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FINTECH: PRIVACY AND SURVEILLANCE IN THE NEW DATA-INTENSIVE FINANCIAL SECTOR

Fintech: Privacidad y Vigilancia en el Nuevo Sector Financiero de Datos Intensivos

Fintech: Privacidade e Vigilância no Novo Setor Financeiro de Dados Intensivos

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Abstract

The financial services industry is gathering an increasing amount of data about our lives; this data is used to make decisions about us in for getting credit, or the rate we pay for insurance. The financial services sector - particularly the new fintech start-ups - is thus looking to get more and more data about people far beyond what was traditionally used for making decisions. More and more data are used to make or shape decisions that determine access to financial services, from sources that are far beyond the scope of what people might think as ‘financial’. Lenders are looking for data about people: who they are friends with, contents of their phones, location data. These issues have the greatest impact on the poorest and most vulnerable - those without existing credit files - are at particular risk. The development discourse places an emphasis on “visibility”: i.e., the importance of private companies knowing in ever more detail about their lives. And much of the discourse surrounding the use of alternative credit scoring, for instance, focuses on the notion of “inclusion”, and bringing in those groups who previously had no access to credit or financial services. However, there has been little consideration of the risk of exclusion emerging from the use of new forms of data by credit scoring companies. Using the example of the alternative credit scoring, this paper attempts to explore the issues surrounding fintech that have a global relevance, and form a new set of risks for the most vulnerable.

Keywords: Fintech; Finance; Data; Credit scoring.

Resumo

O setor de serviços financeiros está reunindo uma quantidade cada vez maior de dados sobre nossas vidas; esses dados são usados para tomar decisões sobre a obtenção de crédito ou a taxa que pagamos pelo seguro. O setor de serviços financeiros - particularmente as novas empresas de tecnologia financeira - está, portanto, procurando obter mais e mais dados sobre pessoas muito

além do que era tradicionalmente usado para tomar decisões. Mais e mais dados são usados para tomar decisões que determinam o acesso a serviços financeiros, a partir de fontes que estão muito além do escopo do que as pessoas podem pensar como "financeiras". Os credores estão procurando dados sobre as pessoas: com quem são amigos, o conteúdo de seus telefones, os dados de localização. Essas questões têm o maior impacto sobre os mais pobres e mais vulneráveis - aqueles sem arquivos de crédito existentes - estão particularmente em risco. O discurso do desenvolvimento coloca uma ênfase na "visibilidade": ou seja, a importância de as empresas privadas conhecerem cada vez mais detalhes sobre suas vidas. E grande parte do discurso em torno do uso de scoring de crédito alternativo, por exemplo, concentra-se na noção de "inclusão" e traz os grupos que antes não tinham acesso a serviços de crédito ou financeiros. No entanto, tem havido pouca consideração sobre o risco de exclusão emergente do uso de novas formas de dados por empresas de classificação de crédito. Usando o exemplo da pontuação alternativa de crédito, este artigo tenta explorar as questões que envolvem a tecnologia financeira que têm relevância global e formam um novo conjunto de riscos para os mais vulneráveis.

Palavras-chave: Fintech; Finança; Dados; Pontuação de crédito.

Resumen

La industria de servicios financieros está reuniendo una cantidad cada vez mayor de datos sobre nuestras vidas; esta información se usa para tomar decisiones sobre nosotros para obtener crédito, o la tasa que pagamos por el seguro. El sector de servicios financieros, particularmente las nuevas empresas de fintech, busca obtener más y más datos sobre personas mucho más allá de lo que tradicionalmente se usaba para tomar decisiones. Cada vez se usan más datos para tomar decisiones que determinan el acceso a los servicios financieros, desde fuentes que están mucho más allá del alcance de lo que las personas podrían considerar como 'financieras'. Los prestamistas están buscando datos sobre las personas: con quién son amigos, los contenidos de sus teléfonos, los datos de ubicación. Estos problemas tienen el mayor impacto en los más pobres y más vulnerables, aquellos sin archivos de crédito existentes, están en particular riesgo. El discurso del desarrollo pone énfasis en la "visibilidad": es decir, la importancia de que las empresas privadas conozcan cada vez más sus vidas. Y gran parte del discurso que rodea el uso de puntaje crediticio alternativo, por ejemplo, se enfoca en la noción de "inclusión" y en atraer a aquellos grupos que previamente no tenían acceso a crédito o servicios financieros. Sin embargo, ha habido poca consideración del riesgo de exclusión que surge del uso de nuevas formas de datos por parte de las compañías calificadoras de crédito. Usando el ejemplo de la calificación crediticia alternativa, este documento intenta explorar los problemas que rodean a fintech que tienen una relevancia global y forman un nuevo conjunto de riesgos para los más vulnerables.

