Sustainability in the Age of Platforms

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Sustainability in the Age of Platforms

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LIST OF ACRONYMS AND ABBREVIATIONS

AI	Artificial intelligence
AACA	Alibaba anti-counterfeiting alliance
B2B	Business to business
B2C	Business to consumer
C2C	Consumer to consumer
CEO	Chief executive officer
EEA	European economic area
EBITA	Earnings before interest, taxes and amortisation
ESG	Economic, social and governance
eWTP	electronic World Trade Platform
GDP	Gross domestic product
GHG	Greenhouse gas
GRI	Global Reporting Initiative
ILO	International labour organisation
IP	Intellectual property
IPR	Intellectual property rights
ISO	International organisation for standardisation
IT	Information technology
JRC	Joint research centre
KYC	Know your customer
LEED	Leadership in Energy and Environmental Design
LGBT	Lesbian, gay, bisexual and transgender
LGBTQ	Lesbian, gay, bisexual, transgender and queer
MoU	Memorandum of understanding
OECD	Organisation for economic co-operation and development
PWD	People with disabilities
R&D	Research and development
SAFA	Sustainability Assessment of Food and Agriculture systems
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable development goals
SMEs	Small- and medium-sized enterprises
UN	United Nations
UK	The United Kingdom
US	The Unite States
WWF	World wide fund for nature
YoY	Year over year

PREFACE

BY WILLIAM ECHIKSON

It is the giant digital debate of the next decade: how to manage the explosive emergence of online platforms. Until recently, governments around the globe allowed and encouraged the unfettered growth of online marketplaces such as Alibaba and eBay, social networks such as Facebook and YouTube, service providers such as Uber and Airbnb, and Apple and Android mobile phone app stores. They believed – correctly – that these platforms allow unprecedented access to information, new goods and services. Suddenly, small businesses are able to reach global markets, consumer choice is broadened and civic participation increased. What a boon for sustainability!

Yet this giant success is now coming under increased scrutiny. Just like the printing press and the industrial revolution, the digital platform revolution risks disrupting traditional businesses, undermining personal privacy and amplifying hate speech. Governments around the globe are waking up to the growing power of online platforms and demanding that they assume additional responsibilities.

Anti-trust cases are proliferating; in Europe, they have already led to multi-billion euro fines against Microsoft and Google. The United States is soon expected to fine Facebook up to five billion dollars.

New legislation regulating platforms is already coming into force. In 2017, China imposed a controversial cybersecurity law, which puts forward strict data localisation regulations and undermines privacy protections. This year, the European Union approved a new regulation requiring platforms to increase transparency towards their business customers. Japan has introduced a similar proposal and the United Kingdom published an online harms white paper calling on platforms to "take reasonable steps to keep their users safe and tackle illegal and harmful activity on their services".

Platforms are pressed to up their game in a wide variety of areas. All are being forced to pay additional taxes. Social networks are being required to protect privacy and combat illegal speech. Service providers must improve their treatment of their workers and meet the same labour standards as traditional industries, in fields such as varied as taxi transport and hotel accommodation. E-commerce marketplaces must make sure the products being sold are authentic and safe.

This study offers insights into how new digital platforms, born in the last few decades, have opened up new economic, social and environmental horizons. It looks at the power of successful platforms and shows how many are accepting new demands for accountability. At the same time, it examines their failures to live up to new demands from both governments, business partners and customers.

The framework for examining platforms' sustainability is the United Nations' Global Sustainable Development targets. The study attempts to judge platform performance in relation to the economic, social and environmental sustainability.

The focus is on online marketplaces. Compared to other types, these platforms concentrate on selling physical products and offer a clear economic, social and environmental impact. Four global players receive detailed analysis in this paper. One is American – eBay. Another is Japanese – Rakuten. The two others are Chinese – Alibaba and Ping An's Lufax. Together, they operate across the globe and provide insights to similar successes and challenges.

It is a difficult task to find the right balance between encouraging responsibility while avoiding the destruction of the bright new opportunities opened up by online platforms. In their desire to ensure a level playing field, governments must avoid cracking down on platforms just because they threaten traditional industries. They should avoid increasing liability on platforms to a point where they cause them to collapse.

While marketplaces need to fight to keep counterfeits off their sites, they cannot be held responsible for preventing counterfeits among the billions of products their merchants sell. What if Airbnb became responsible for the conduct of its hosts and its guests, or Uber for its drivers and riders? Instead of taking off, the platforms will face a crash landing.

The Internet and its platform babies have grown up. Alibaba, eBay, Rakuten and Lufax are big and powerful, not just hosting products, but shaping how merchants sell and consumers purchase. Merchants on these platforms sell as many if not more products than almost all brick and mortar stores. These economic powerhouses no longer are like a post office, delivering a letter, in which they should not have visibility over its content. In many cases, they also are shaping the content of the letter. Platforms themselves realise that they don't want their users to feel misled or unsafe – and accordingly must make additional efforts to promote economic, social and economic sustainability.

EXECUTIVE SUMMARY

Platforms raise profound questions about sustainability. Insufficient research exists on their economic, social and environmental impacts, and on ways to improve their sustainability. The platform economy is both a driver of sustainable – and unsustainable - production and consumption.

This study contributes to bridging this gap. It combines desk research with in-depth case studies to gain more insight into the impact of the platform economy on sustainability and to identify good practices. Since platforms come in different sizes and shapes and it is crucial to focus on a few comparable business models, the study analyses the sustainability of digital marketplaces operating on a global scale. Marketplaces have caused the 'death of distance'. With a few clicks of the keyboard, merchants are now able to sell products almost anywhere in the world, and consumers have gained unprecedented choice and convenience. The platform revolution has opened up myriad new opportunities as well as new challenges in meeting global sustainability goals.

As the platform economy grows, so does its impact on our economy, society and the environment. Online marketplaces are founded on the belief that everybody should be part of the global market. The principles of inclusiveness, growth and prosperity are embedded in marketplace business models. Yet, it remains unclear whether, on balance, these platforms are leading towards a sustainable world.

- Economic sustainability. Online intermediaries connect rural merchants to the global marketplace. They provide entrepreneurs from remote areas with additional income channels and help catapult them out of the poverty. Micro and small enterprises benefit from the platform economy, especially in emerging markets. Many marketplaces press for free trade. They often support local brick and mortar shops by training them and assisting their digital transition. Platforms play a prominent role when it comes to financial inclusion, offering loans and financial services to previously underserved rural residents and low-income people. Although they make massive investments in new technologies such as artificial intelligence, platforms pay less attention to specific investments tailored to sustainable development. Because Internet companies are able to complete transactions without a physical presence in a country, it represents a challenge to ensure they pay the correct amount of taxes where they create value. Additional research is required to understand whether the emergence of global marketplaces spurs or harms competition.

- Social sustainability. The impact of the platform economy on employment conditions and workers' access to social protection depends on the platform's business model. Large online marketplaces employ thousands of full-time workers. They typically provide social security benefits, paid leaves, retirement plans, training as well as stable and high salaries. Most marketplaces are advanced in pursuing gender equality. They contribute to the inclusion of disabilities both within their workforce and in the global economy. The platform economy reduces discrimination both at the transaction and the company level. By contrast, marketplaces exercise limited or no control over third-party workers. Adherence to the International Labour Organisation standards for decent work are generally not displayed on marketplace websites. They fail to disclose the share of young employees and to report figures on work accidents. They could also put additional effort into anti-harassment policies. Fair relations between large digital platforms and their business users, especially SMEs, still need to be ensured.

- Environmental sustainability. Marketplaces are using technology to preserve the environment. They are investing in energy efficient solutions for their data centres and for their offices, integrating renewable energy in their sourcing strategy and enforcing responsible water management practices. Most marketplaces, however, fail to set targets and measure their progress. In addition, they lack a comprehensive strategy to fight climate change. The role of logistics services is pivotal in reducing the environmental footprint of online marketplaces. Vertically integrated firms need to push their courier service partners to adopt a more sustainable shipping system. Yet when firms act as mere intermediaries, without owning or managing any logistic assets, their ability to control their impact on sustainable consumption and packaging is limited.

In conclusion, while the platform economy contributes to the achievement of sustainable development, room for improvement remains. Operational recommendations to improve the sustainability of online marketplaces target four main areas:

1. Introducing a harmonised sustainability reporting system. A reporting system adopted by all the players would allow to identify the strengths and weaknesses of their sustainability strategies. It would entail the definition of clear targets and the assessment of the progress towards them, which is pivotal to adjust their strategy over time and achieve higher goals.

2. Improving marketplaces' sustainability. As mentioned, platforms could be more sustainable in several areas under their direct control such as relations with their business users, environmental impacts of their data centres, investments tailored to sustainable development, aggressive tax planning. They should up their efforts towards sustainability, set up a clear strategy and then measure their performance, disclosing more information to their stakeholders.

3. Improving sellers' sustainability. Marketplaces must encourage third-party sellers to become sustainable. They should encourage reporting on merchants' social and environmental commitments, such as if they are part of global initiatives in the field or if they have internationally recognised sustainability certifications.

4. Improving consumers' sustainability. By making the sustainability of merchants more prominent, consumers may also base their purchase decisions on how sustainable a seller is. Marketplaces could run awareness campaigns to foster sustainable consumption. They could allow consumers to rely on green logistics options or to compensate the emissions linked to their purchases and reward consumers who choose the 'sustainable' sellers. In this way, a virtuous circle will start, where consumers will prefer sustainable sellers and sellers will be encouraged to adopt sustainable business practices.

INTRODUCTION

Online platforms have caused the 'death of distance' (Cairncross, 1997). With a few clicks of the keyboard, merchants who once could only sell in their small local markets are now able to send products almost anywhere in the world. Consumers have gained unprecedented choice and convenience. This platform revolution has opened up myriad new opportunities as well as challenges in meeting global **sustainability goals**.

While platforms reduce the isolation of marginalised populations living in remote areas and allow workers kept out of the traditional labour market to find new jobs, these new opportunities are matched by new dangers. Platforms may sidestep responsibilities of traditional brick and mortar firms and fail to provide social protection. By enabling new forms of sustainable consumption and fostering behavioural change among consumers, the platform economy can play a pivotal role in the environmental sustainability. At the same time, platforms may cause more waste and long-distance shipping, and higher energy usage.

Against this background, this report contributes to answering **two fundamental questions**:

- Is the platform economy sustainable?

- If not, how can its sustainability be ensured?

Since platforms come in different shapes and sizes, it is crucial to focus on a few comparable business models. This study analyses the sustainability of digital marketplaces and is organised as follows:

- Chapter 1 includes a review of the main **literature** on digital platforms and their sustainability.

- Chapter 2 puts forward a **framework** to assess the sustainability of online marketplaces.

- Chapters 3 to 6 present four **case studies** (Alibaba, eBay, Lufax and Rakuten).

- Chapter 7 summarises the **main findings** of the study and includes a set of **operational recommendations**.

1. LITERATURE REVIEW

BY ANTONELLA ZARRA, KAROLIEN LENAERTS AND ZACHARY KILHOFFER

The **platform economy** is flourishing across the globe. Although some platforms have developed into multi-billion-dollar businesses, most online platforms remain small in terms of employment and revenues when compared to more traditional companies. The platform economy has already had a **disruptive impact** on many often highly-regulated sectors, including retail, transportation, accommodation, and finance. As the platform economy expands in the number of users, workers and platforms, its economic and social importance is bound to increase.

Because platforms represent such a new phenomenon, research on them is scarce and thin. Little is known about online platforms and their contribution to **sustainability**. This study contributes to filling this knowledge gap. It begins with a brief review of the **literature on the sustainability of the platform economy**. The review covers both academic literature, policy reports, publications from social partners, think tanks and international organisations, and the mainstream press. The scope of the literature review is global and takes a broad perspective when it comes to sustainability.

1.1   Defining digital platforms

Despite their importance, **no single accepted definition** exists of an online platform. A broad definition includes **sites on which goods or services are shared or traded between users, on a temporary or permanent basis, for a price or free of charge** (see Kilhoffer *et al.*, 2017). Under this view, the platform economy encompasses online job portals, social media websites, online search engines, e-commerce sites, sharing economy sites, and other websites. It includes platforms such as Amazon or eBay, which function as online marketplaces on which goods are sold, and labour platforms such as TaskRabbit or Uber, on which services are offered. Another example is Etsy, which allows individuals to make a business out of a hobby making craft products. Since digital jumps over borders with ease, many platforms such as Google, Alibaba, Amazon, Airbnb, Etsy, Facebook, LinkedIn and Uber operate globally.

In their 2016 paper, Codagnone *et al.* (2016a, p.12) narrow the definition. For them, the digital platforms operate as two-sided markets, which match different groups of users and enable to increase the scale and speed of transactions. At its core, platforms offer intermediation, lowering transaction costs. The intermediation may be business to business, businesses to consumers, or individuals to individuals.

A number of additional terms describe the proliferation of online platforms. Examples include **sharing economy, collaborative economy, on-demand economy, and gig economy** (Kilhoffer *et al.*, 2017). While all these terms are used indiscriminately, they refer to very different phenomena (Lenaerts *et al.*, 2018). Schmidt (2017), for example, identifies 'gig work' (location-based tasks) and 'cloud work' (web-based tasks) as separate types of platform work. The European Commission put forward a definition of 'collaborative economy', which comprises "business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals" (European Commission, 2016).

