

# Technology and the Formalization of the Informal Economy

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**Abstract** – *The informal economy became the new frontier for technology firms. The monetization of the activities in the informal economy has resulted in the formation of global enterprises such as Uber, Careem, Bolt, and Gojek. This paper discusses the social outcomes of data-driven platform technology in the informal economy through a case study that describes the activities of Gojek, an Indonesian online motor taxi platform. The unique role online service platforms play in marginalized communities, the speed at which platforms have expanded globally, and the influence on the debate around labor laws make it well worth the time to assess how this specific technology corresponds with human development. In particular, the impact platforms have on the level of social inclusion. The transformations platforms have made show the desire to solve broken systems in society through technology. This also explains how Gojek transformed from an online gig work mediator to a digital banking system, assisting financial inclusion efforts for unbanked people. This paper concludes that social inclusion can indeed only be achieved when the split in society is addressed between the informal and the formal economy—for example, facilitating corporations to create financial access for people at the periphery without acknowledging legislation that got them there in the first-place anchors the inequality even further.*

**Keywords** – *Data Rights, Financial Inclusion, Fintech, Mobile Applications, Public Interest Technology, Ridesharing*

## I. INTRODUCTION

The role of technology firms in the informal economy is becoming increasingly ubiquitous. Service apps that focus on ride-sharing control how much people can earn on a day or nudge behavior through a point system [1]. This essay discusses the power shift that has taken place in the informal economy in Indonesia by analyzing the works of Gojek, an Indonesian Technology firm. Gojek is at the time of this writing worth over US 10 billion and counts Facebook, Google, Temasek, PayPal, Mitsubishi as its prominent investors [2]. Gojek started its operations in 2010 as a call center for informal motor taxi's but recently

surpassed large banks in terms of payment traffic. The transition that Gojek made from a call center to a super app incorporating payment traffic is not unique to Gojek and is considering the abundance of data in the other pockets of society a reasonable step. For example, Google's payment system has emerged because it closes a knowledge gap [3]. The payment domain contains such an intimate and culturally sensitive stream of data that it makes sense to occupy that space. Hence, the ongoing transitions of technology firms in this domain is not merely a matter of profitability but also to deeper connect current data sets to develop a more realistic understanding of society, including the realities and activities of people in the informal economy. It is the part of the economy that has no protection by law and where behavioral data is scarce but gradually better monetizable.

The reality that is well understood can also be shaped and governed [4][5]. The service apps occupy an essential place in exerting biopower and contribute to a power over life beyond juridical power and focus on the full subjectification of the body. The informal economy is a section in the economy where the pool of workers is not regulated or protected by law. The desire for the state to govern over the bodies in this part of society requires techniques that further understand the life of those who live outside the scope of regular reporting and state support. There are many forms of labor in the informal economy but what remains central to the idea is the lack of job security, contracts, stability, predictability, physical security, and the absence of data about people's lives and activities. While the state and corporations' motivations may differ, there is agreement that both entities can function more effectively when the full scope of information is at their disposal. The informal economy became a space where new forms of governance are tested and tried. This is especially noticeable when considering the optimal equilibrium between labor laws and anti-trust policies for technology platforms.

Platforms are not only seeking a better-defined space for their operations; they also focus on other broken systems in society, such as the financial systems that often overlook the poor and marginalized. To that extent,

platforms should be able to positively contribute to both labor and financial inclusion. But considering the disadvantages of such data imbalance, it is essential to find methods that measure positive outcomes beyond the headlines. Hence, the equilibrium shift requires extensive scrutinization, especially considering the potential societal influence platforms have achieved in the last decade.

Financial technologies present a somewhat ambiguous system that, by some definitions, is dragging people in the informal economy into a space where they remain unprotected, from a labor law standpoint, but enter into a formal payment system that can track each transaction [6]. The formalization of the informal economy requires a deeper understanding of the power relations at play. Who decides on what is formal and informal, and therefore socially included or excluded? This paper reiterates the deep relationship between the state and the neoliberal system to understand the impact such an alliance has on society's structure and power distribution. When Rabindranath Tagore wrote about the Nation in 1918, he was not concerned about the people of West occupying the lands in the East but rather about the Nation of the West. A system he described as so ubiquitous and well organized at the cost of harmony between the people. He notes that the political side would merely serve the survival of power rather than uphold human ideals.