Palabras clave: Fintech; Financiar; Datos; Puntuación de credito.

INTRODUCTION

Financial services are changing, with technology being a key driver. It is affecting the nature of financial services from credit and lending through to insurance and even the future of money itself. The field of fintech is where the attention and investment is flowing; this is the use of new technologies in the finance sector. Within it, existing institutions and new startups are making use of

new sources of data, and new forms of data analysis. These changes are significant to this sector and the lives of the people it serves.

Latin America is a fertile ground for this development. Take, for example, the example of “alternative credit scoring”, one of the focuses of this paper. This is the use of new sources of data for the purposes of determining an individual’s eligibility for credit. One of the pioneers in this space was Lenddo¹, who analyse data and from Facebook; two of the countries in which they first launched were in Latin America, Colombia and Mexico².

Some examples from Latin America have been already explored by research by the Brazilian organisation Coding Rights³, many of the themes involved in fintech are of global relevance. This paper first looks in more detail at the technologies involved in fintech, before moving on to critiquing some

of the dominant narratives surrounding the sector. It then moves on to specifically look at alternative credit scoring, and examines examples from Kenya to highlight some of the problematic issues in this area.

WHAT IS “FINTECH”?

The term ‘fintech’ has been defined by PricewaterhouseCoopers (PwC, 2016) as: “a dynamic segment at the intersection of the financial services and technology sectors where technology-focused start-ups and new market entrants innovate the products and services currently provided by the traditional financial services industry” (p. 3).

Thus, the term sets up a dichotomy. As the Financial Times noted, the “table football, comfy sofas, book shelves and exposed brick walls” (Financial Times, 2016a) of a *tech* startup contrasts with the corporate environment of *financial* institutions. This places ‘fintech’ and the ‘traditional’ financial

¹ Lenddo webpage. Available at: www.lenddo.com.

² “How to Get a Loan Without Leaving Facebook”, Wired, 15th May 2014, <https://www.wired.com/2014/05/lenddo-facebook>.

³ See “They are stalking you to calculate your credit score”. Available at: <https://chupadados.codingrights.org/en/they-are-stalking-you-to-calculate-your-score>.

sector in opposition with each other, with fintech firms being a threat to traditional banking⁴ and financial services more generally.

Fintech covers a wide array of sectors and technologies⁵. A non-exhaustive list includes:

- (A) **Alternative credit scoring:** one of the focuses of this paper, this is the use of new and different data sources, beyond the traditional credit file, for determining the risk of credit.
- (B) **Payments:** there is a move towards alternatives to cash, both for individuals paying shops and businesses but also transferring money between individuals. The consequences of some implementations of the alternatives to cash are discussed in this paper.
- (C) **Insurtech:** the use of technology within the insurance industry, by established firms as well as startups (Accenture, 2017). This includes, for example, the insurance company Admiral's aborted plans to use Facebook posts to assess the risks of young drivers (Fisher, 2017).
- (D) **Regtech:** the use of technology to help financial institutions meet their regulatory requirements (Deloitte, 2016), including building broad datasets of swathes of the population (VICE, 2016).

There is a breadth in the technologies involved in the fintech industry. The industry makes extensive use of the data made available from technologies such as the smartphone and social networks, but it also makes use of new developments in the computer science/data analytics space. The new technologies that are being used, or are on the horizon, in this sector include:

- **AI:** The term Artificial Intelligence refers to a range of technologies, but in this context machine learning is the most relevant. Machine learning uses algorithms trained with vast amounts of data to improve a system's performance at a task over time. AI is used to profile people based on data on devices, networks and platforms, and to make consequential decisions on their lives (Kaltheuner & Polatin-Reuben, 2017).

⁴ See, for example, Bunea, S., Kogan, B., & Stolin, D. (2016). "Banks Versus Fintech: At Last, it's Official" in *The Capco Institute Journal of Financial Transformation*, n. 44 – http://www.capco.com/insights/capco-institute/~media/Capco/uploads/articlefiles/file_0_1479208618.pdf.

⁵ For example, see the taxonomy presented here: World Economic Forum & Deloitte (2015). "The Future of Financial Services: How disruptive innovations are reshaping the way financial services are structured, provisioned and consumed" http://www3.weforum.org/docs/WEF_The_future_of_financial_services.pdf.