This **lack of conceptual clarity** complicates research. It creates difficulties to compare results from different studies on the size and growth of the platform economy. Some have attempted to create a **harmonised approach**. Recent literature proposes the concept of 'platform economy' rather than 'sharing' or 'collaborative economy'. This corresponds to the views of social partners and policymakers, who argue that sharing or collaborative economy is misleading to describe commercial operations. Platform economy is neutral (Kenney and Zysman, 2016).

Given all their transactions and interactions, platforms collect a **substantial amount of data**. Many use some sort of reputation systems to instil trust. The platform economy is further characterised by **network effects**, which means that the value of a product or service increases as the number of users rises (Shapiro and Varian, 1999).

1.1.1 *Classification and geographical distribution*

Even if we use a narrow definition of platforms, the concept remains broad and includes a wide variety of platforms, sectors and activities. This is problematic. Different platforms present different **challenges and opportunities** for policymakers, businesses and users. Renting out a flat via Airbnb is not equivalent to driving an Uber driver or hawking products on eBay (European Parliament, 2017).

Experts have attempted to distinguish between various types of digital platforms. They separate **commercial and non-commercial platforms** (European Parliament, 2017)[1], **labour platforms, capital platforms and platforms offering both** (Ilsøe and Madsen, 2018)[2], or according to the **platforms' business models** (Fabo *et al.*, 2017).

This chapter follows the classification developed by Evans and Gawer (2016). Their approach appears to be the most exhaustive. They distinguish between four types of platforms:

- **Transaction platforms** such as eBay, Tencent and Uber, facilitate transactions between users that would be impossible or difficult to establish otherwise. eBay makes it possible for a US resident to find and buy products from a Chinese resident. Transaction platforms create **multi-sided markets** as they promote interactions between different groups of users (e.g. individuals or companies as buyers and/or sellers; see Rochet and Tirole, 2003).
- **Innovation platforms** are technological building blocks that support the development of complementary services or products by users. An example is the iPhone, for which anyone can develop an application (app).
- Platforms that combine features of transaction and innovation platforms **are integrated platforms** (e.g. Google).
- **Investment platforms** include companies that have developed a platform portfolio strategy and act as a holding company, active platform investor or both such as Priceline Group.

Although online platforms are flourishing around the world, they are more prevalent in **North America and Asia** than in other regions. Figure 1 shows the number and size of transaction, innovation, integrated and investment platforms. Transaction platforms are strongest in Asia, North America and Europe. Innovation and integrated platforms are most present in North America, but less so in Europe and Asia. Within Asia, China has the largest platform economy (Evans, 2016). These geographical differences are reflected in the valuation of the platforms (shown in Figure 2). It is important to recall that platforms such as Alibaba are globally active.

To analyse the platform economy, Accenture (2016) developed **a platform readiness index**. It consists of five components of the economic, business and regulatory environments in which platforms operate: i) digital user size and savviness, ii) digital talent and entrepreneurship, iii) technology readiness, iv) open

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[1] Non-commercial platforms are 'true sharing' platforms that are free of charge or on which only the costs are covered (e.g. carpooling platforms where the cost of the ride is shared and there are no additional fees). Terms as sharing economy or collaborative economy are increasingly understood to only include non-commercial platforms.

[2] Ilsøe and Madsen (2018) identify capital platforms as platforms on which assets are made available for rent (e.g. Airbnb) and labour platforms as platforms on which tasks are listed (e.g. UpWork). Labour platforms can further be differentiated depending on the type of activities they intermediate (e.g. offline or online work, low-skilled or high-skilled activities, etc.; see De Groen *et al.*, 2017).

innovation culture and v) adaptive policy and regulation. When calculating this index for 16 G20 countries, the best performers were the US, China, the UK, India and Germany (in 2015). Other developing and European economies lagged behind.

Despite these imbalances, the development of the platform economy is accelerating worldwide. In Africa, David-West and Evans (2016) find a growing number of online platforms that overcome constraints such as lack of infrastructure; such platforms can contribute to job creation and development in the continent. ASEAN highlights the growth of the platform economy in Southeast Asia. The Philippines, Indonesia, and Singapore represent promising markets for platforms to operate and grow (ASEAN, 2016).

Figure 1. Transaction, innovation, integrated and investment platforms by region
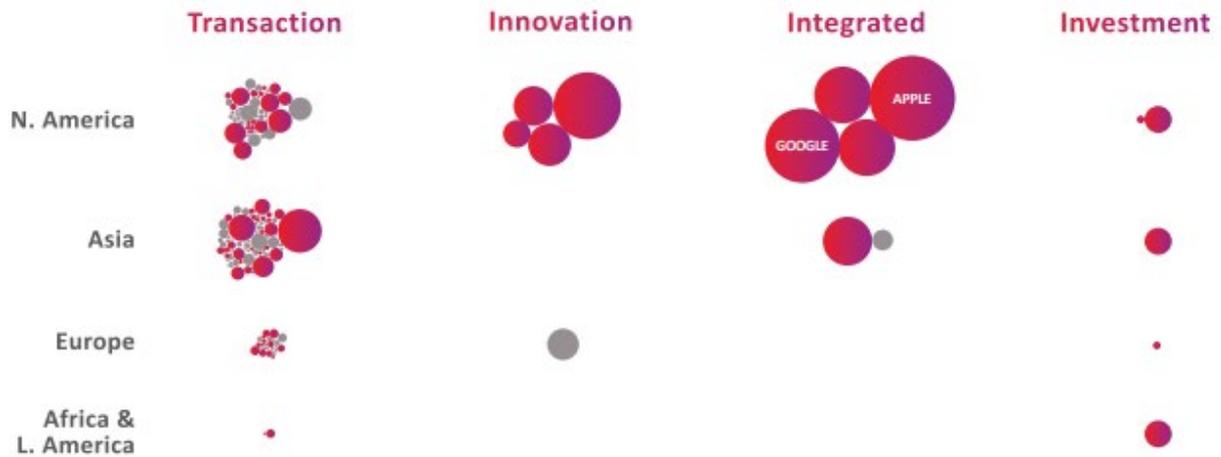
Source: Evans and Gawer (2016, p16).

Figure 2. Valuation of online platforms established in different regions
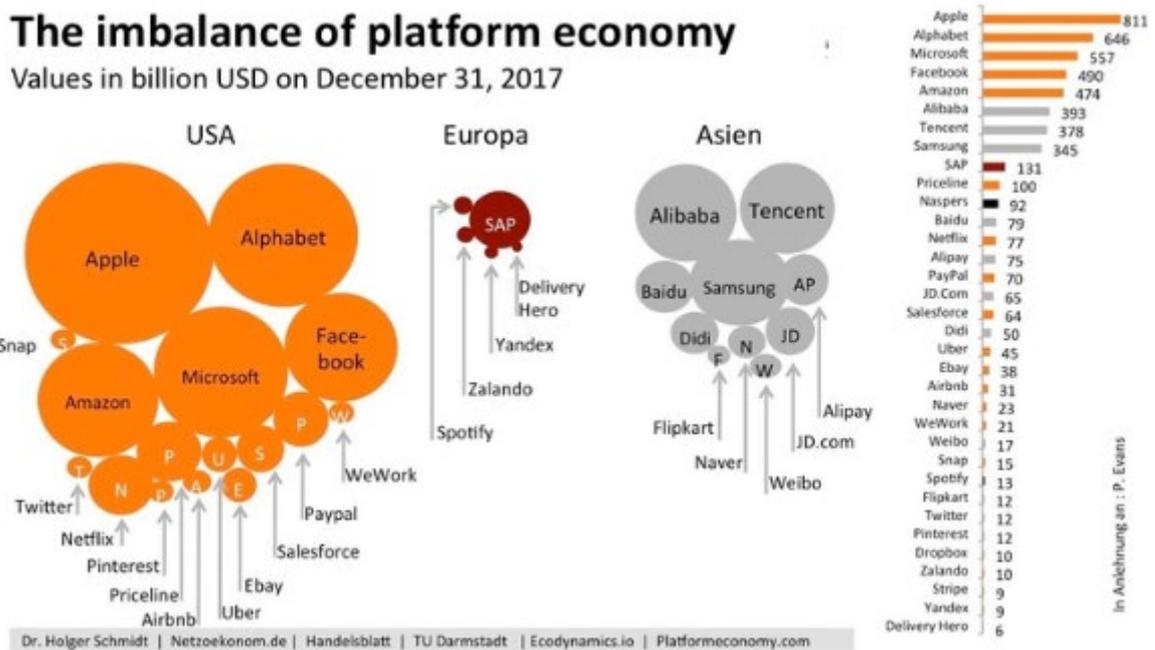
Source: Brand (2017), adapted from a chart prepared by Dr H. Schmidt and data from P. Evans (original in German).

1.1.2   Online marketplaces

Since platforms come in different sizes and shapes, it is crucial to focus on a few comparable platforms. This study focuses on **online marketplaces**. An online marketplace is defined as a **digital platform on which goods are traded by third parties in exchange for money and transactions are processed by the marketplace operator**. Both businesses and individuals are empowered and serve as the client and/or provider. Examples of well-known online marketplaces include Alibaba, eBay, Etsy and Amazon. If we keep in mind the Evans and Gawer (2016) classification, these are only transaction platforms and integrated platforms. Alibaba, eBay, Etsy and Amazon host merchants and purchases are conducted on the platform. This contrasts with classified ad platforms which connect buyers to sellers' websites where the exchange is conducted.

For merchants, it is cheaper, faster and simpler to set up shop and reach a large audience on an online marketplace than to build one's own website.[3] Some online marketplaces fashion a hybrid business model, because they enable transactions between third parties but also sell their own goods. The most prominent example is Amazon.

Different types of online marketplaces exist. C2C marketplaces facilitate transactions between individual consumers. B2C marketplaces provide a platform for businesses to sell goods. Most online marketplaces such as Amazon and eBay combine C2C and B2C services.

1.2   Sustainability of platforms

While platforms create giant new **opportunities** for businesses and workers, they bring **risks**. Digital platforms and online marketplaces **globalise value chains**. They leap over national borders and disrupt traditional businesses, making it difficult to judge their impact **on sustainability.**

Platforms allow people and business located in remote areas to become actors of the global growth and development. They have the potential to promote social inclusion, generate income opportunities, ensure access to cheaper goods and services, and ultimately improve welfare (Ben *et al.*, 2017). Workers are able to increase their incomes and win freedom to work when they want (Graham *et al.*, 2017a).

At the same time, platforms increase competition between workers, displace jobs. They encourage an increase in global production and consumption, irrespective of considerations of sustainability. Some authors highlight that platforms lead to an explosion of offensive speech (Gillespie, 2018).

1.2.1   Economic, social and environmental sustainability

Sustainability means developing practices to meet the needs of the present generation, without compromising the ability of future generations to do so (World Commission on Environment and Development, 1987, p.43). Sustainability includes three main pillars: **economic, social and environmental sustainability** (Elkington, 1994). The three pillars interconnect and reinforce each other (Figure 3). The United Nations (UN) emphasises the three pillars in its 2030 Agenda for Sustainable Development (UN, n.d.).

- **Economic sustainability** is linked to economic development, growth, productivity, profitability, stability of prices and markets, and is referred to as the 'profit' pillar (Elkington, 1994; Kuhlman and Farrington, 2010). In a business context, this pillar refers to the profitability of a company in the short and long run, which can be measured by indicators such as revenues and market capitalisation. Economic sustainability refers to the ability for companies to compete fairly in a

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[3] For further details, see: https://www.websitemagazine.com/blog/an-overview-of-online-marketplaces.

sector. It includes respect for copyright, prevention of counterfeit goods (OECD-EUIPO, 2016), and avoidance of anti-competitive practices (Yang and Ji, 2016).

- **Social sustainability** refers to equity, equality, well-being, inclusion, health, identity, poverty and similar issues. It is described as the 'people' pillar as it captures the social development of a society (Elkington, 1994; Kuhlman and Farrington, 2010). In a business context, social sustainability is linked to a company's clients and stakeholders as well as its workforce and suppliers (through the value chain). According to Kuhlman and Farrington (2010), it is difficult to separate economic from social sustainability, and both concepts are often considered together.