A nation, in the sense of the political and economic union of a people, is that aspect which a whole population assumes when organized for a mechanical purpose. Society as such has no ulterior purpose. It is an end in itself. [7]

Hence, the question is not if the state will further align legislation with the platform economy, but rather at which point [8][9][10]. The political power of platforms is still not well documented [1], but the examples thus far have shown a growing conflict between social inclusion ambitions and legislation that allows for the existence of platform technology firms. Tagore's critique was with how the nation state would serve the powerful in a way so abstract that people would have little option than to abide. The "relentless, lifeless, accurate and monotonous" [2] methods of production have been well researched however technology firms have given the idea of corporations a new fluid identity. To be more specific, in the recent decade a variety of smartphone applications have entered the domain of the informal economy. Organizations such as Uber, Careem, TaskRabbit, Care.com, Gojek and others have learned how to monetize the activities in a space that was up to a certain moment not well defined.

The development in this category of apps, that is centered around the informal worker, has been problematic as governments were often pressured to adjust their

policies [1][11]. Not in particular to protect people in the informal economy, but rather to protect the formal worker and yet allow for such technology firms to operate within the economy. In most instances, the argument is centered around hope that such policy amendments would attract more innovative technology firms and create an entrepreneurial environment.

The focus on financial technology and the informal economy is relevant for several reasons. First, financial technology provides the ability to deeper understand the user in the most intimate manner. Data gathered is subsequently used to nudge these new studied consumers [12]. The second point is the number of people is projected to use the digital form of currencies in the near future [6]. This shift is especially imperative as money is indeed not only a tool for exchange or monetary value but also a concept that carries cultural values and has the ability to transcend identities and living experiences. Lastly, at the core of a payment system resides trust in a state system guaranteeing the monetary value of transactions. Therefore, as financial technology advances, it also redesigns the basis of that trust and hence the relationship between the state and people.

The themes are organized as follows; first, this paper discusses the Gojek and the transition it made in the past years. This provides a better understanding of the environment Gojek is operating in and the role it has played in Indonesia's informal economy. The discussion also shows how Gojek was able to transition the informal drivers into the wallet app and how it can further this by expanding financial services such as debt [12]. This is followed by a brief introduction of the informal economy and in particular, what the rationale is behind a socio-economic split in society. The third part of the paper contains a discussion on the cultural role of money. This is relevant to the question of whether financial inclusion automatically feeds into social inclusion. The discussion focuses on this paper's central problem and debates the possible outcomes of a data-driven informal economy.

## II. METHODS

This study employs an in-depth investigation of the platform Gojek through a qualitative case study. The use of a variety of data sources allows for multiple lenses to understand the phenomenon presented within a specific time and place [13]. The data gathered in this work derives from a variety of secondary data sources including news clips, documented interviews and academic literature. The qualitative nature of this study provides a deeper contextualization of societal challenges with technology.

### III. PLATFORMS

The debate around platforms are, according to Vallas and Schor [1], centered around four different themes. First, technology is seen as a digital cage, entrepreneurial incubator, accelerants of precarity, or chameleons. Work that debates this technology as a digital cage focuses particularly on how algorithms become more able to give directions for tasks, leaving no ability to resist orders. Second, the work that researches the app as an entrepreneurial incubator focuses on the impact of policy change on economic inclusion. Third, platforms are also debated as accelerants of precarity as the insecurity informs the concept. Lastly, Vallas and Schor [1] mention that there is a limited understanding of how willing or able platforms can adapt to systems that are aimed at socio-economic progress. Vallas and Schor [1] advance a new version of how platforms differ from traditional companies that use hierarchies, markets, or networks as structures. Platforms seem to have little interest in centralized, dispersed, or collaborative powers instead of focusing on delegation among users. Therefore, the economic activity is not determined by controlling their “employees” but rather by delegating such power to members in the transaction. However, a platform maintains control over particular components of the process, such as data on performance, monetization, and fund collection. This distinction is important to highlight as it suggests that platforms are motivated to create new realities that may be different from what we have known about the function of corporations thus far.