- Blockchain: blockchain, or distributed ledger technology, is still best known for cryptocurrencies like BitCoin. However, the technology is being used more broadly, such as the World Bank-backed initiative in Kenya for blockchain-backed bonds⁶. Yet it is also used in other fields, like the push in digital identities (Reuters, 2017). A controversial example of this was a very small-scale scheme in the UK to pay benefits using blockchain technology, via an app developed by the fintech GovCoin (Financial Times, 2016b) – since renamed DISC. The trial raised concerns, with the BBC reporting a former member of the Government Digital Service describing this as "a potentially efficient way for Department of Work and Pensions to restrict, audit and control exactly what each benefits payment is actually spent on, without the government being perceived as a big brother"⁷.
- Internet of Things: The Internet of Things is the network of sensor-equipped objects; this can range from everything from wearable devices to smart toys and connected fridges. This is an area that is of growing relevance in the insurance industry. It's worth has already been proven, according to Ernst & Young (EY): "Early adopters have established a clear and compelling value proposition by demonstrating how data from in-home and automotive sensors, wearable technology, drones, GPS, mobile and telematics devices, networked appliances and multiple other sources can help grow new business, improve risk assessment and proactively engage policyholders in loss prevention" (EY, 2016).
- Telematics and connected cars: With an increasing number of sensors being built into cars, they are increasingly "connected" and communicating with actors including manufacturers, insurers and other vehicles⁸. Insurers are making use of this data to make decisions about the pricing of insurance, looking for features like sharp acceleration and braking and time of day⁹. This raises privacy concerns: movements can be tracked, and much about the driver's life derived from their car use patterns.

The focus of this work, however, is not on any specific technology; rather, it is the broader themes

⁶ "World Bank to Support Blockchain Bonds Trial in Kenya". Coindesk, 2nd May 2017: <https://www.coindesk.com/world-bank-to-support-blockchain-bonds-trial-in-kenya>.

⁷ "Blockchain and benefits – a dangerous mix?". BBC News website, 14th July 2016: <http://www.bbc.co.uk/news/technology-36785872>.

⁸ Weatherhead, C. (2017) "Is your car connected?". Privacy International: <https://www.privacyinternational.org/node/1430>.

⁹ "The big data of bad driving, and how insurers plan to track your every turn". Washington Post, 4th January 2016: <https://www.washingtonpost.com/amhtml/news/the-switch/wp/2016/01/04/the-big-data-of-bad-driving-and-how-insurers-plan-to-track-your-every-turn>.

that operate across the fintech field. In particular, one of the ways in which fintech can be conceptualised is in terms of the new sources of data that are being used, and the new ways in which this can be analysed. This paper illustrates some of the ways in which these sources of data are becoming increasingly intrusive, and are often analysed without appropriate protections in place. This has serious implications for privacy.

FINTECH IN THE GLOBAL CONTEXT

The take-up, and potential influence of fintech is not limited to an elite group of early-adopter consumers in the markets of Europe. The opposite is true: a survey by EY found that the use of fintech by consumers with access to the Internet in developing markets including Brazil, India, China, Mexico and South Africa was considerably higher than the global average (EY, 2017). This, the report finds, is not surprising: these are places with high numbers of technologically-literate individuals, who are underserved by existing financial services (EY, 2017).

Globally, the context in which fintech operates varies greatly. An example of this is the mobile money service M-Pesa: within a decade of launch in Kenya, it had hundreds of millions transactions a year (Forbes, 2015; The Africa Report, 2017); contrast this with the experience of launching M-Pesa in South Africa. In 2010, Vodacom partnered with Nedbank to launch M-Pesa in South Africa. But, with only 76,000 active users in South Africa, Vodacom announced its closure in 2016¹⁰.

Of course, practitioners in fintech are well-aware of some of the differences; for example, the companies operating in Kenya contacted in this research were looking to expand to other markets, but at the same time faced challenges of the changing circumstances. The discourse on fintech from the financial sector too frequently ignores the broader political, economic and historical contexts in which particular fintech initiatives emerge.

FINTECH AND PAYMENTS

The payments sector is a key area of growth in the fintech sector: in 2016, this sector received 40% of

¹⁰ "Why M-Pesa failed in South Africa". BBC News website, 11th May 2016: <http://www.bbc.co.uk/news/world-africa-36260348>.

the total investment in fintech¹¹. Transactions paid by most electronic means can be tracked, even those in physical shops. In the US, Google has access to 70% of credit and debit card transactions – through Google’s “third-party partnerships”, the details of which have not been confirmed¹². The growth of alternatives to cash can be seen all over the world, for example M-Pesa mobile money in many African nations.

