign up with another MSP, however Daraz may negotiate terms to increase own value and enhance cross network effects.

With respect to overall regulatory environment, interviewees lamented that contract enforcement is a challenge in Pakistan as legal system does not meet international standard of enforcement.

Decision rights and controls shared with Service providers

In order to incorporate feedback from service providers, we shortlisted two companies, namely, Bookme and Blink. The former is multiple service provider including train/bus tickets, event and movie tickets, hotels and car rentals. The latter one caters to online ordering system for restaurants and supermarkets.

We found similarities in their responses like although they abide by governance protocols as prescribed by platform, they have limited ability to negotiate commercial terms for themselves.

Table 4
Date points for Thematic analysis - Service providers / Complementors

Dimensions of Governance	Related mechanism	Service providers	
		Bookme	Blinkco
Decision rights			

	Access to platform	Integration with a platform is available vide uniform APIs. Own development team works in liaison with the platform for seamless deployment.	Own team for seamless integration using recommended APIs
	Openness / Innovation	Business sustainability depends on innovation but platform does not support initiatives.	Found reasonable support from platforms for innovative changes based on user experience.
	Support for service providers	Integration support is available with platform.	Through Blink Academy, hundreds of helpful resources are provided to launch and grow businesses successfully
	Communication among developers	No forum available. Active interaction may contribute towards innovation / new ideas.	Not a normal practice.
Control			
	Operational cost	Lower cost to platform does not reflect into direct benefit for complementor.	Lower operating cost is a desired outcome. Every measure in this regard is shared with platform for a joint strategy.
	User data protection	User data protection is mandatory requirement observed by all significant platforms. Data is not shared without specific consent from user.	Recommended safeguards for data protection are adopted. Importance of data privacy is well recognized.
	Harmful behavior	Platform monitors conduct and complaints are addressed to protect repute of platform. Service providers are concerned and do their best to avoid any customer complaint.	Active monitoring of customer complaints is ensured through multiple channels including chatbot available on platform.
	Conflict resolution	Service providers are seldom accommodated in case of a conflict.	Blinkco supports role of a mediator who could investigate through available data sources and resolve a conflict. This will help reduce one-sided decisions handed down by platform.
	Product development cost	Platforms do not participate in development cost.	Not shared by platform.
	Switching / exit cost	No restriction from any platform to sign up with competition.	No switching or exiting cost.
Pricing			
	Asymmetry in value sharing	Price can be negotiated if the service is valuable.	Asymmetry in revenue sharing is a market norm.

Our interviews with the service providers highlighted that decisions related to governance are held with the platform, whether they are non-pricing or price related rules. They acknowledged that MSPs extend support in integration via APIs. Besides, platforms tend to facilitate interaction of parties in order to enhance network effects.

Our respondents agreed that innovation is vital for sustainability of business. In this context, companies who are growth-oriented ensure an open culture where they promote fresh ideas through collaboration. Service providers feel that platforms are rather rigid when it comes to sharing of cost related to product development.

Regarding controls with respect to conduct, service providers acknowledged that effective controls are a joint responsibility. Not only these controls are required under regulatory framework but also they are essential for the repute of both the platform and service provider. In this context, our respondents highlighted measures for user data protection. The representatives added that most service providers operating on platforms have adopted and implemented adequate measures to check misconduct. Customer feedback is actively sought and channels for escalation of their complaints are shared on the transaction site. Service providers actively engage with the platform to resolve customer complaints.

Determinants of Success of a MSP

Our interviews helped us find an answer to research question that whether governance plays an important role in success of a MSP. We figured out on the basis of analysis of identified data points (as listed in Table 3 & 4) that governance rules bring discipline to interaction between the parties. Though decisions related to governance of platform rest with the platform, however the underlying sentiment is shared by partners.

Service providers understand the importance of mandatory requirements observed by the platform like data privacy of the users and they take necessary measures for its compliance. They observe self-discipline with respect to fair play at all times. Platforms on the other hand are concerned about their reputation and often have to comply with the regulatory requirements.

We also learnt from the interviews that service providers can play a key role in successful operations by co-creating value for the platform in liaison with platform owner. An example quoted to us in this context refers to a microfinance company that gives loans through a digital platform. To facilitate online financing, company will require a mobile wallet which is provided by telecom operators. Thus mobile wallets become necessary vehicle for microfinance company to reach its potential clientele. Co-creation of value is an important element in the success of a platform as learnt from literature review, i.e.

$V = \sum p_i v_i$, where V denotes value of platform and v is the value of partner v.