- **Environmental sustainability**, or the 'planet' pillar, is linked to the environment, biodiversity, renewable resources and climate change (Elkington, 1994; Kuhlman and Farrington, 2010). In a business context, this pillar reflects the impact of a company on the environment and its use of (renewable) resources. eBay, for example, reports on its environmental impact in terms of energy consumption, electricity sources, greenhouse gas emissions and water consumption.[4]

Figure 3. The three pillars or areas of sustainability
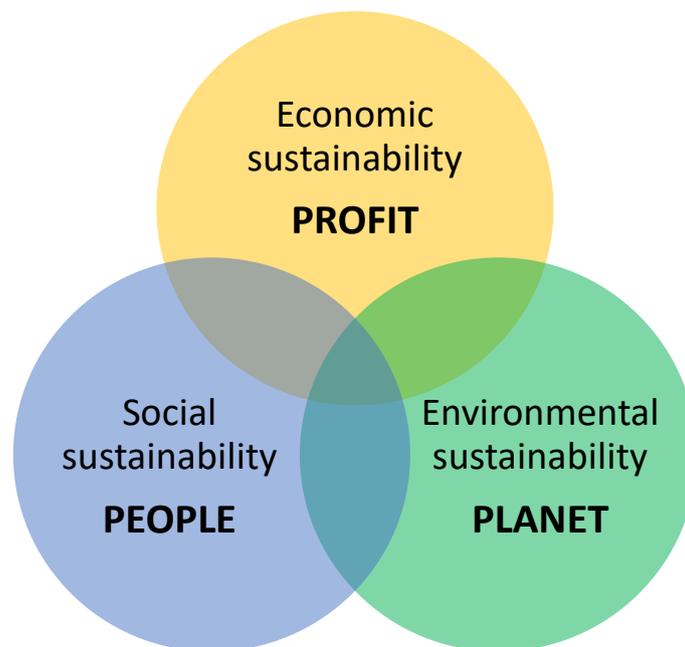
Source: Authors' own elaboration.

1.2.2 *Economic, social and environmental sustainability in the platform economy*

The platform economy's economic, social and environmental sustainability has received little attention (de Reuver *et al.*, 2017). Although some literature exists on each of these three sustainability topics, most evidence is anecdotal and focuses on specific cases, without engaging the larger picture. This work is summarised in what follows.

The platform economy has the potential to serve as a pathway to sustainability (Heinrichs, 2013; The Asian Foundation, 2017). Similarly, Botsman and Rogers (2010) maintain that the platform economy contributes to sustainability ('sharing not buying') in its sharing of under-utilised assets. The Partnership for Online Platforms & Sustainable Development[5] **links the platform economy to the UN's Sustainable Development Goals (SDGs)**. It provides examples of how Asian platforms are tackling these challenges

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[4] For further details, see: https://www.ebayinc.com/impact/environmental-footprint/

[5] For further details, see: http://popsdev.org

(Permadi, 2018) through crowdfunding. In Indonesia, WeCare.id[6] provides access to healthcare for patients who cannot afford this themselves (linked to SDG 3: good health and well-being). In the Philippines, Cropital[7] ensures access to finance for farmers (linked to SDG 1: no poverty). Beyond crowdfunding, platforms contribute to sustainability by promoting the sale of sustainable, quality products.[8] Fairmondo[9], a German online marketplace, brings together cooperatives which ensure the sale of sustainable products. The Asian Foundation (2017) describes platforms as **drivers of inclusive growth**.

Economic sustainability

The platform economy represents an **economic opportunity** for companies to explore new business options, and for individuals to monetise their assets, time and skills (Martin, 2016). Platforms help micro and small companies integrate into global value chains, encourage women to become economically active and support human capital development (The Asian Foundation, 2017; Liang *et al.*, 2017).

Although several platforms have developed into large, successful companies, such as Alibaba, Amazon, Tencent or Uber, most online platforms have **limited activity and a small user base**, and struggle to scale.

The platform economy is composed of young companies, with limited chances of survival (Mäschle, 2012). More than 80% of the 200 labour platforms examined by Fabo *et al.* (2017) were created after 2010. A high level of volatility characterises the platform economy, with new platforms emerging, existing platforms disappearing or merging with other platforms, according to Evans (2016), who scrutinised a series of mergers and acquisitions among Asian platforms. The **sustainability of platforms as businesses** appears uncertain, and is influenced by the macroeconomic conditions (Daniel *et al.*, 2004).

Online marketplaces create new opportunities for entrepreneurship (Kenny and Zysman, 2016), and the products offered on them are moving up the value chain (Daniel *et al.*, 2004). At first, low cost products dominated online trade. Today, even luxury products are sold. eBay started as an online marketplace for inexpensive good; it has then expanded its offer to more expensive items such as apartments and automobiles (Hasker and Sickles, 2010).

The difficulty in establishing a successful online platform lies in the need to **organise a two-sided marketplace**. Both suppliers and consumers need to use the platform instead of a competing one. Consider FLAVR, a Belgian platform that connected hobby chefs with those looking to buy a home-cooked meal. Despite widespread press attention, FLAVR failed to attract enough home chefs and potential clients, to gain a critical mass. It went out of business. TakeEatEasy came up with the idea for bicycle couriers to deliver meals to homes, only to see rivals Deliveroo and UberEats push it out of business. Another danger is for transactions to move off platforms. Once a relationship between a client and service provider is established, there is little to prevent this leakage.

The platform economy is characterised by **winner-take-all dynamics**, as Kenny and Zysman (2016) note. Out of the new platforms that emerge each year, few will survive. This churn creates a challenge for economic sustainability. When only a few platforms control the market, competition is stifled (World Bank, 2019).

It is essential to assess how **rewards are distributed on online marketplaces** (Kenney and Zysman, 2016). Platforms gain income by raising **fees** on users or transactions, or through **advertising**. Platform owners, may be entrepreneurs and venture capitalists, or users in the case of cooperatives, reap the benefits.

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[6] For further details, see: https://wecare.id

[7] For further details, see: https://www.cropital.com

[8] By way of example see NESTA's work on digital social innovation (https://www.nesta.org.uk/project/digital-social-innovation/).

[9] For further details, see https://www.fairmondo.de

Platforms create substantial policy challenges because of their new business models. Platforms often provide services free of charge on one side of the market in exchange for user data, then proceed to monetise the same data on the other side of the market. When a great deal of a platform's value is derived from data, it creates a challenge for assessing its value, determining tax obligations, and applying anti-trust law (World Bank, 2019).

Governments have expressed concern about receiving their fair dues in the platform economy. The German government has argued that the platform economy has the potential to both increase and decrease tax revenues from workers and companies (Bundesministerium für Arbeit und Soziales, 2016). In policy and economic literature, some scholars have argued that standard competition tools are inadequate for "assessing the nature of these organisations, their behaviour, or their direct and indirect economic impact" (Moore and Tambini, 2018, p.8).

Besides the platforms themselves, **businesses using the online marketplace** to sell goods or offer services may struggle to survive or scale up (Daniel *et al.*, 2004). As online marketplaces bring together a high number of vendors and products are presented in a similar way across the platform, each individual company experiences a high level of competition. Daniel *et al.* (2004) explain that the market power of the suppliers and clients operating in a marketplace affect its sustainability; if a large buyer or supplier joins a specific marketplace, its usual suppliers or buyers are likely to follow so they can maintain the relationship. In a similar vein, platforms in dominant market positions may create issues for small businesses and individual users. If an e-commerce platform controls the majority of a given market, the platform's users risk becoming **reliant on the platform** due to a lack of viable alternatives. This potential power imbalance creates a difficult policy challenge. If a platform suspends users based on customer accusations of counterfeit goods or other prohibited items, or otherwise violating terms of service, small businesses could be put out of business, without a transparent arbitration process. At the same time, many brands argue that certain e-commerce platforms do far too little to prevent counterfeits being sold (OECD/EUIPO, 2016).

In 2019, the European Union approved a new platform to business regulation. It requires platforms to increase their transparency towards their business users. But it does not limit the ability of platforms to police their users.[10]

Overall, **limited data is available on the economic sustainability of platforms**.

Social sustainability

Working conditions on platforms – inequality, inclusion and discrimination – largely determine their social sustainability. Policymakers have expressed concern about the precarious situation of many **platform workers** and their **access to social protection** (Lenaerts *et al.*, 2018). In a world of digital platforms, Degryse (2016) finds authorities struggle to enforce laws and regulations related to working conditions, health and safety and other issues.

It is important to distinguish between **different types of platform work**. Employees of Amazon receive different treatment than workers on Amazon's crowdsourcing Mechanical Turk platform. The level of autonomy of the worker and the control exercised by the platform can have a significant impact on working conditions (Eurofound, 2018). Some platform workers enjoy the benefits of the flexibility and are free to choose their own working hours and set wages. Other platform workers experience much more control and are dependent on an algorithm that determines their working times and pay.

Another key distinction is that of where the worker is based geographically. As the research of Graham *et al.* (2017b) shows, wages and conditions may be perceived rather differently in the Global North versus

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[10] For further details, see: http://europa.eu/rapid/press-release_STATEMENT-19-2160_en.htm

South. Platform workers in the South can earn multiple times the wage they would earn in a more traditional job. In the Global North the opposite is often true.

Some platforms face criticism for poor treatment of their workers and union-busting tactics (Cunningham-Parmeter, 2018; Sainato, 2018). Because platform work can be precarious, the World Bank (2019) argues that a "guaranteed social minimum" needs to be implemented, as shown in Figure 4. Since proper taxation of platforms is not always straightforward, governments may struggle to raise sufficient revenues to pay for this social umbrella. Multinational corporations are incentivised to shift profits to zero- or low-tax countries (Clausing, 2016). The World Bank (2019) has discussed proposals to tax platforms at the same level as other companies.

Figure 4. Social protection and labour regulation for labour market challenges
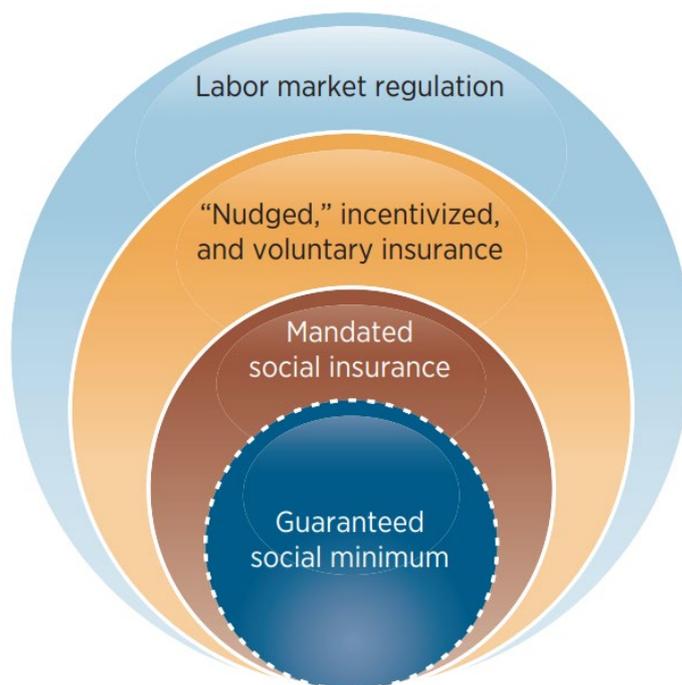
Source: World Bank, 2019.

The platform economy **encourages labour market participation and labour market transitions**. It offers opportunities to those who struggle to find employment such as migrants, single parents, retired people, people living in rural areas, or individuals with disabilities. China's second largest e-commerce company, JD.com, hosts more than 170,000 online merchants, many of whom live in rural areas (World Bank, 2019).

Large online platforms and marketplaces employ many full-time workers (Kenny and Zysman, 2016). In March 2018, the Alibaba Group, employed over 66,000 workers. These employees are well paid, and have access to social security and other benefits. Large online marketplaces often run corporate responsibility programmes. Alibaba eFounders Fellowship Programme aims to promote global youth entrepreneurship. Under its aegis, Alibaba hosts 29 Africa-based business owners.

Online marketplaces have the potential to help **alleviate discrimination** and **promote social mobility** in comparison to offline markets (Luca, 2016). On such platforms, indicators like **gender** or **race** are usually not reported, and no users are excluded on the basis of these indicators (Morton *et al.,* 2003).

Whether platforms **reduce or reinforce discrimination** depends on how service providers and clients present and exchange information. **People with disabilities** (PWD) may benefit from a degree of anonymity when working or conducting business on platforms (Kilhoffer *et al.*, forthcoming). On other

platforms like Airbnb, the opposite may apply, as hosts are expected to post pictures of themselves beside their listings. African-American hosts earn about 12% less than white hosts for similar listings, Edelman and Luca (2014) show. A follow-up study demonstrated that African-American guests were about 15% less likely to be accepted as guests than white guests (Edelman *et al.*, 2016).

Platforms encourage or require users to provide **personal information to increase trust** between parties. If personal information (e.g. race or gender) is removed and less personal information required, it may help reduce discrimination (Luca, 2016). Discrimination on online marketplaces and potential strategies to overcome it need additional research.

Environmental sustainability

Platforms offer the possibility of a **new form of sustainable consumption**, in which resources are shared or rented rather than bought, and environmental concerns are high on the agenda (Martin, 2016). In their assessment of the sustainability benefits of the sharing economy, Demailly and Novel (2014) classify platforms under the "redistribution model" (reselling and swapping objects). Martin and Shaheen (2010) estimate the greenhouse (GHG) emission changes resulting from people using car-sharing services in the US and found that car-sharing reduce **GHG emissions**. Demailly and Novel (2014) used data from the French Environment and Energy Management Agency to calculate the environmental impacts of a complete adoption of sharing models within French consumers. Results showed that it would result in 7% of savings in the household budget and 20% in savings of waste.