There is a concerted effort against cash from elements of the development community. The Better Than Cash Alliance, for example, describes itself as “a partnership of governments, companies, and international organizations that accelerates the transition from cash to digital payments in order to reduce poverty and drive inclusive growth”¹³. It is based at the UN, with funders that include the Bill & Melinda Gates Foundation, USAID, Omidyar Network, and several financial institutions which would appear to have an interest in promoting ‘cashless’ solutions: Citi Foundation, MasterCard, and Visa Inc¹⁴. The Alliance is pushing for digital payments as an alternative to cash.

A disturbing aspect of the cashless debate is the emphasis on the immorality of cash – and, by extension, the immorality of anonymity. A UK Treasury minister, in 2012, said that paying tradesman by cash was “morally wrong”¹⁵, as it facilitated tax avoidance. Interested actors are more ready to criticise the anonymity of digital currencies such as bitcoin than they are about cash. MasterCard states: “Contrary to transactions made with a MasterCard product, the anonymity of digital currency transactions enables any party to facilitate the purchase of illegal goods or services; to launder money or finance terrorism; and to pursue other activity that introduces consumer and social harm without detection by regulatory or police authority” (Computer World, 2014). Ultimately, however, the argument about the moral depravity of anonymity applies as much to cash.

¹¹ “Global FinTech Funding Reached US\$36 Bn in 2016 With Payments Companies Securing 40% of Total Funds”. Let’s Talk Payments, 2nd January 2017: <https://letstalkpayments.com/global-fintech-funding-36-bn-2016>.

¹² “Google plans to track credit card spending”. BBC News, 26th May 2017: <http://www.bbc.co.uk/news/technology-40027706>.

¹³ “About The Better Than Cash Alliance”. Better Than Cash website: <https://www.betterthancash.org/about>.

¹⁴ They also have dozens of governments and international organisations as partners. See <https://www.betterthancash.org/members/company>.

¹⁵ “Paying tradesmen cash in hand morally wrong, says minister”. BBC News, 24th July 2012: <http://www.bbc.co.uk/news/uk-18964640>.

FINTECH NARRATIVES

There is a set of dominant narratives that permeate the fintech concept. These are used by start-ups themselves, governments, and the associated industry writing on fintech for consultancies and media. It is essential to critically analyse these narratives to understand the changing nature of individual rights, including privacy, going forward; just as understanding Silicon Valley's dominant narratives around investment-led innovation and *free* services that could pivot to new uses, links strongly with data-driven advertising models; the consolidation onto centralised platforms, and the emergence of data as the fuel for algorithms for expansive purposes.

Disruption: “*FinTech is all about innovation, disruption and transformation*”, as PwC (2017) puts it. The notion here is that fintech brings change that will alter the nature of the way in which the financial services industry operates. This change runs throughout the industry: “every bank on the planet is currently wrestling with some sort of innovation agenda in response to FinTech encroachment and the disruptive innovations they have brought to the financial services market over the last decade” (McAleavey, 2017).

The tech startup field, beyond fintech, has a deep love-affair with the notion of ‘disruption’: as an article in *The New Yorker* describes it, the concept runs through much of the field, yet is not an issue with which there has been critical engagement:

Most big ideas have loud critics. Not disruption. Disruptive innovation as the explanation for how change happens has been subject to little serious criticism, partly because it's headlong, while critical inquiry is unhurried; partly because disrupters ridicule doubters by charging them with fogginess, as if to criticize a theory of change were identical to decrying change; and partly because, in its modern usage, innovation is the idea of progress jammed into a criticism-proof jack-in-the-box (Lepore, 2014).

It is important, then, to understand the limitations of a concept of ‘disruption’ within the fintech space. It becomes easier to describe it in terms of what it is not: it is not necessarily a revolutionary change in the nature or ownership of the financial services industry. As is illustrated with the examples in this research, the goal of many fintechs is to be sold; quite possibly, this will be to existing players within the market. This also means that the early adopters' data could be integral to

the sale.

None of this is to say that there are not changes that are being brought about by the introduction of fintech, and the developing alterations in how they think about key issues like identity and data. There are shifts occurring in the relationship between a customer and their bank, and in the ways in which identity and data are used. However, the issue with the disruption narrative is the assumption that these changes are positive for the individual or communities more broadly. From their perspective, we cannot assume that that all such changes are positive to their experience or, indeed, their human rights.