Suggested Governance Model

Data points collected through thematic analysis reflect that governance model as prevalent in Pakistan can be improved with the introduction of an 'Accelerator' in a mentor's role. An Accelerator is defined as a specialized service provider who identifies and provides solution to meet peculiar needs of a startup in a digital ecosystem, through a fixed term cohort-based program. They are designed to prepare startup with their technical, financing, technological and marketing requirements on a comprehensive basis (Lall et al. 2013).

We conceive role for an Accelerator where it could engage with an entrepreneur who intends to onboard a digital platform to pursue online business activity. The Accelerator would enhance ability of the business to understand and comply with the governance rules applicable on a platform. Introduction of an Accelerator as an additional actor may contribute towards the overall digital ecosystem and corresponding governance framework.

An Accelerator, playing role of a mentor will hand hold an aspiring online business to acquire 'digital-readiness' before onboarding a platform. The revised model may work in the following fashion:

i)   Entrepreneur looking to adopt online business model (hereinafter referred as 'business') will sign up with a specialized Accelerator firm for technical support on following:

        i. Integration with the platform via APIs

        ii. Understanding of required governance practices wrt onboarding, conduct of business;

ii) Accelerator may put business in an 'incubator' to determine its level of preparation. Accelerator to use expertise to find a relevant platform in liaison with business, that may offer opportunities for co-creation of value;

iii) Platform to observe a degree of 'openness' and extend support to business for smooth integration while adhering to APIs;

iv) Platform to reward business for observing good governance through a Scoring mechanism;

v) Revenue sharing model between platform and business to give reasonable weightage to governance scores in addition to other value consideration. This will incentivize good governance by business when on-boarded successfully;

vi) Platform to introduce formal mechanism to incorporate feedback from business on prevalent governance rules.
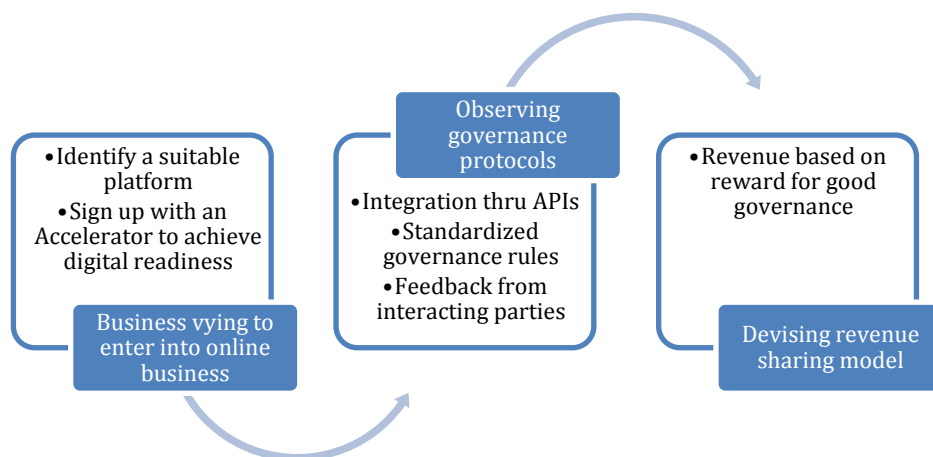
Conclusion and Recommendations

Whether it is a developed economy or an emerging one, businesses around the world are embracing digital transformation to stay relevant and competitive. Having digital footprint is becoming a necessity for growth and survival in today's world being termed as global village.

While digital platforms provide an unparalleled opportunity to businesses, they come with challenges. This study establishes that governance is not a choice but a mandatory requirement for sustainable and successful operations of a MSP.

Various dimensions of governance as observed by platforms in Pakistan are reflective of the state of economy. The gaps identified in the study for a more effective governance regime can be addressed by adopting a suitable framework where businesses are formally mentored and developed to take up online activities.

Our thematic analysis has identified strong interdependence of interacting parties on a platform. Their strategic alliance is necessary for successful operations and value creation. Decisions rights are found to be heavily tilted towards platforms as a market norm for better governance control. Besides, the opportunities for switching to another platform

are also limited for service providers that affect their ability to negotiate more favorable commercial terms.

To cater to governance challenges in a weak economy, the study recommends a formal support function for the entrepreneurs vying to establish and run business digitally. The recommended support function may help develop a governance framework suitable for a weak economy like Pakistan. This framework will address gaps in adopting good governance practices which is crucial for a progressive and sustainable digital ecosystem.

Besides, it is also recommended that service providers being essential for the success of a MSP should be given more participation in decisions related to governance, so they feel the commitment to observe these rules and align their own operations accordingly for better compliance. Ownership will inculcate responsibility that unilateral decisions from platform owner may not yield.

Likewise, innovation in products and procedures is a key success factor and we recommend that MSPs should take an active part in such initiatives including provision of financial support. Co-creation of value is a distinct feature of MSPs and it demands close collaboration of platform owner and service provider.

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