Yet the platform economy may generate negative environmental impacts. In a Science for Policy Report for JRC, Codagnone (2016b) argues that the first-order effects of the sharing economy can be expected to be positive, as sharing practices would reduce the production of new goods, leading to lower emissions. When looking at the second-order effects, however, some studies demonstrate that short-rentals app users travel more than traditional tourists, offsetting the claimed advantages of a 'sharing society'. As Airbnb reduces the price of accommodation and car-sharing lowers the cost of transportation, the number of trips may increase, creating additional pollution and congestion. Many researchers believe it is premature to draw conclusions about the environmental impact of platforms (Schor, 2014).

Auvinen (2017) explores the **environmental footprint** of the platform economy, discussing both potential positive and negative effects. Among the **positive effects** are a lower use of energy and natural resources and a more sustainable consumption, as processes and transactions are being digitalised. **Negative effects** result from the increased use of electronic devices and their short life, the need for massive data centres and computing power to maintain online marketplaces, and their global outreach and logistics, which lead to a higher production of devices, more transportation and increased oil consumption, more waste and a higher use of natural resources and energy. As Auvinen (2017, p.1) points out, it is still an open question whether the platform economy will be "'more with less', 'more and more' or 'less is more' in terms of production and consumption".

Definitive conclusions are premature. According to Woodcock (2017), **little is known about the environmental impact of the platform economy** because little **information exists on the platform companies' supply chains**. Without such information, it is impossible to measure the impact on the use of energy and natural resources to provide digital services and transactions. Consider Uber: although the ride-sharing app could have a positive environmental impact by more efficiently using cars that are already on the road, Woodcock shows that it increases the time these cars are out on the road. Woodcock's research illustrates the different types of environmental impacts that occur from platforms: first-order effects, related to the production and use of IT infrastructure; second-order effects, linked to changes in activities and markets, such as transportation volume increase and dematerialisation; and third-order effects or rebound effects, linked to changes in materials and energy usage (Cushman-Roisin, 2012).

In its report on how online platforms can be **drivers of inclusive growth**, the Asian Foundation (2017) explains that platforms are considering new ways to manage the energy grid and provide access to those who are currently without access to electricity in an environmentally sustainable way. The report describes Vandebron[11], a company that facilitates decentralised energy trading between customers and rural farmers with solar or biogas generators. Farmers can sell their excess power at higher prices than they would receive from selling it back to the utility. Clients have access to detailed profiles of the farms and their installations.

Lifshitz (2014), similarly, highlights the potential beneficial effects of online shopping for the environment. Less energy is used for transportation, because clients no longer have to travel to a physical store. Packaging is reused and online marketplaces such as eBay and Etsy foster reuse, by making it easier to buy and sell second-hand goods.

1.2.3 Summing up

Figure 5 summarises the main finding of the literature review performed in this section of the study. Platform raise profound questions about sustainability. Insufficient research exists on their economic, social and environmental impacts, and on ways to improve their sustainability. The literature that does exist tends to highlight both the risks and opportunities associated with the platform economy, which makes it **difficult to grasp the overall impact of the platform economy on sustainability**. As Martin (2016) writes, the platform economy is regarded as both a driver of sustainable production and consumption – and a driver of unsustainable production and consumption.

This study starts bridging this gap. It combines desk research with in-depth case studies to gain more insight into the **impact of the platform economy on sustainability** and to **identify good practices**. Our case studies are based on desk research and interviews with representatives of the platforms.

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[11] For further details, see: https://vandebron.nl

Figure 5. Summary of issues in sustainability of digital platforms

Economic

👍

Economic opportunities for companies and individuals on global scale

Potential for higher wages and greater autonomy for workers

👎

Volatile and competitive market: winner take all

Reliance on platforms in dominant market position and harm to SMEs

Uneven distribution of economic benefits

Difficulties controlling counterfeits and copyright violations

Social

👍

Labour market participation and labour market transition

Job creation

Potential for less discrimination based on geographic location, gender, etc.

👎

Unclear impacts on working and employment conditions

Job displacement

Uneven distribution of benefits (e.g. Global North vs. Global South, labour market segmentation within country)

Environmental

👍

More efficient use of resources

Digitalisation of transactions

More efficient supply chains

👎

More consumption and waste

More GHG emissions and pollutants from freight

Energy consumption from large data centres

Source: Authors' own elaboration.

2. SUSTAINABILITY INDICATORS FOR DIGITAL PLATFORMS

BY ANTONELLA ZARRA AND FELICE SIMONELLI

When nations gathered in Rio de Janeiro in 1992, their goal was to find a recipe for sustainable development. Countries endorsed a common definition: "**development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs**" (World Commission on Environment and Development, 1987). Such a broad definition could lead to different interpretations, as people tend to have divergent sensitivities and objectives (Norrthon, 1995). Sustainability should be perceived as a dynamic process where targets should be met and checked constantly, in view of continuous improvement (Callens and Tyteca, 1999).

Sustainable development requires **active involvement of companies**. Welford (1995) defines three aspects of sustainable development that companies need to address. First, the **environment** should be considered as part of the economic process and not as a 'free good'. Second, **equity**, implies the reduction of unemployment and fair distribution of economic benefits and applies both between countries and within countries. Third, '**futurity**' (i.e. considering also next generations) should be part of any business decision.

2.1 Sustainability assessment

A company's sustainability can be judged by a selected number of indicators, indexes, and benchmarks. While **reporting** allows for a systematic disclosure of sustainability practices implemented by a company, **indicators** help assess a company's performance *vis-à-vis* a certain goals or targets.

2.1.1 Sustainability reporting

Sustainability reporting, as defined by the Global Reporting Initiative (GRI), is "an organisation's practice of **reporting publicly on its economic, environmental, and/or social impacts**". This process creates a common language between companies and stakeholders. Sustainability reporting helps achieve a two-fold target: i) contribute to the social and environmental well-being of the world population; and ii) build healthy relations with stakeholders and enhance governance.

Companies themselves are paying more attention to sustainability, **pushed by the growing interest showed by financial markets** (Eccles *et al.*, 2012). Sustainability reporting contributes to companies' reputation. Figure 6 lists the main motivations leading companies to report on sustainability. Large companies (with annual revenues of US$5 billion and over) seem to report more than small ones (with annual revenues under US$5 billion), and they consider **transparency with stakeholders** as the main driver of sustainability reporting, followed by the **competitive advantage** stemming from a good economic, environmental and social performance.

Sustainability reporting **enhances the sustainability of the corporate sector**, report Lozano and Huisingh (2011). It fosters transparency, increases brand value, highlights compliance with legal requirements, enables benchmarking against competitors, improves competitiveness, and motivates employees (Hyršlova, 2014). Investors benefit by receiving insights into a company's capability to make profit in the long-term (Ernst & Young, 2016). As reported by the 2017 KPMG Survey on Corporate Responsibility Reporting, 93% of the world's largest 250 firms disclose their sustainability performance. This number includes major online marketplaces. This is quite an improvement, if one considers that, back in the late 1990s, sustainability reporting was considered as a 'niche practice'. As illustrated in Figure 7, the number of corporate sustainability reports issued from 2000 to 2011 increased exponentially up to more than 3,000 in 2011.

Figure 6. Reasons to report by company size
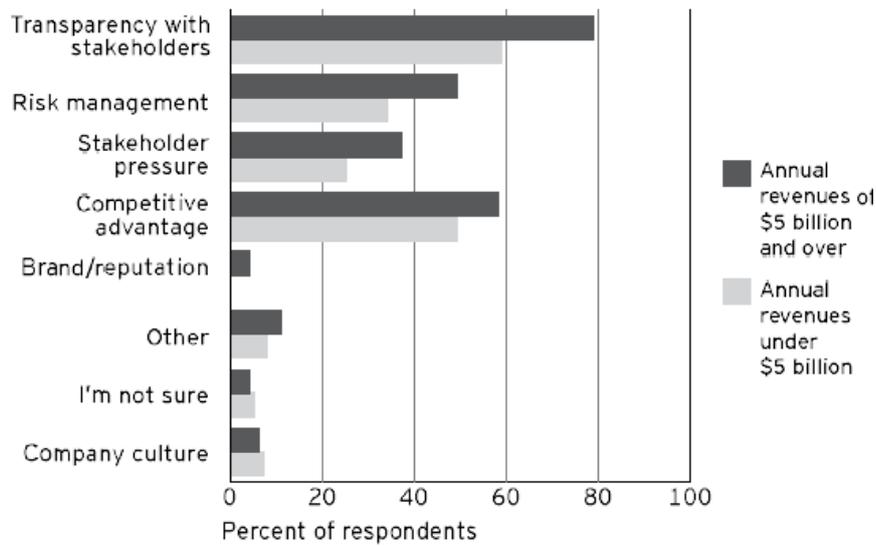
Source: Ernst & Young (2016).

Figure 7. Growth in sustainability reporting from 2000 to 2011[12]
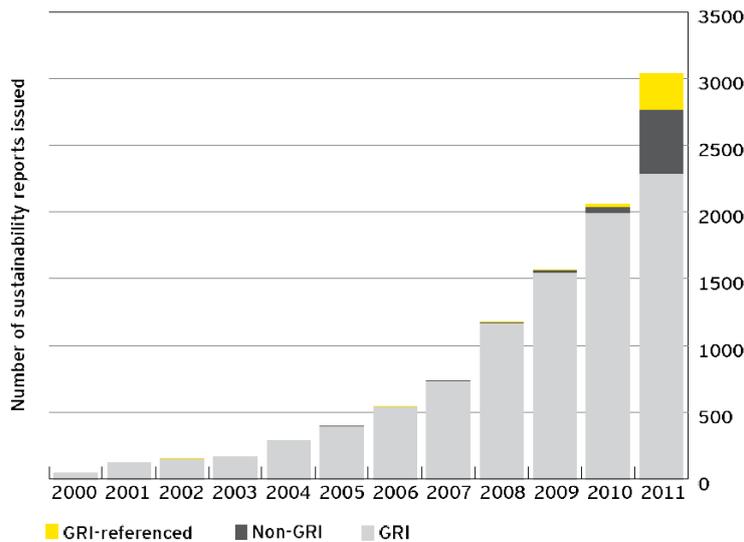
Source: Ernst & Young (2016).

2.1.2 Sustainability indicators

Although for sustainability reporting it is key disclosing information on good (and bad) practices, more accurate evidence requires quantitative **metrics and indicators**. The numbers allow companies to showcase not only what they are doing, but also how they are performing (Callens and Tyteca, 1999). "Sustainability indicators are value laden measures of development performance designed to measure and calibrate progress toward sustainable development goals," adds King (2016, p.121). Indicators detect

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[12] In 2011, GRI started collecting in its database also non-GRI reports, i.e. those reports that do not satisfy the requirements of the GRI-Standards or those reports in which the organisation discloses information on its economic, environmental, social and/or governance performance, but there is no reference to being based on the GRI Guidelines or GRI Standards (For further details, see: https://www.global reporting.org/resourcelibrary/GRI-Data-Legend-Sustainability-Disclosure-Database-Profi ling.pdf)

not only progress, but also weaknesses and 'factors of unsustainability' (Callens and Wolters, 1998), and allow devising recommendations to meet these challenges.

Sustainability indicators can be defined on a 'top-down' basis (assessing indicators selected in accordance with pre-defined standards of sustainability) or on a 'bottom-up' basis (starting from the production systems and assessing, for instance, the efficiency in the use of resources). Companies prefer top-down approaches, report Magee *et al.* (2013), while civil society prefers bottom-up approaches. **Top-down approaches allow standardisation and comparability**. **Bottom-up approaches permit consideration of specific corporate challenges,** which are not comparable across companies and across time.

This study relies on the 'top-down' approach. Since one of the main goals of the study is to come up with operational recommendations tailored for the platform economy, only the top-down approach allows systematic comparison of platforms' best practices.

2.2 A framework to assess the sustainability of digital platforms

After reviewing the main reporting standards adopted by companies to disclose (and assess) their sustainability performance (see Annex A: Overview of the main sustainability reporting standards), this section puts forward a **framework to assess the sustainability of digital platforms**. All three pillars of sustainability (economic, social and environmental) are considered. For each pillar, indicators relevant to digital platforms and associated to specific SDGs are identified.

2.2.1 *Sustainable Development Goals and digital platforms*

Among the 17 SDGs defined by the UN in 2015, platforms play a crucial role in tackling a number of goals. Figure 8 shows a preliminary selection of the SDGs relevant to digital platforms.

Figure 8. SDGs relevant to the platform economy

5 GENDER EQUALITY	**Goal 5.** Achieve gender equality and empower all women and girls
7 AFFORDABLE AND CLEAN ENERGY	**Goal 7.** Ensure access to affordable, reliable, sustainable and modern energy for all
8 GOOD JOBS AND ECONOMIC GROWTH	**Goal 8.** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	**Goal 9.** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10 REDUCED INEQUALITIES	**Goal 10**. Reduce inequality within and among countries
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**Goal 12.** Ensure sustainable consumption and production patterns
13 CLIMATE ACTION	**Goal 13.** Take urgent action to combat climate change and its impacts
15 LIFE ON LAND	**Goal 15.** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Source: Authors' elaboration on United Nations (2016).