Visibility: *Fintech makes visible those who are invisible to the financial sector.* In this development-focused narrative, the promise of fintech is to make previously-underserved populations “visible”. This often applies to those who lack a formal credit file, and thus are likely to have no existing “financial identity”. New data sources mean that these people develop a financial identity. As the

Omidyar Network describes it, “these trends are helping to change the landscape on inclusion and reach, offering the promise that billions of previously ‘invisible’ consumers can be ‘visible’ for the first time” (Omidyar Network, 2016, p. 6).

This visibility narrative needs exploring. As professors Linnet Taylor and Ralph Schroeder describe how the notion of visibility has positive and negative effects:

Greater visibility of populations can have positive effects, as when GDP is measured more accurately, or the spread of disease tracked faster, or relief brought to disaster areas where needed. On the other hand, visibility can lead to marketing that pesters users, fleeing populations can be targeted by militaries that pursue them, or visible populations may be favoured at the expense of less visible ones (Taylor & Schroeder, 2015)

Another point about visibility is highlighted by a recent report on the use of the Internet by LGBTQ activists in Kenya and housing activists in South Africa (Ganesh, Deutch, & Schulte, 2016). These activists are careful of how visible they are online, as they can feel at risk if they go public. On the other hand, making the activities of others visible – like through highlighting violence and blackmail against LGBTQ people – can become an important advocacy tool. These examples highlight the issues surrounding politics, power and visibility; it begins to draw into question the concept that

“visibility” is inherently inclusive and empowering. For instance, Indian media reported that an Indian loan provider uses the information on an individual’s Twitter profile to determine loan eligibility:

If someone is politically active and engages in political campaigns, which are visible through their social media profiles, it is not a good sign since we do not want to go through the hassles that may come up in collection. It shows that the person can raise issues at the time of collection in these political groups" (ET Tech, 2017).

An alternative, but related concept to “visibility” is the historian James Scott’s term “legibility”. Scott writes on the role of vernacular names:

Vernacular naming practices throughout much of the world are enormously rich and varied. In many cultures, an individual’s name will change from context to context, and within the same context, over time. It is not uncommon for a newborn to have had one or more name changes *in utero* in the event the mother’s labour seemed to be going badly. Names often vary at each stage of life (infancy, childhood, adulthood, parenthood, old age) and, in some cases, after death. Added to these may be names used for joking rituals, mourning, nicknames, school names, secret names, names for

age-mates or same-sex friends, and names for in-laws. Each name is specific to a phase of life, a social setting, or a particular interlocutor. To the question, “What is your name?” the reply in such cases can only be: “It depends” (Scott, Tehranian, & Mathias, 2002).

Scott’s work focuses on the state, arguing that the state “requires the capacity to locate citizens uniquely and unambiguously” (Scott, Tehranian, & Mathias, 2002). Financial institutions have very similar needs; the need to identify customers. Legibility, Scott argues, is about the state being unable to comprehend the complexity of the social world, developed in local situations and full of a breadth of local meaning. Thus, a state attempts to organise people and society in a rational, optimised manner.

The advantage of thinking about the concept of “legibility” over “visibility” is twofold. First, it emphasises the role of the observer: visibility as a concept rarely goes along with an answer to the question, “visible to whom?”. Secondly, it emphasises how the collection of data can alter the subject; it is not a neutral act, but one filled with power dynamics.

User-centricity: Another narrative running through the fintech sector is the “user-centric” nature of

the design; the emphasis placed on the *ability for a customer to gain access to services quickly and easily, with a minimum of need for user input.*

In an example, the founder of the US-based start-up property insurance business Kin has written, “When it comes to financial services, most people don’t want to think about it and the best thing I can do with tech is make it easier” (TechCrunch, 2017). Rather than having a multi-page form to fill in to apply for property insurance, Kin only takes three clicks: most of the data that would normally have been provided by the applicant – like the construction materials of their home – are provided from more publicly-available sources.

Fintech is also designed to be fast for the borrower. The field has developed: back in 2012, the fintech pioneer Lenddo – before they became purely a scoring business - processed a loan application within 1 business day, with an additional business day to send the funds¹⁶. Nowadays, however, the sector’s speed has increased. In the case of Kenyan lender Tala, the period has been reduced to two minutes (Forbes, 2016).