### IV. GOJEK

Gojek was founded in 2010 by Ivy League Graduates Nadiem Makarim Michaelangelo Moran, who returned to Indonesia and found that motorcycle taxi drivers who operate in the informal economy spend most of the day waiting for orders from clients [14]. Makarim and Moran intended to facilitate motorcycle drivers, locally known as Ojek, by connecting them with customers. Gojek initially started this operation by taking telephone orders and the use of the Blackberry Messenger application. In 2015, the company launched four smartphone apps, the GoRide, GoFood, GoShop, and GoSend. The company's success in the first year was prompt and promising as the number of downloads surged to about 10 million. Gojek was able to add approximately 200,000 informal motorcycle drivers to its network. The number of downloads up to the end of 2019 was approximately 50 million, and the number of drivers has surged to over two million drivers across 50 cities in Indonesia [15]. This success was followed by the launch of an additional twelve Gojek apps, mostly designed to connect people in the informal economy to clients' requests. Gojek launched the GoPay app in 2016 with the intention for clients to pay for any of the twelve

Gojek services through the mobile wallet. Gojek's services are now available in seven countries.

At the fundamental level, Gojek connects drivers and clients and receives a percentage (in 2016, this was set at about 20%) from the fare price that is pre-set before the initiation of the fare. The apps work through GPS tracking of drivers and linking them with the clients within the proximity. Clients are then able to use cash or GoPay to settle the payment. Drivers were reported to earn less per trip compared to pre-Gojek affiliation but would remain in the network due to a better distribution of the number of rides throughout the day.

Gojek introduced the GoPay mobile wallet to pay drivers and for customers to pay for Gojek services. This made the motor taxi-drivers virtually part of the formal financial infrastructure. The drivers themselves use GoPay wallets to receive funds from Gojek. The wallet can be used for other Gojek services or goods and services of different facilities that accept the Gopay wallet [16]. The link that Gojek algorithm makes between the driver and the client is also based upon the amount of money the driver carries in his mobile wallet. For example, to qualify for other Gojek services such as GoFood and GoShop, the driver must carry an amount at least equal to the to be reimbursed purchase. The balance on the wallet is transferable to a bank account.

### V. OJEK

The focus on the Ojek by the founders of Gojek is not surprising. The motorcycle taxi in Indonesia operates in an unregulated space, unlike the four-wheel taxis [15]. But Makarin and Moran also saw the opportunity presented by ongoing traffic congestion in large Indonesian cities and the high penetration of mobile phones among city dwellers. According to Irawan et al. [15] the number of trips in 2016 within the border of Jakarta is about 19 million trips and 7 million in the surrounding areas of the city. The Jakarta MA, accounts for about 14% of the national production in the country. There are no exact numbers for the trips taken outside the official JMA. Still, about 24% of the train commuters use an ojek as the last mile option [15]. The familiarity with the ojek and the solution this system provides in congested cities made this entrepreneurial pursuit interesting. The motorcycle taxi remains nevertheless unregulated and is, according to Gojek, independent contractors that own their assets. The selective ownership of assets is indeed what characterizes platforms. Gojek has been able to carry on its operations despite the lack of regulation because of how the ojek services are embedded in the fabric of the Indonesian transportation system. Hence, banning the operations of Gojek would do little to the presence of the ojek on the street. When the Ministry of Transportation attempted to ban the operations



of Gojek in 2015 due to pressure from the regulated taxi industry, public resistance forced the ministry to roll back its decision and allow Gojek to continue its operations [17].