Online marketplaces can contribute in several ways (Figure 9). Goal 9 targets economic sustainability, the role of infrastructure, industrialisation and innovation. Infrastructure, such as marketplaces, provides the basic physical systems and structures essential to the operation of a society or enterprise. Industrialisation drives economic growth, creates job opportunities and reduces income poverty. Innovation advances the technological capabilities of industrial sectors and encourages the development of new skills.

Goal 8 concerns both economic and social sustainability. Platforms can help increase labour productivity and reduce the unemployment rate, especially for young people, and in low-income countries. Goals 5 and 10 address inequality and fit in sustainability's social dimension. Marketplaces allow women to access jobs and managerial positions and ensure that individuals and companies from less developed countries are able to sell globally.

Many platforms have started implementing environmentally friendly policies (**Goals 13 and 15**), from the transition to renewable energy sources for data centres to the reduction of greenhouse gas emissions and improvements in energy efficiency. Companies are realising that investing in renewables is not only environmentally correct, but it also improves their competitiveness (**Goal 7**). **Goal 12** calls for sustainable consumption and production and is particularly relevant for online marketplaces. Several companies are already working towards the achievement of a more sustainable consumption, improving the ways their products are delivered to avoid package waste or by choosing sustainable shipping methods.

Figure 9. SDGs and the three pillars of sustainability
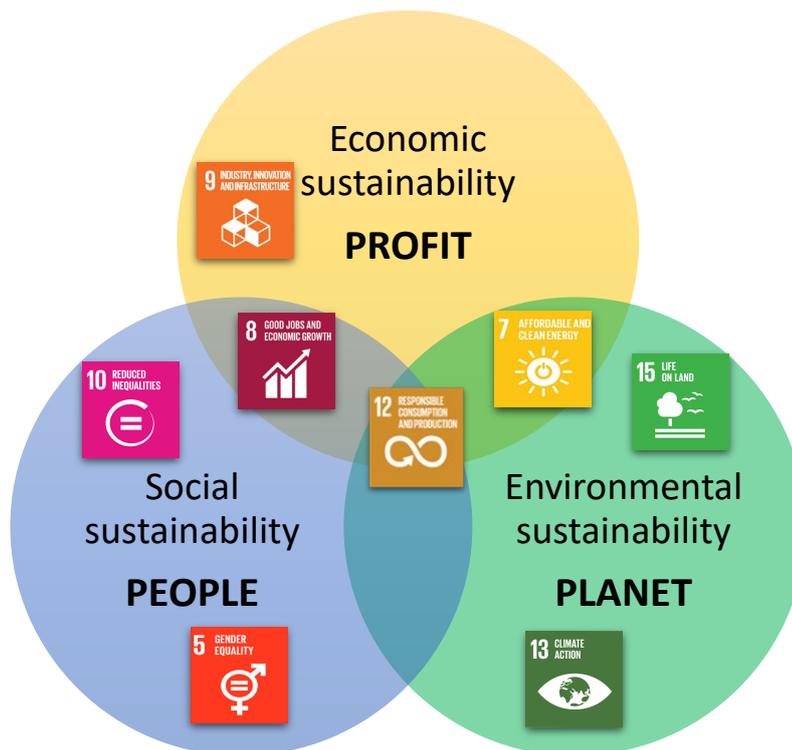
Source: Authors' own elaboration.

2.2.2 Sustainability indicators for online marketplaces

Table 1 provides a draft **analytical framework** summarising a list of sustainability indicators relevant to assess the sustainability of online marketplaces. For each sustainability pillar (economic, social, environmental), the table presents specific indicators. They are divided into target indicators, performance indicators, and process indicators. An indicator can be applied to the platform itself and/or to the users of the platforms (mainly sellers in online marketplaces). Each indicator is linked to the pertinent SDGs.

Table 1. Sustainability scorecard for online marketplaces

Pillar	Sub-theme	Indicator	Type			Applicable to		SDG
			Target	Performance	Process	Platform	Sellers	
Economic	Investments	*Existence of a well-defined investment strategy with regard to sustainability*			X	X	X	9
		Investment actions undertaken to boost sustainability			X	X		9
		Amount of investments in low-income countries/regions		X		X		9
		Planned investments in low-income countries/regions	X			X		9, 10
	Support to local economies, low-income countries and remote areas	*Existence of a specific strategy to encourage the development of synergies at the local level*			X	X	X	9, 10
		Existence of a specific strategy to encourage the development of low-income countries and remote areas			X	X	X	9, 10
		Actions undertaken to enable the development of low-income countries and remote areas			X	X		9, 10
		Proportion of retailers selling at local level relative to the total number of retailers		X		X		9, 10
		Proportion of local suppliers out of total suppliers		X		X		9, 10
		Proportion of sellers from remote areas out of total number of sellers		X		X		9, 10
		Proportion of local employees in areas where the marketplace operates		X		X		9, 10
	Small and medium-sized enterprises (SMEs)	*Actions undertaken to support SMEs*			X	X		9
		Proportion of small and medium-sized enterprises out of total sellers		X		X		9
	Fighting counterfeits and IPR protection	*Actions undertaken to fight counterfeits*			X	X	X	9
		Commitment to reduce the number of counterfeit products	X			X	X	9
		Actions undertaken in the field of Intellectual Property Right protection			X	X	X	9
	Data protection	*Actions undertaken to protect user data*			X	X	X	9
	Research and development (R&D)	*Actions undertaken in the field of R&D*			X	X		9
		R&D expenditure		X		X		9
		Proportion of researchers out of total employees		X		X		9
	Taxation	*Average tax rate*		X		X		9

Pillar	Sub-theme	Indicator	Type			Applicable to		SDG
			Target	Performance	Process	Platform	Sellers	
Social	Decent work	Actions undertaken to ensure fair working conditions			X	X	X	8
		Average wage of employees per country where the platform operates		X		X		8
		Compliance with labour rights (freedom of association and collective bargaining) based on International Labour Organisation standards		X		X	X	8
		Actions undertaken to fight child labour			X	X	X	8
		Proportion of employees aged < 25 years		X		X	X	8
		Proportion of sellers aged < 25 years		X		X		8
		Frequency rates of fatal and non-fatal occupational injuries		X		X	X	8
	Welfare, anti-discrimination and inclusiveness	Adoption of social protection policies			X	X	X	8
		Actions undertaken to comply with national standards of social protection (e.g. retirement benefits)			X	X	X	10
		Adoption of an anti-harassment and anti-discrimination policies			X	X	X	10
		Actions undertaken to facilitate inclusion of people with disabilities			X	X	X	10
		Proportion of employees with disabilities		X		X	X	10
	Empowering women	Existence of a specific strategy with regard to gender equality			X	X	X	5
		Actions undertaken with regard to gender equality and women empowerment			X	X	X	5
		Proportion of women in managerial positions		X		X	X	5
		Proportion of women sellers out of total sellers		X		X		5
		Proportion of women employees out of total employees		X		X	X	5
		Proportion of women sellers from low-income countries out of total sellers from low-income countries		X		X		5
	Transparency	Transparency of the reputational algorithm of sellers			X	X		8
		Reliable dispute resolution mechanisms for sellers			X	X		8

Pillar	Sub-theme	Indicator	Type			Applicable to		SDG
			Target	Performance	Process	Platform	Sellers	
Environmental	Green economy and energy efficiency	*Existence of a specific strategy with regard to green economy*			X	X	X	7, 9, 13
		Actions undertaken in the field of energy efficiency and green economy			X	X	X	7, 9, 13
		Renewable energy share out of total energy consumption		X		X	X	7, 9, 13
		Renewable energy use target	X			X	X	7, 9, 13
		Greenhouse gas emissions by source		X		X	X	7, 9, 13
		Decrease in carbon emissions	X			X	X	7, 9, 13
		Carbon footprint (defined e.g. as CO_2 emission per unit shipped)		X		X	X	7, 9, 13
		Freight volumes per year, by mode of transport		X		X	X	7, 9, 13
		Amount of investments in energy efficiency		X		X		7, 9
		Energy saving practices			X	X	X	7, 9
		Water consumption		X		X	X	7, 13, 15
		Water consumption reduction target	X			X	X	7, 12
	Circular economy, packaging and sustainable procurement	*Existence of a specific strategy with regard to circular economy*			X	X	X	12
		Adoption of sustainable procurement policies in the supply chain			X	X	X	12
		Actions undertaken to reduce waste produced by operations			X	X	X	12
		Actions undertaken to encourage packaging weight reduction			X	X	X	12
		Actions undertaken to increase the recycling rate			X	X	X	12
		Number of transactions from pre-owned products (e.g. electronic devices)		X		X		12, 13
		Weight per packaging component (kilograms)		X		X	X	12
		Proportion of recycled materials for packaging		X		X	X	12
		Compliance with standards (e.g. EN 13428) ensuring only minimum adequate amount of material in the packaging system			X	X	X	12
		Packaging recycling rate		X		X	X	12
		Packaging weight reduction target	X			X	X	12
		Waste reduction target	X			X	X	12, 13
		Waste reduction practices			X	X	X	12, 13
		Hazardous waste generated		X		X	X	12, 13
		Tons of material recycled		X		X	X	12, 13
		Increase in material recycled	X			X	X	12, 13
	Climate change	*Adoption of a plan/strategy to address the issue of climate change and foster climate resilience*			X	X	X	13

Source: Authors' own elaboration.

3. CASE STUDY: ALIBABA

BY SHENGLIN BEN, WENWEI LI, MAN LUO

3.1 Introduction

Alibaba Group Holding Ltd. is a **Chinese e-commerce conglomerate** and the world's largest online retail platform. The company was founded in 1999 and is headquartered in Hangzhou, a historic city about an hour west of Shanghai.

Alibaba and its affiliates provide e-commerce, retail, local services, entertainment, healthcare, cloud computing and financial services to consumers and enterprises (Figure 10). Major businesses include Taobao Marketplace, which is a China's online shopping destination; Tmall.com, a China's third-party platform for brands and retailers; Alibaba.com, a global wholesale platform for small businesses; Alibaba Cloud Computing, a developer of platforms for cloud computing and data management; and Ant Financial for payment and financial services.[13]

Alibaba went public in the New York Stock Exchange in 2014, raising $25 billion, making it until that date the largest initial public offering. By the end of 2018, Alibaba's market cap stood at $361 billion.

Figure 10. The business structure of Alibaba Digital Economy
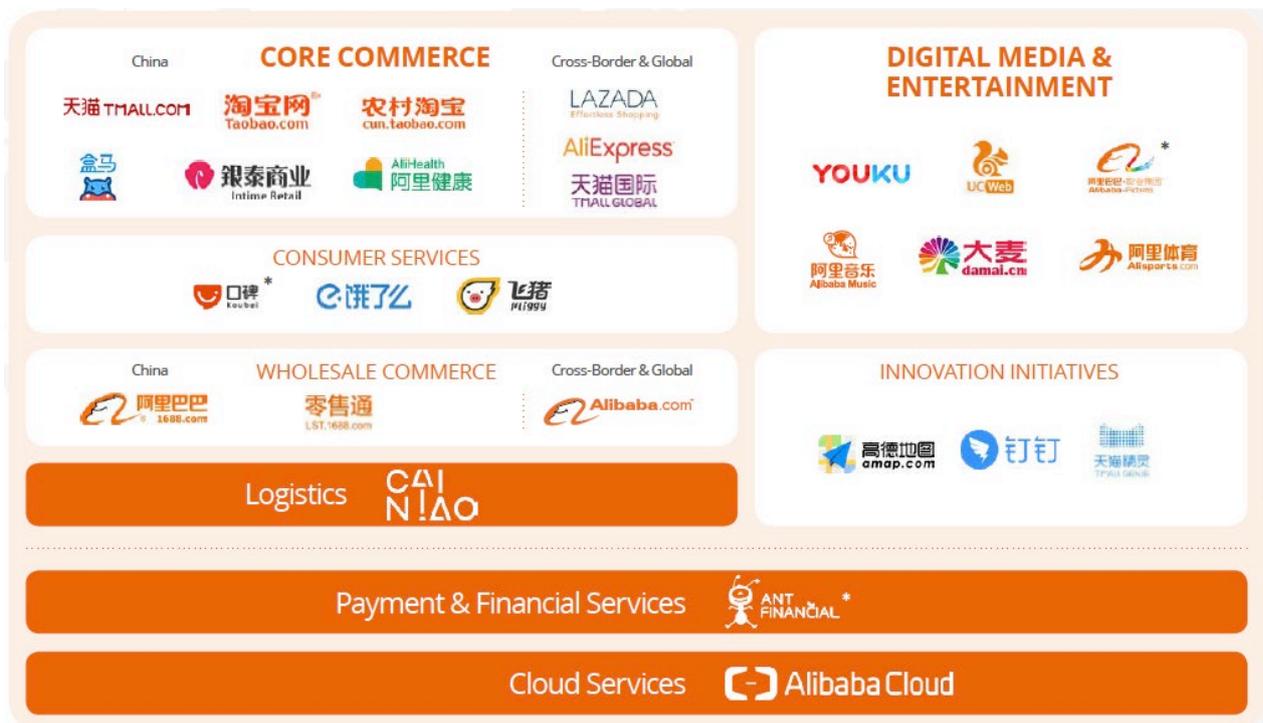
Source: Alibaba Group[14]

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[13] Ant Financial Services Group (hereinafter referred to as "Ant Financial"), originated from Alipay, is the world's leading third-party payment platform founded in October 2004. Ant Financial is a related company of Alibaba Group and the parent company of Alipay. Its business mainly includes Alipay, Ant Fortune, Zhima Credit and MYbank.