As shall be discussed below, this alleged simplicity of the decision-making process, or of the transaction, masks a hugely complex process occurring behind the scenes.

Inclusion: *Financial inclusion is bringing new people into the financial system.* The World Bank is calling for Universal Financial Access by 2020; this involves the 2 billion people who do not currently have access to a basic bank account having such access by 2020¹⁷. Fintech is described by the World Bank as playing a role in this (Miller, 2017).

The centrality of “Financial Inclusion” is critiqued by the academics Gabor and Brooks, who argue that it places the emphasis on the individual rather than structural change to give people more access: “F[inancial] I[nclusion] as a development paradigm, therefore, envisages no material change in the (changing) structures that generate marginality, but rather seeks to channel individual behaviour, through digital surveillance and education, to engage and identify with these structures” (Gabor & Brooks, 2016, p. 10). As a result, they argue, this sector is best not understood as part of an

¹⁶ Frequently Asked Questions from the website of Lenddo dates 9th December 2013, available from the Wayback Machine at Archive.org: <https://web.archive.org/web/20130129174319/https://www.lenddo.com/pages/faq>.

¹⁷ “UFA2020 Overview: Universal Financial Access by 2020”. World Bank website: <http://www.worldbank.org/en/topic/financialinclusion/brief/achieving-universal-financial-access-by-2020>.

“inclusion/exclusion binary” but rather as a system of creating “new financial identities that conform to the requirement of expanding financial markets” (Gabor & Brooks, 2016, p. 9).

Another potentially problematic area of the inclusion agenda is that of the risks surrounding discrimination arising from algorithms (Barocas, 2014). One of the key dangers emerging from algorithmic decision-making – for example, determining eligibility for credit – is the risk that this algorithm discriminates. To an extent, these issues are not being seriously addressed by many in the fintech field; rather than interrogating the decision-making process to see if it is genuinely fair, the questions of discrimination are not issues that they have considered. These issues are particularly problematic in the diverse nature of potential discrimination that is possible amongst the emerging markets where much fintech growth lies.

THE DEVELOPMENT OD CREDIT SCORING

Credit scoring is defined by Raymond Anderson (2007) as:

the use of statistical models to transform relevant data into numerical measures that guide credit decisions. It is the industrialisation of trust; a logical future development of the subjective credit ratings first provided by nineteenth century credit bureaux, that has been driven by a need for objective, fast and consistent decisions, and made possible by advances in technology (p. 6).

The history of the development of credit bureaus dates back to the 1840s, according to Josh Lauer (2008, p. 304). Mercantile credit reference agencies collected extensive files on small business owners, collecting information from local news stories, rumour and anecdote. The agencies “invented what was not just a highly coordinated system of disciplinary surveillance, but the very idea of financial identity itself. This new technology of identification became a key infrastructural component of the modern credit economy and, in turn, produced its own category of social reality” (Lauer, 2008, p. 304). This financial identity, Lauer argues, was not just the normative judgement on the character of the business-owners. Rather, it “offered the tantalizing possibility of rational calculation” (Lauer, 2008, p. 304) – credit reporting as part of the 19th century developments in statistics and accountancy. “The same ideals of objectivity and transparency that stimulated the quantification of populations, social phenomena, and commercial transactions were also manifest in the development of financial identity as a site of individual accountability” (Lauer, 2008, p. 305).

We can thus see the development of the credit agency in the context of the 19th century developments in statistics. Statistics, Ian Hacking argues, shaped social facts and the categories of which people fell, as well as facilitating the development of the bureaucratic apparatus of the state (Hacking, 1991). Thus, the developments of the 19th century served to shape the characterisation of people, and in particular served to give them an “objective” financial identity. They did not reflect the existing identities, but created them.

Just as the 19th century led to shifting notions of character, categorisation and financial identity, so must we see what changes the developments of the 21st have wrought. If fintech is as “disruptive” as claimed, it too must bring a change in how we conceive financial identity. We see the vast increase in “objective” sources of data, collected in unprecedented volume, analysed using new statistical techniques such as artificial intelligence and machine learning.

Prior to the 1960s, much lending was primarily based on the personal knowledge of each other (for example, between a local branch bank manager and the customer). However, with the increase in the volume of people seeking credit, and its availability, this meant that this was no longer practical. Thus, this fostered the emergence of other, allegedly objective, ways of offering credit.