## VI. INFORMAL ECONOMY

The informal economy accounts for approximately 60% of the workforce in Indonesia. Although there is no uniform description of informal activity, the general idea is that it is everything that is not formally regulated or accounted for. The informal economy was first introduced as a concept in the 1970s to describe the street activities that didn't appear to conform to the standards set by the corporations and the state. Keith Hart [18] addresses how the labor that was not recognized by the state appeared to uphold economic structures. At the basic level, the informal economy is identified by the lack of observance of the law, the protection by law and the unpredictability in income and demand, and the lack of social protection [19]. The formal and informal divide was a direct effect of the neo-liberal development agenda during the 1960s and the 1970s and the policies that followed [19]. Hart [18] notes that the idea that modernization in the Global South would allow for greater prosperity and what followed was a sharp increase of legislation designed to ensure a stable and predictable economic environment for corporations to operate. At the same time, corporations requested policies that would create more flexible labor laws, preferably at the international or regional level. Hart [18] explains that it is, therefore, the alliance between corporations and governments identified as what is known as the formal economy.

In the case of Gojek, Ford and Honan [20] report that the motorcycle drivers that are part of the Gojek network are not protected under Indonesia's Law (No. 13/2003) regulating labor [20]. Even though Gojek directly regulates the income of the drivers. The law includes policies regarding wages, child labor, equal opportunities, social protection, and labor inspections, among others [21]. The lack of protection by the law despite being subject to the infrastructure designed by the state and corporations is extensively debated by scholars such as Agamben [22]. The bare life in Agamben's work describes how the state actively decides on who to protect and exclude from the socio-political life through judicial and economic systems. The bare life also corresponds to the conditions under which people in the informal economy operate. The state of exception under which informal workers are placed is, in fact, a paradox. The absence of the law is a verdict in itself. Hence, through the withdrawal of the law, the state actively exposes people to constant attacks, the risk of death, and socio-economic exclusion. The bare life, therefore, forces people to continually seek methods to survive [23].

## VII. FINANCIAL INCLUSION THROUGH PLATFORMS

The initial idea behind financial inclusion derives from the theory that access to the financial system provides individuals with increased resilience against economic shocks [24]. Financial inclusion, or the process “that ensures the ease of access, availability, and usage of the formal financial system,” is primarily promoted by the world bank [25]. However, the largest hurdle for banks has been the impression that the poor would not know how to manage money responsibly and, therefore, would have limited profit potential. This is also why financial inclusion programs are more often than not accompanied by financial education campaigns.

The banks, therefore, did not recognize the systematic exclusion as a driver of inequalities, but rather the inability of the poor to act responsibly [25]. To that end, technology firms had very little to do with the mainstream ideas that were primarily promoted by banks. The principal difference between technology firms and traditional banks is the relatively smaller overhead costs online financial firms have to incorporate. Efforts to onboard clients needed to be justified by additional income and little were known about people without a banking footprint to understand what the potential could be. This is also the most significant difference between banking 1.0 and banking 2.0. Technology firms operate in a more centralized manner, deploying their services on handheld devices and thriving from a high number of active users. Aside from that, data-science has also allowed for information technology firms to better understand the potential customer and better accommodate the risks. This data set does not need to be derived from banking-related activities. The analysis of working hours, profit per ride made, feedback from clients, an in-depth network analysis, and other data points provide a rich narrative for automated credit decisions.

Data, which is at the center of the competitive advantage of financial technology, presents a powerful instrument vis-à-vis traditional banks. It is in principle in comparison to It has the potential to shift power as the knowledge gap between policymakers and the technology companies grows. Pasquale [26] notes that the knowledge problem is within the context of financial technology always deliberate. There are two points that further underline that thought; first, technology companies indeed provide access to the formal financial system replacing the bias banks have been operating [26]. However, the algorithms can use such data to profile the individual and allow for access to credit, insurance, and other banking services and turn the financial system into the “relentless, lifeless, accurate and monotonous” infrastructure Tagore [7] noted.