[14] For further details, see: https://www.Alibabagroup.com/en/about/businesses

3.1.1 Sustainability overview

Alibaba champions small businesses. It promotes a vision of "to make it easy to do business anywhere". Alibaba's sustainability strategy defines "sustainability" as focusing on long-term value creation that drives sustainable profits. Since its establishment, Alibaba has always believed that a profitable and prosperous business can be achieved and sustained only by solving large-scale societal problems.

Alibaba's efforts and achievements in promoting sustainability development include:

- **Economic sustainability**
  - Connecting rural merchants and sellers to the global marketplace through the online platform, providing them additional income channels and helping people who live in rural areas move out of poverty.
  - Enabling small merchants to reach consumers and to operate their business more efficiently through software tools.
  - Promoting financial inclusion, by increasing the availability and reducing the cost of financial services.
  - Establishing industry-leading protection of intellectual property rights (IPR), developing cutting-edge cybersecurity technologies and enforcing data protection.
  - Expanding R&D expenditure, focusing on the development of cutting-edge technologies.

- **Social sustainability**
  - Recruiting and retaining the best talent, prioritising continuous learning through a comprehensive training system.
  - Fostering an open and transparent work environment through an emphasis on communication and participation, and operating an inclusive work environment.
  - Empowering women, encouraging gender diversity, and supporting women's entrepreneurship.
  - Fostering entrepreneurship, and creating job opportunities.
  - Supporting charitable contributions and public services.

- **Environmental sustainability**
  - Investing in energy-efficient data centres and services.
  - Launching "green packaging" programme and pushing it to courier service partners.
  - Encouraging users to reduce their carbon footprint (Ant Forest).

This case study reviews Alibaba Group and its affiliate Ant Financial's practices in these three areas.

3.2 Economic sustainability

3.2.1 Investments

Although Alibaba has a **diversified business portfolio**, it remains first and foremost a Chinese **e-commerce marketplace**. The vast majority of its investments are made in **China-based start-ups** (over 70 percent, and nearly 80 percent if Greater China regions Hong Kong and Taiwan are included) – and its favourite industries to invest in, **e-commerce and logistics**, are linked to its existing e-commerce business (Figure 11).

Figure 11. Alibaba's investments by industry

As of 2018 September, marketplace-based Core Commerce Adjusted EBITA[16] grew 27% year over year (YoY) to RMB35.6 billion (US$5.2 billion). Strong marketplace-based core commerce profits allow Alibaba to maintain high levels of investment and expand into new sectors. Core commerce adjusted EBITA grew 13% YoY to RMB29.8 billion (US$4.3 billion; Figure 12), reflecting ongoing investments in four strategic but loss-making businesses, including Ele.me, Lazada, New Retail and Cainiao Logistics.

Figure 12. Alibaba's financial results as of September Quarter 2018[.17]

3.2.2 Support to local economies, low-income countries and remote areas

Alibaba connects rural merchants and sellers to the Chinese and global marketplace through the online platform, giving them additional income channels and helping people who live in rural areas move out of poverty. The company's Rural Taobao Program[18] sees Alibaba establishing business infrastructure and e-

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[15] For further details, see: https://www.techinasia.com/startup-factory-tia-tokyo-2018

[16] EBITA: Earnings Before Interest, Tax and Amortisation.

[17] For further details, see: https://www.Alibabagroup.com/en/ir/presentations/pre181102.pdf

[18] For further details, see: https://cun.taobao.com/

commerce services in rural areas. Farmers are able to sell high-quality agricultural products to urban consumers. By 2018, the Rural Taobao Program has established service centres in over 30,000 villages and 730 counties in China, including 300 state-designated impoverished counties.

Alibaba is committed to combating Chinese poverty. In December 2017, Alibaba announced a RMB10 billion Poverty Relief Program.[19] The program focuses on improving rural education, boosting rural commerce, empowering women, and providing healthcare ability.

Donations collected on Alibaba's platforms cover major illnesses to breadwinners in impoverished households. Insurers accept and verify insurance applications online and donors are able to track how their donations are used. Up to March 2018, Alibaba raised approximately RMB38 million and provided health insurance to 810,000 families in 10 impoverished counties.

Alibaba's Taobao University offers e-commerce classes to entrepreneurs and rural villagers. Its online courses are available in 98.9% of state-designated impoverished counties. In fiscal year 2018, more than 210,000 students from 823 state-designated impoverished counties took 2,300 online courses.

3.2.3   Support to small and medium enterprises (SMEs)

In all its businesses, Alibaba prides itself on enabling **small merchants to reach far-flung consumers and to increase the efficiency of their business**. More than **10 million small businesses** depend on Alibaba's China retail marketplace platforms. Services platforms Ele.me[20] and Koubei[21] serve about 3.5 million registered restaurants and other types of local service providers. Alibaba's financial affiliate Ant Financial has provided credit to around 10 million small businesses that otherwise could not borrow money from banks.

Alibaba's international expansion focuses on small businesses. Subsidiary Lazada operates e-commerce platforms in six Southeast Asian countries (Indonesia, Malaysia, Thailand, Vietnam, Philippines and Singapore). Lazada hosts more than 155,000 local and international sellers as well as 3,000 brands on the platform.

Alibaba has established the non-profit **electronic World Trade Platform (eWTP).**[22] It attempts to boost cross-border e-trade – and Alibaba's businesses – by pushing for common industry standards and rules, simplification of regulations and customs processes, lowering of tariffs, and harmonisation of taxation. In May 2017, Alibaba took the first step towards realising the eWTP vision by launching a **digital free trade zone** in Malaysia.

3.2.4   Fighting counterfeits and IPR protection

Because customers cannot feel or touch what they are buying online before it arrives at their home, many brands charge that online marketplaces facilitate a flood of fakes. In response, Alibaba says it has made a priority to protect IPR. Just as brands fear copycats, Alibaba says customers do not want to end up with counterfeits. A clean platform, it says, is good business.

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[19] For further details, see: https://www.Alibabagroup.com/en/about/sustainability/

[20] For further details, see: https://www.ele.me/

[21] For further details, see: https://www.koubei.com/

[22] For further details, see: https://www.ewtp.org/

Brands target China as a chief source of fakes. According to a 2016 study conducted by the US Chamber of Commerce, China produces US$285 billion of counterfeits each year, representing 1.5% of its gross domestic product (GDP).[23]

Alibaba has taken a series of steps to fight fakes (Figure 13). It has established an Intellectual Property (IP) Protection unit led by the company's Chief Risk Officer, who is also the Chief Platform Governance Officer, and who reports to the Chief Executive Officer (CEO). More than 300 professionals work on IP protection. **Alibaba makes extensive use of cutting-edge, proprietary technology for IPR protection.** It proactively monitors goods put up for sale by merchants and acts fast to take down problematic listings. Sophisticated data-base algorithms, text analysis and photo, optical character and behaviour recognition technologies are deployed. Alibaba partners with brands, to understand their particular products.

A one-stop portal[24] allows brands to manage the 'Notice and Take-down' process. Brands may track the status of their complaints and review seller appeals. Since mid-2017, Alibaba says 95% of take-down requests are processed within 24 hours. In many cases, the platform shuts offending Taobao stores. Alibaba's real-time information scanning removes more listings than those flagged by rights-holders. Almost all of these listings were removed before a single sale.

At the beginning of 2017, Alibaba established the Alibaba Anti-Counterfeiting Alliance (AACA). AACA's 105 brand members include many of the world's largest consumer brands, including Adidas, P&G, Mars, Adobe, Danone, Hasbro, Samsung, and L'Oréal. Under this scheme, brands provide information on their products to help Alibaba improve enforcement. Since the launch with 30 brands, another 102 have joined.

Alibaba partners with police, too. In 2017, Alibaba supported local police in 23 provinces and cities throughout China, leading to the arrest of more than 1,600 suspects and the closure of more than 1,300 facilities. Alibaba was the first platform operator in China to bring civil lawsuits against merchants who misuse its services for the sale of counterfeit goods.

Figure 13. The development of Alibaba's IP protection operation
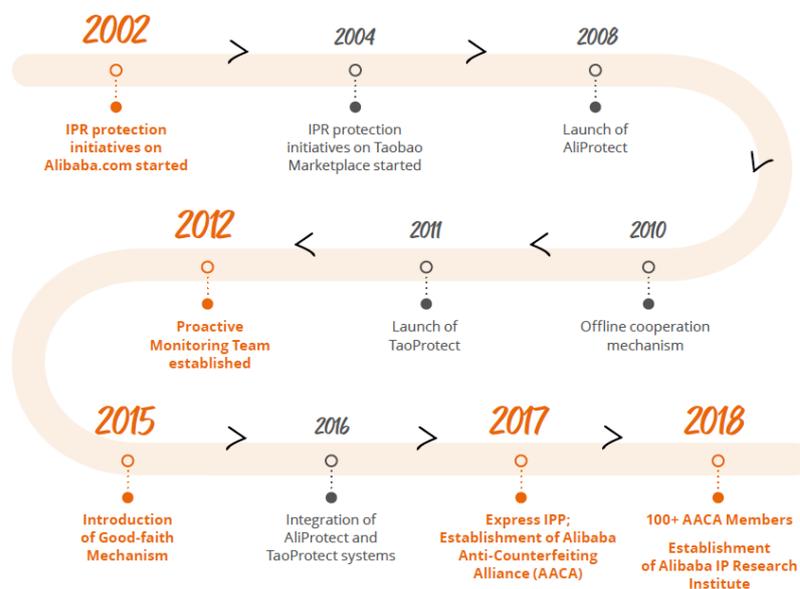
Source: Alibaba Group Intellectual Protection Annual Report[25]

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[23] For further details, see: https://www.uschamber.com/press-release/us-chamber-report-measures-the-magnitude-global-counterfeiting

[24] For further details, see: https://ipp.Alibabagroup.com/

[25] For further details, see: https://ipp.Alibabagroup.com/infoContent.htm?skyWindowUrl=news-20180110-en

3.2.5 Data protection

Data classification, access and usage. Alibaba has a detailed protocol for categorising data. It designates sensitive data as either customer's personally identifiable data, business data generated from platforms, or Alibaba corporate data. Other data is considered public (level 1), internal (level 2), confidential (level 3), or secret (level 4-the highest). The use of all data requires identity verification of the user applying for access as well as authorisation by designated responsible persons, and authorisation is subject to time limits.[26]

Organisational accountability. A Data Security Committee is responsible for monitoring the company's overall production, processing, transmission, storage, use, dissemination, and destruction of data. The president of each group is held accountable for data security, and each business unit has a dedicated expert who oversees data security.[27]

Compliance with evolving regulations. Alibaba is committed to compliance with government regulations in every jurisdiction in which the company operates. It has established procedures to support litigation, court orders, discovery and other legal matters that may require data disclosure. Alibaba is ISO27018 certified for measures that protect personal identifying information in accordance with the privacy principles in ISO/IEC 29100 for the public cloud computing environment.

3.2.6 Research and development

According to Bloomberg, Alibaba plans to boost its R&D spend to US$10 billion in year 2019 and 2020 (Figure 14). Alibaba is expected to dedicate a majority of its R&D spend on areas including artificial intelligence (AI), cloud computing, machine learning, etc.

In October 2017, the company launched the DAMO Academy dedicated to scientific and technological innovation. DAMO now has more than 300 researchers in eight cities around the world. Its focuses on machine intelligence, robotics, fintech, data computing and quantum computing, developing a simulator that mimics quantum circuits. The academy expects to introduce its first AI inference chip, called "AliNPU" mid-next year. The chip could potentially be used for autonomous vehicles, smart cities and smart logistics.

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[26] For example, for massive data usage scenarios, it is mandatory for Alibaba's staff to use the proprietary data leakage prevention tool to ensure data cannot be downloaded to the local hosts. Alibaba has also developed robust measures, including proprietary mobile device management (Alilang) and data leakage prevention (Cloud Shell) software, which can prevent data leakage by monitoring abnormal behaviour of employees and giving timely alerts to their managers. Alibaba is continually improving their data flow tracing capability, such as traceable watermarks embedded in company files. For Alibaba's open platform, level-3 and level-4 data are encrypted before transferring to the authorised sellers' independent software vendors. Alibaba Group and affiliates, such as Ant Financial Services and the logistics subsidiary Cainiao Network, have a well-established framework in place to share certain types of data in controlled environments in order to improve the quality of services offering to customers. Alibaba has implemented strict rules and protocols for data sharing with affiliates, including physical storage, prohibition of data duplication and a data oversight committee.