The alleged objectivity of credit scoring also has the purported consequence of preventing discrimination that was seen to be introduced by offering lending based on personal interactions: “This objectivity helps lenders ensure they are applying the same underwriting criteria to all borrowers regardless of race, gender, or other factors prohibited by law from being used in credit decisions” (Mester, 1997, p. 8). It can be questioned as to whether this was ever actually achieved. As more of these credit decisions are made by algorithms, the issues of discrimination only rise¹⁸.

There is an increased move to make aspects of it more transparent and communicated to the individual (Mazer, 2017). However, there is a tension, Mark Kear argues, between the dual role of credit scoring: between its role as an evaluator of financial behaviour and its role in the modification of financial behavior (Kear, 2014). This is the problem that leads individuals to “game the system”, if they understand how internal workings of credit decision-making works. This is, as shall be discussed below, a tension that has not been resolved by the credit scorers discussed below.

¹⁸ See case studies of discrimination and algorithms at: <https://medium.com/@privacyint/invisible-manipulation-efb4243011ca>.

“ALTERNATIVE CREDIT SCORING”

There has been a vast increase in the scope of the data that is potentially used by some credit scorers. The needs of “thin-file” or “no-file” customers have been a group that credit scorers have focused on for a while; for example, in 2004, the US agency FICO introduced a score for this group, making use of data from utility and rental companies, payday lenders, and other sources that had previously not played into their scoring (Anderson, 2007). However, the use of the sources of data has increased spectacularly. Given that this sector targets those without an existing credit history, this means that most of the potential market is amongst the poorest and most vulnerable in society.

“All data is credit data”¹⁹, as the CEO of Zest Finance and former Google CIO Douglas Merrill has famously said. Data that would have been considered irrelevant – or even absurd – to determining an individual’s credit risk is now leveraged for credit scoring: as the examples illustrated below show, how we arrange our phone’s contacts or even how often we call our relatives become a factor in credit scoring.

ALTERNATIVE CREDIT SCORING IN KENYA

Some of the issues of alternative credit scoring can be seen in examples from Kenya. These can ask for very personal information from those seeking a loan. This includes data like the individuals call history, the contacts in their address book, and even the content of their SMS messages. The Omidyar Network, in a survey of the consumers of alternative credit scoring services in Kenya and Colombia, asked which data they considered most private. Calls and texts were considered private by 82% of respondents in Kenya and Colombia, above data such as medical and financial data (Costa, Deb, & Kubzansky, 2016). As the examples in this section show, this is amongst the key data sources used for alternative credit scoring in Kenya.

An example is the fintech startup Tala. Tala was founded by the current CEO, Shivani Siroya. Headquartered in Santa Monica, California, it offers loans in countries including Kenya and the Philippines. The data scientists who analyse this data are based in California, and customer data is

¹⁹ Just the Facts. Yes, All of Them. The New York Times, published March 25 2012. Available at: <http://query.nytimes.com/gst/fullpage.html?res=9A0CE7DD153CF936A15750C0A9649D8B63&pagewanted=all>.

⁵⁰ Simposio Internacional LAVITS | Vigilancia, Democracia y Privacidad en América Latina: Vulnerabilidades y resistencias. 29 y 30 de noviembre, 01 de diciembre de 2017. Santiago, Chile, p. 368-389. ISSN 2175-9596

also held in the US. All of the algorithms, for Tala's operations all over the world, are developed entirely in California. Tala's founding, as told by their Kenya Country Manager Rose Muturi, is that Siroya saw the smartphones of the most vulnerable: "The beauty is – the information in that can be used for a digitised financial identity."²⁰ Tala, previously known in Kenya as Mkopo Rahisi, started operating in Kenya in 2014²¹.

Tala offers small loans up to US\$500 using an app, available on Android via the Google Play store²². This app asks for a wide range of permissions, including access to installed apps, contacts, precise location via GPS, the content of SMS messages, and the call log²³. The Tala app uploads data to Tala's US-based servers every 24 hours, whether the user has even opened the app or not²⁴. Customers are encouraged to keep the app on their phone, even if they have been rejected: the app will continue to send their data back to Tala²⁵. If there is a change in the model used by Tala to decide who is offered credit, this could mean that people who had formerly been rejected were now offered loans²⁶. From the data provided by the app, decisions are made about whether and how people repay their loans. One of the key pieces of data is to analyse the content of SMS messages for the records of M-Pesa payments. These are very valuable records to analyse; for example, if the person seeking a loan has a small business, it is a good measure of the health of the business and the money entering and leaving the business. But, according to Tala, it can also be used to analyse how people are actually using their loans, as frequently the money they receive from Tala will leave someone's M-Pesa account immediately (for example, to pay school fees or a hospital loan, or an individual)²⁷.