The second point is that money is often minimized to its function as a tool for exchange, carrier of value, and unit of account, but it has a more prominent role in society. The essay by Mauss in 1925 explained that the idea of freedom, justice, and the complete conceptualization of the people could only be understood when incorporating the social aspects of money [19]. The social identities that are constantly reshaped through money are as much technical as it is moral. Hence, as the millions of people are turned away from cash systems, what remains is a digital infrastructure that is so abstract and universal that it can transcend the individual. George Simmel also identified the transcendence in his important work on the philosophy of money. Simmel [27] states that as the physical substance of money declines, it reveals its true character [27]. What is left when society rid of coins and cash is indeed the complete surrender of our capacity to scrutinize the system that governs people. Trust in digital money is not a matter of debate. There is no other option. Polanyi [28] explains that as markets become a more intrinsic part of the functioning of society, the borders between the community and anonymity become intolerable [19], [28]. It is within this space where the role of the state becomes more apparent. The ability of technology firms such as Gojek to further the gaze of the state [29] is an essential incentive for new alliances. Cooperation that can present new thinking about labor in the same fashion it developed in the 1950s and 1960s.

### VIII. DISCUSSION

The journey from a phone operation to a future banking system is with the use of data-science ambitious but more realizable now than ever before. Gojek's business activities have exposed several ideas that remain problematic. First, the use of a platform app has provided the informal economy with a pathway to formalization. In fact, the process that allows drivers to become part of the Gojek system includes creating a company ID and creating a formal payment wallet. However, the rides themselves provide certain predictability in the amount that can be earned. Gojek and other platform apps' strength is based upon the design of the informal economy. Therefore, a system that has no protection is able to function as per the desire of the market. There is, therefore, little incentive to further the rights of the drivers at the national legislative level. The second point is that using the informal economy to gain access to data of people that have not been monitored priorly allows technology companies to create new consumers. Providing credit for new motorcycles is now based upon data points that show an individual's productivity most accurately. Nevertheless, unlike the first point, here technology companies are not interested in the function of the market. Knowledge about the individual became opaque and fed the algorithms with a path to learn to manipulate the market. The third is the idea that the

transition of people in the informal economy from cash-based transactions to operations based upon digital cash transactions is a trend that requires more academic attention. Society's social values indeed shape the value of money, but what is now valued is not only the product but the transaction itself [3].

These three domains require scrutinization but also show how complex the reality on the street is. Technology firms indeed provide the ability of drivers to operate in a more productive way, increasing income for their families. There is, however, no reason not to problematize the fact that data is gathered of people who are unprotected by law. The effect of the use of data to manipulate the earnings of an individual or require them to use payment systems that further increases the knowledge about the drivers should be better understood. The idea of social inclusion, which refers to the productive access to a system that governs the people, is not reflected in the practices of the Gojek concept. The fear is that, in particular, people in the informal economy will fall under a new form of formalization and are turned into newfound consumers. Tagore described this as "[w]hen this organization of politics and commerce whose other name is the nation, becomes all-powerful at the cost of the harmony of the higher social life, then it is an evil day for humanity" [7]

### IX. CONCLUSION

The informal economy represents not only what people do daily to manage their lives, but it is also embedded with traditions, methods of resilience, culture, and historical values. However, any attempt to compartmentalize the richness and the variety of realities should be questioned. This essay has not captured the full experience of the informal worker, but that was certainly not the attempt. Some people can build stronger connections or perceive the use of the app as a guaranteed way of making an income. This paper's principal goal is to show the new structures that are being shaped in societies that have little regard for the level of social inclusion of people. I also acknowledge that the informal economy is indeed complex and does not translate into a system of poverty. Conversely, the absence of the law in this space leaves people more vulnerable to corporations' manipulation.

The design of mobile wallet apps is not damaging in itself. However, it is the most intimate data that can be captured. In this case, the deployment of financial products is not a matter of more social inclusion but rather an improved way of financial inclusion. It does little to the influence people have on shaping legislation or equality. Rather, it allows for an enhanced method of consumer design. Access to data that is gathered should be the first step in correcting the power shift.

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