[27] Alibaba also conducts training to improve the data security awareness of Alibaba employees and enforce compliance with the guidelines. Employees who are handling sensitive data are closely monitored to help avoid possible risks or losses resulting from improper data handling. Employees are required to go through an annual data handling and protocol certification to ensure knowledge and sensitivity to Alibaba's data policies. Any employees who violate the Data Security Guidelines are subject to penalty including dismissal, and civil and criminal charges may also be pursued against them.

Figure 14. Alibaba R&D expenditure (Billion US$)
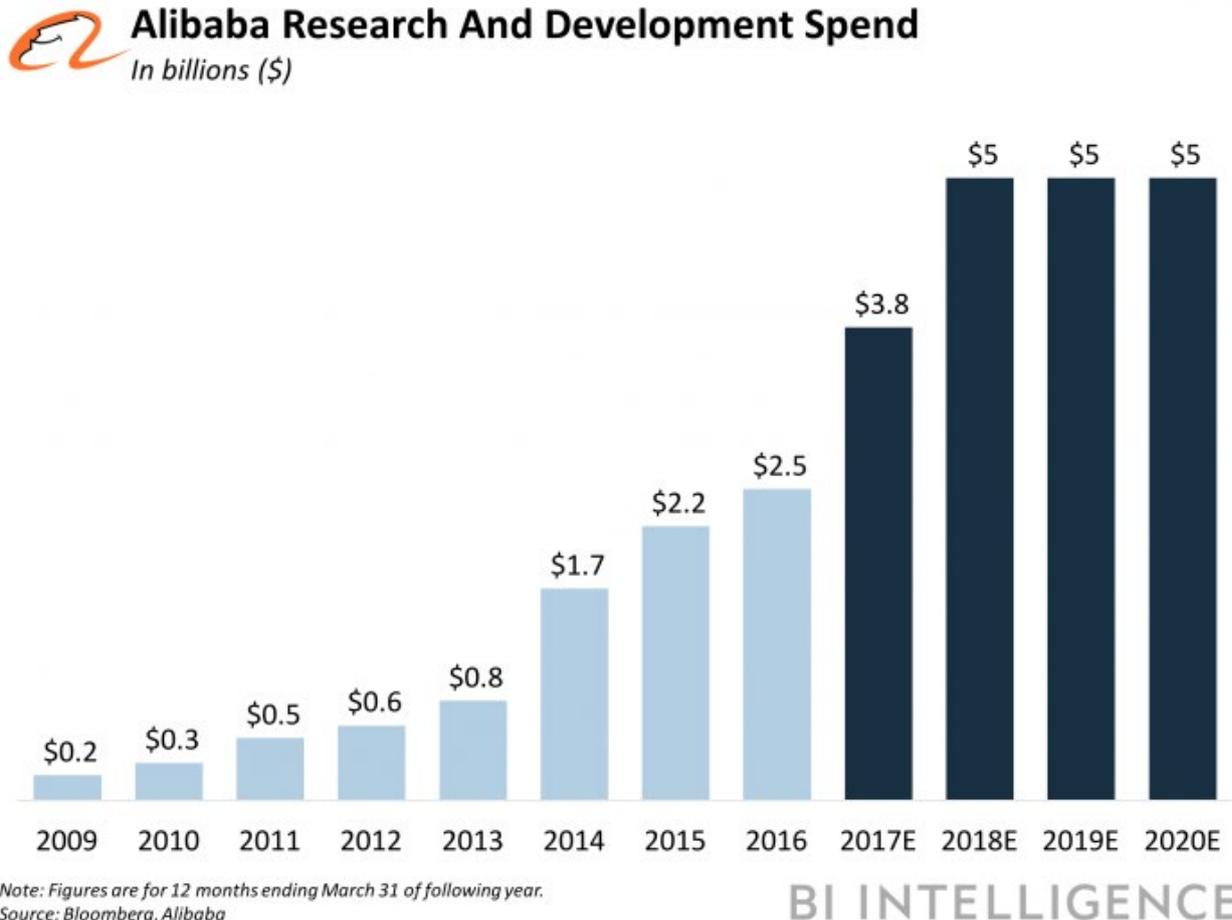
Source: Business Insider, Alibaba is more than doubling its R&D Spending[28]

3.3   Social sustainability

3.3.1   *Decent work*

Alibaba counted 86,833 employees as of June 30, 2018. Alibaba offers employees **competitive compensation and benefits**, including valuable stock grants. The company says it recruits and invests in best in class talent engineers specialising in AI, quantum computing, cloud computing, digital media, e-commerce and logistics. On an annual basis, Alibaba conducts **surveys of employee satisfaction and engagement**. The results of the surveys are presented to Alibaba's senior leadership.

Alibaba promotes continuous learning through training courses. Top performing employees within the company are posted to work overseas and international staff recruited to work in China. For senior and mid-level management, the company places heads of business units and rising stars into small training groups and offer them modules on the corporate culture and strategy. The company's most senior executives, including the chairman and CEO, participate in the teaching of these training groups. At the end of 2017, the company conducted more than 2,500 training sessions on 4,000 topics.

3.3.2   *Welfare, anti-discrimination and inclusiveness*

Alibaba deploys a structured and rigorous employee feedback framework. Each employee is reviewed and given feedback on a regular basis – from quarterly to semi-annually, depending on job level. Employee

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[28] For further details, see: https://www.businessinsider.com/Alibaba-is-more-than-doubling-its-rd-spend-2017-10

feedback includes not only performance reviews made by managers, but also 360 degree surveys from colleagues and peers.

Employees are encouraged to use "AliWay," Alibaba's online intranet, to voice their opinions online. Aliway includes an open forum for discussion and debate about any subject, including strategy, products, company policies and working environment. Posts in this forum are not pre-screened or censored. In addition, members of senior management maintain an "open" email box for the purpose of receiving direct, private feedback from employees. The "open" email provides a channel through which senior management can learn of issues "from the front lines".

Alibaba **recruits talent in local markets** as well as special programmes to **develop young international professionals** who can eventually play leadership roles. Alibaba Global Talent Development recruits approximately 30 professionals from around the world annually to come to the headquarters in Hangzhou for a two-year period. Upon graduation from the program, the employee is eligible for a permanent position in one of the business units in China or overseas. Alibaba says it does not discriminate on the basis of race, gender, religion or sexual orientation.

3.3.3 Empowering women

Alibaba prides itself on its commitment to gender equality. When it was created in 1999, one-third of the 18 founders were women. By the end of 2018, 12 of the 36 partners in the Alibaba Partnership were women.

Supporting women entrepreneurs. Alibaba's women partners created the Lakeside Modou Foundation to provide care and a better future to women and children in rural and underdeveloped areas of China. The Foundation started a program, the "Model Mom Entrepreneurship Competition",[29] to help female entrepreneurs from disadvantaged backgrounds. Winners are awarded RMB200,000 in interest-free loans, online resources, and one-year tuition-free training at Peking University's entrepreneurship course.

3.3.4 Creating job opportunities

In addition to providing **direct business opportunities for merchants**, Alibaba's ecosystem creates **new opportunities for service providers** in logistics, marketing, consulting, operations outsourcing, training and other online and mobile commerce professions. According to AliResearch,[30] Alibaba's China retail marketplaces has helped generate **36 million direct and indirect job opportunities in China**. An important success is bringing women to the workplace. In fiscal year 2018, **approximately half of the annual active sellers on its China retail marketplaces were female**.

3.3.5 Fostering entrepreneurship

Alibaba aims to **make it easy for entrepreneurs to create start-ups.** Alibaba Cloud Computing services reduce IT and operational costs and the company's financial arm offers start-up financing. Through the Rural Taobao program, Alibaba encourages young people in rural regions to start their own businesses selling products on the Taobao's e-commerce platform.

Several not-for profit programmes support entrepreneurs. Alibaba Entrepreneurs Fund,[31] a not-for-profit initiative with a HK$1 billion fund in Hong Kong and NT$10 billion fund in Taiwan, offers entrepreneurs access to capital, technology guidance and mentorship.

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[29] For further details, see: http://www.chinanews.com/sh/2018/03-09/8464047.shtml

[30] For further details, see: http://www.aliresearch.com/en/index.html

[31] For further details, see: https://www.ent-fund.org/

Alibaba is starting similar programmes around the globe. Founder Jack Ma has established the Africa Netpreneur Prize,[32] a US$10 million, ten-year programme that will grant funding to African entrepreneurs. The Jack Ma Foundation hosts an annual competition, with 10 finalists receiving grant funding and access to the community of African business leaders.

3.3.6 Charity initiatives

Since 2010, Alibaba has established a special fund to **encourage environmental awareness and conservation**. In 2011, it founded Alibaba Foundation[33], a private charity fund that focuses on supporting environmental protection in China. In fiscal year 2018, the Foundation made approximately RMB230 million (US$37 million) in donations. Since September 2015, the company has also encouraged employees to perform a minimum of three hours of public service every year.

Alibaba leverage its ecosystem to extend the reach of the charitable initiatives and encourage merchants, consumers and other ecosystem participants to engage in public service. **Charitable organisations** can set up storefronts on Alibaba's marketplaces to raise funds and engage with volunteers. Merchants may designate a percentage of their sales proceeds generated on the platforms to go to charitable organisations. Consumers can contribute to charitable causes by purchasing public interest products, participating in charity auctions hosted on the platforms or directly making donations. In 2018, 1.7 million merchants and 360 million users raised RMB320 million (US$51 million) in donations, which benefited 3.3 million disadvantaged people.

Other Alibaba initiatives highlight the platform's power to fight social problems. The "Reunion" platform connects Alibaba's and its partners' mobile apps to help locate missing children across China. Since its initial launch in mid-2016 and up to March 2018, this platform has helped law enforcement authorities successfully locate 2,777 missing children, reflecting a 97.6% success rate, Alibaba hosted a global leadership conference in 2018 to share the technology and thinking behind the "Reunion" platform with organisations from over 20 countries.

3.4 Environmental sustainability

3.4.1 Green economy and energy efficiency

Investing in energy-efficient data centres and services. Reportedly, the company aims to reduce consumption at its energy-hungry data centres by installing cooling and water efficient systems supported by intelligent management technology and the use of renewable energy. For instance, the Qiandao Lake Data Centre adopts a state-of-the-art deep lake water cooling system which saves 300 million kWh of electricity and reduces CO_2 emissions by 300,000 tons per year compared to other conventional data centres. The technology lowers its annual average Power Usage Effectiveness to as low as 1.17, lower than many leading Chinese data centre companies. The system also reduces the annual average Water Usage Efficiency to reach 0.197, which is also below China's industry average. Located in Hebei province, in a naturally cool region with great access to wind power, the Zhangbei Data Centre is powered 100% by renewable energy including solar and wind, and represents another good example of Alibaba's approach to energy efficiency. This increases the data centre's energy efficiency by more than 4% while reducing construction and maintenance costs. The technology reduces the temperature of its servers, which keeps its average Power Usage Effectiveness at only 1.25 and reduces the energy consumption typically used for cooling by 59%. An immersion liquid cooling technology enhances the energy efficiency of Alibaba

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[32] For further details, see: http://www.netpreneur.africa/about

[33] For further details, see: http://www.alijijinhui.org/category/98

servers. Using non-conductive cryogenic liquid to achieve a cooling effect, this technology brings the Power Usage Effectiveness close to 1.0.

Another project designed to protect the environment is the Ant Forest project (Figure 15)**.** Launched in August 2016 by Alibaba's financial affiliate Ant Financial,[34] it encourages users to reduce their carbon footprint by helping them to measure the avoided carbon emission based on the assessment by an independent and professional agency - China Beijing Environment Exchange, connecting their virtual identity and status to their earnings of "green energy" for reduced carbon missions, and providing carbon offset rewards through a physical tree planting programme. Users collect "green energy points" through low-carbon options in their daily lives such as using e-payments instead of paper invoices and choosing public transportation, biking or walking instead of driving to reduce vehicle emissions. These "green energy power points" can be donated by users towards planting of trees in Northwest China.

Users track the progress real-time using their apps and share their progress via social media. Ant Financial has created social games and features around the consciousness of carbon awareness for users, making tracking, sharing and contributing to a low-carbon lifestyle a part of people's daily lives. Up to May 2018, 55 million trees have been planted on behalf of Ant Financial's users.

Figure 15. Ant Forest interface

Source: Ant Financial, Ant Forest Project.

International collaboration to promote green digital finance. In January 2017, at the World Economic Forum in Davos, Alibaba's financial affiliate Ant Financial and the UN launched the Green Digital Finance Alliance. The Green Digital Finance Alliance addresses the potential for aligning fintech with environmental sustainability. It advocates green finance in lending, investment and insurance. The Alliance draws allies from across the worlds of environment and finance.

3.4.2 Circular economy, packaging and sustainable procurement

Alibaba has launched a "**green packaging" programme**. Under the programme, courier services are encouraged to use bio-degradable bags, tape-free boxes and package recycling bins. A packaging optimisation algorithm, Cainiao Network,[35] reduces the consumption of packaging materials by approximately 15%. This technology was applied in more than 250 million delivery boxes and courier bags in the fiscal year ended March 2018. Cainiao Network is working towards a goal of replacing 50% of all

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[34] For further details, see: https://www.antfin.com/

[35] For further details, see: https://www.cainiao.com/

packaging materials on Alibaba related platforms with 100% eco-friendly or bio-degradable packaging materials.