But the analysis of the data by Tala extends beyond this, to make analyses based on data and information that are, at best, unexpected to be used for credit scoring. For example, Tala analyses call logs: their analysis has found that people who make regular calls to family are 4% more likely to repay their loan. To do this analysis, they need to know who your family is: from the content of text messages that call someone "mama", and the pattern of calls²⁸.

²⁰ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²¹ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²² Tala app on Google Play: <https://play.google.com/store/apps/details?id=com.inventureaccess.safarirahisi>.

²³ Tala app on Google Play: <https://play.google.com/store/apps/details?id=com.inventureaccess.safarirahisi>.

²⁴ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²⁵ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²⁶ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²⁷ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

²⁸ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

Tala is not the only company following this business model in Kenya. Another example is Branch – also based in California, but operating in Kenya and looking to expand in other developing markets. Branch also offers loans via its app on Google Play²⁹, with the app requiring a similar set of permissions as Tala³⁰. As many of the people borrowing are running small businesses, access to the data held in M-Pesa SMSes on a phone is valuable: a small business owner would not necessarily understand what a profit-and-loss statement is, as a Branch employee explained, but Branch can find that information from the M-Pesa SMS messages.

A significant issue with the fintech companies in Kenya, is that they keep access to the data. They keep the data – and, in some cases analyse it, even if the user has stopped being a customer of theirs, and has deleted their app. Tala encourages people, even if they have been rejected for a loan, to keep the app; if they do delete it, Tala retains their data. This is so that, if the customer returns later, they can reinstall the app, go through some simple KYC checks, and be able to borrow again³¹. Branch is explicit that it keeps the data even after a user uninstalls the app, and admits it is possibly doing further analysis on it, “we have that right.”³²

Another problem is that much of the fintech startup capital is funded by venture capital; this means that startups are looking for an exit strategy, often within 6-8 years³³. In many cases, this will be that the fintech is sold. As the Branch privacy policy makes explicit, “We may disclose your personal information to third parties... if Branch International or substantially all of its assets are acquired by a third party, in which case personal data held by it about its customers will be one of the transferred assets.”³⁴ This does not paint a rosy future for the protection of personal data in the fintech space.

BEHAVIOUR CHANGE AND ALTERNATIVE CREDIT SCORING

If credit scores – of the traditional and alternative varieties – alter behaviour, then in what ways is it

²⁹ Branch app on Google

Play:https://play.google.com/store/apps/details?id=com.branch_international.branch.branch_demo_android.

³⁰ Branch app on Google

Play:https://play.google.com/store/apps/details?id=com.branch_international.branch.branch_demo_android.

³¹ Privacy International interview with Rose Muturi, Tala, 5th June 2017.

³² Privacy International interview with Daniel Szlapak, Branch, 6th June 2017.

³³ “Venture Capital with a Twist: How to Pitch an Impact Investor”, Omidyar Network webpage,

<https://www.omidyar.com/blog/venture-capital-twist-how-pitch-impact-investor>.

³⁴ Branch privacy policy <https://branch.co/pp>.

altered? The traditional credit score encourages certain patterns of behaviour: for example, encouraging people to enter into relatively small credit arrangements to boost their file (for example, applying for a credit card). Then, to become the “good consumer”, the individual repays their debts, and enters into more credit arrangements. This is far from unproblematic, and is not without its contradictions – witness the financial crisis of 2007. However, there is a logic to the system, in that it encourages the replication of the consumer credit system via a scoring mechanism. The behaviours that the scoring modifies are, by and large, limited to the financial sphere.

However, alternative credit scoring raises new concerns. As scoring modifies behaviour, then consider what behaviours alternative credit scoring modifies: how a person arranges their address

book; their behaviour on social media; where they go; who they call; who they are friends with. It becomes difficult to see how, for example, influencing behaviour on how someone arranges their phone’s contact lists is of any kind of benefits to the fintech sector. The logic here is far more obtuse. Furthermore, as it is influencing behaviour (and relationships) beyond the financial sphere, it is not at all clear that this is legitimate.

CONCLUSION

Fintech is a diverse and growing sector, and has the potential to bring new, accessible financial products to previously underserved populations. But at the same time, there is a thirst for data in the sector that is highly problematic. If the sector does not come under the regulation necessary to control this impulse, particularly in those areas with limited data protection regimes in place, then the prospects that fintech will reach its full promise are bleak.

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