Since Alibaba's China retail marketplace platforms generate a majority of all parcel deliveries in the country, the impact of these moves is considerable. Under the "Green Logistics Alliance", Alibaba exports its green philosophy to **32 partner companies** including courier service providers, warehouse operators and trucking firms. Cainiao Network has teamed up with 500 global brands, including Kiehl's, Wrigley Company, Mondelez International and Colgate-Palmolive, to establish the "Green Brand Alliance" that commits to using "green packaging".

Solar panels power Alibaba green warehouses. Green building features have also been integrated into the logistics parks by using energy-saving materials. In 2016, Alibaba says it cut energy consumption for its logistics operations by 10%.

3.5   Concluding remarks

Alibaba's ecosystem **supports the infrastructure of commerce**, serves **hundreds of millions of consumers** and helps **tens of millions of enterprises**, most of them small businesses. During the past decade, Alibaba has looked at sustainability as a vital part of its corporate strategy.

Several **Alibaba practices** provide useful insights for other digital platforms:

- **Economic sustainability**: (1) Connects rural merchants and sellers to the global marketplace through the online platform, giving them additional income channels and helping people who live in rural areas move out of poverty. (2) Enables small merchants to access consumers and to operate their business more efficiently. (3) Promotes financial inclusion, expands the coverage, increases the availability and reduces the cost of financial services for SMEs and people from rural areas. (4) Fights IPR abuses.

- **Social sustainability**: (1) Fosters an open and transparent work environment. (2) Empowers women, encourage gender diversity, and support women entrepreneurs. (3) Promotes entrepreneurship, and creates job opportunities. (4) Provides charitable contributions and public services.

- **Environmental sustainability**: (1) Invests in energy-efficient data centres and services. (2) Launches "green packaging" programme and pushes it to courier service partners. (3) Encourages users to reduce their carbon footprint.

Alibaba's sustainable development practices fall short in several key areas. Some stakeholders from the Alibaba's value chain are not included into the company's sustainable development strategy. Although Alibaba and its affiliates have made great efforts to promote the sustainable growth inside the group, **so far less attention has been paid to ensure the sustainability of both the merchants and the buyers in Alibaba's global ecosystem**. Alibaba does not require them to follow its sustainable development goals. Alibaba must consider its entire value chain, identify and engage the proper stakeholders, and encourages them to follow the best practices. While developing cutting-edge technologies is crucial for Alibaba's sustainable development strategy, to improve the digital literacy of SMEs and people from rural areas is also vital for bridging digital divide, Alibaba could consider **providing more training services for both sellers and consumers**.

In addition, while Alibaba has launched different programmes to **achieve sustainable growth**, more attention should be paid to evaluate the performance of different initiatives. In this respect, a well-structured key performance indicator system should be developed and implemented. In fact, **a systematic approach to monitoring and evaluating Alibaba's sustainable development progress is still missing**. It is important to consistently monitor how its business activities translate into economic, environmental and social impacts. Alibaba could consider implementing a **sustainable development indicator system** in the future.

4. CASE STUDY: EBAY

BY ANTONELLA ZARRA

4.1 Introduction

It started as a hobby. In September 1995, computer programmer Pierre Omidyar launched a personal site called AuctionWeb, putting a broken laser pointer up for sale. A bidder snapped it up for US$14.83. eBay was born. The hobby soon became a business, as Omidar started charging those who used eBay. By 2000, eBay had 12 million registered users and more than 4.5 million items on sale on any given day. Today the corporation employs 14,100 people and **connects millions of buyers and sellers worldwide**. Besides the eBay.com marketplace, eBay owns eBay Classified Group selling online classified ads and StubHub, a marketplace for online tickets. eBay's stated mission is "to provide a global trading platform where practically anyone can trade practically anything".

4.1.1 Sustainability overview

Global Impact is eBay's main sustainability effort. Its purpose is "creating a better, more sustainable form of commerce – where people are empowered, causes are supported, and opportunities are open to everyone". It revolves around four main initiatives:

- **Opportunity for all** encourages merchants from low-income countries and remote areas to leverage the Internet to connect to the global economy and grow their business. Within Europe, eBay partners with German and UK municipalities to train brick and mortar merchants how to sell online.[36]
- **Circular economy** is rooted in eBay's history. The famous broken laser pointer that launched the site was supposed to be thrown away but found a new owner. The company is a member of CE100 (Circular Economy 100),[37] the Ellen MacArthur Foundation's platform that groups companies driving the transition to a circular economy.
- **Responsible Business** ranges from enabling trust and transparency mechanisms in the transactions to boosting environmental awareness. SGDs 7 (affordable and clean energy), 13 (climate action) and 15 (life on land) are supported and an ambitious target of 100% renewable energy consumption by 2025 has been set.
- **eBay.org**[38] finances small businesses and entrepreneurs. Since its establishment, the foundation has disbursed over US$43 million in loans and grants. eBay's employees are engaged in the activities of the foundation through volunteering programmes. By 2020, the foundation aims to lend US$1 million to entrepreneurs, give access to capital and provide training to 50,000 entrepreneurs. According to the company's progress report, the foundation has lent US$397,000 and supported over 17,000 borrowers, 14,000 of which are women. Such initiative boosts the achievement of the SDG 8 (Decent Work and Economic Growth), 10 (Reduced Inequality) and 12 (Sustainable Consumption and Production).

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[36] For further details, see: https://www.eBayinc.com/stories/news/eBay-launches-retail-revival-program-to-boost-small-businesses/

[37] For further details, see: https://www.ellenmacarthurfoundation.org/ce100

[38] For further details, see: https://www.ebayinc.com/impact/ebay-org/

Each project refers to the UN's Sustainable Development Goals and involves the achievement of one or more **Global Impact goals** between 2016 and 2020. Advancements towards those targets are monitored and published yearly in a progress report.

In 2016 eBay implemented its sustainability assessment through a partnership with the consulting company GlobeScan.[39] They performed a **materiality assessment**[40] based on the Economic, Social and Governance (ESG) pillars. As a result of a stakeholder engagement process, an ESG Materiality Matrix was built, which plotted the most important issues on a map according to their impact on eBay's business and on their importance to the stakeholders (Figure 16).

Figure 16. eBay ESG Materiality Matrix
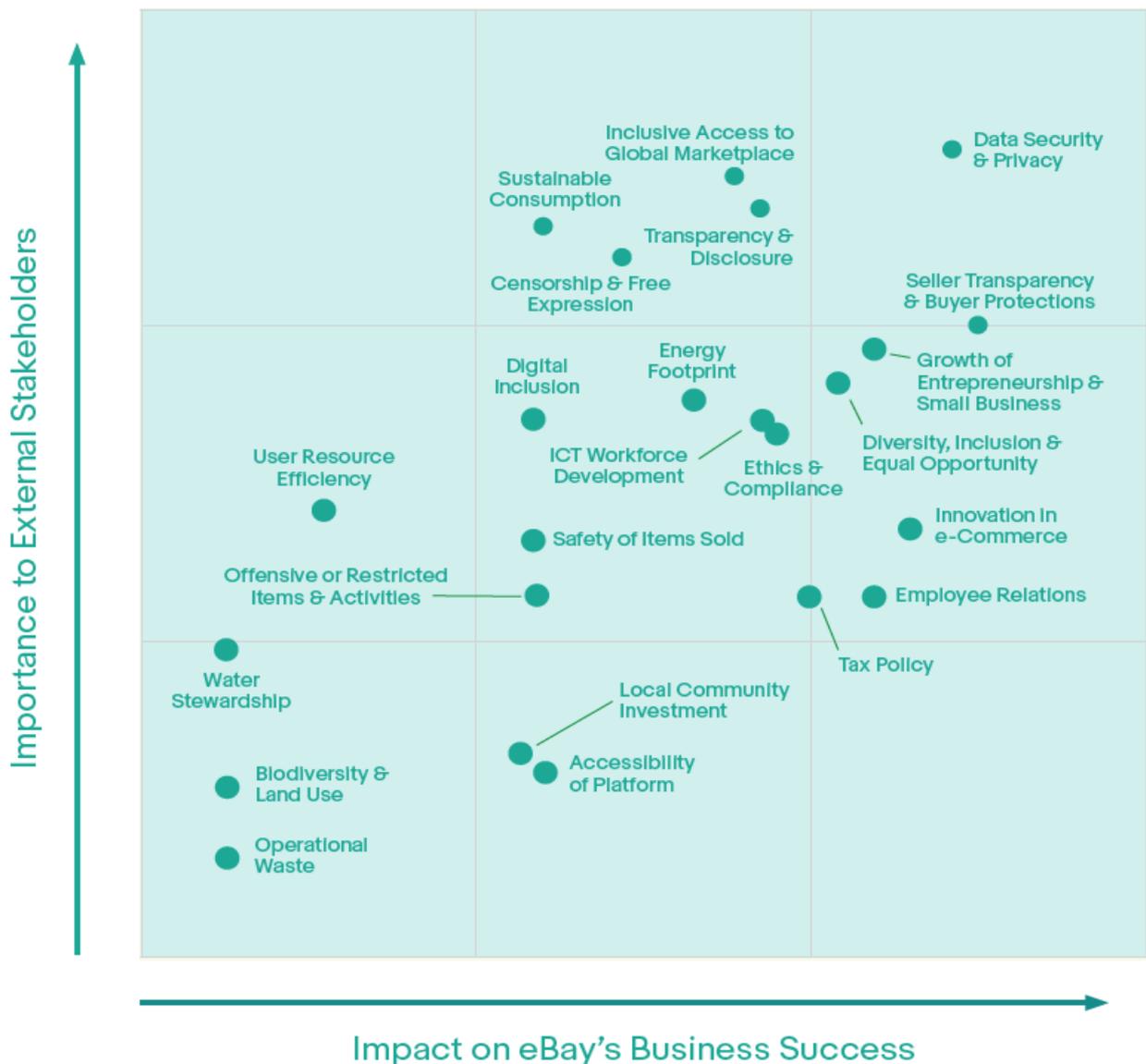
Source: eBay Impact 2017 Progress Update

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[39] For further details, see: https://globescan.com/

[40] In sustainability reporting, a materiality assessment is a stakeholder engagement exercise aimed at gathering insight on specific environmental, social and governance issues that are relevant to stakeholders. The materiality assessment serves as a tool to prioritise these matters and channel them into a consistent sustainability strategy.

4.2 Economic sustainability

4.2.1 Investments

eBay invests **in emerging markets** and **the development of new technologies**. Significant investments have been made in the field of AI, in order to improve the customer purchasing experience. eBay's expansion in emerging markets includes large investments and partnerships in China, Africa, Russia and Latin America. In 2016, the platform entered the African market through a collaboration with **MallforAfrica.com,**[41] a major e-commerce platform that enables the shipment of UK and US goods to Africa. eBay makes no clear disclosure of any investment activities specifically related to sustainability.

4.2.2 Support to local economies, low-income countries and remote areas

eBay brings buyers and sellers from remote areas and low-income countries into the global value chain. **Small towns and rural areas represent more** 36% of the six million sellers in the United States.[42] By analysing the geographical distribution of net enterprise growth in the US, UK and Germany, an eBay blogpost claims that **e-commerce creates more businesses and jobs than traditional companies in little populated and poor areas**.[43] The UK regions with the lowest levels of GDP per capita recorded the same increase of eBay-enabled firms as the South East England region, which has the highest GDP per capita.

A number of projects aiming to engage both sellers and eBay's employees are in place. "**Everyday Heroes**" collects stories of people helped by eBay, from a mother who started a business to have additional income to a teacher who started an eBay account to teach entrepreneurship to her class. **eBay Main Street** informs local sellers on the updates in the world of e-commerce and on the legislation affecting their business.

Every eBay employee is endowed with a US$25 loan credit per year to be spent on the **Kiva** lending platform, which allows to support business projects in less developed countries. Since 2017, over 23,000 Kiva entrepreneurs have benefitted from more than US$600,000 in loans made by eBay employees.

4.2.3 Support to small and medium enterprises (SMEs)

Most eBay sellers are **microenterprises** with less than 10 employees. **Retail revival** helps grow small businesses by giving them a template to start selling online. In 2017, eBay Foundation supported a series of **eBay StartUp Cups**, a business acceleration programme providing participants with up to six months of tailored mentoring to help them grow their businesses.

4.2.4 Fighting illicit trade and IPR protection

Like other e-commerce marketplaces, brands charge that eBay abets the sale of counterfeits. And like other e-commerce marketplaces, eBay is stepping up its fight against fakes. The company is one of the about 20 signatories of the European Commission's **Memorandum of Understanding (MoU) on the sale of counterfeit goods via the Internet**. Under the MoU, brands and marketplaces track data on counterfeits and engage in bilateral discussions on how to improve their collaboration. eBay has a

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[41] For further details, see: https://techcrunch.com/2016/06/27/expanding-in-africa-ebay-partners-with-mallforafrica-com/?guccounter=1

[42] The figures are retrieved from an infographic published on the eBay website using data from an online survey of a random sample of eBay sellers, which was fielded in October-November 2017. The survey received 11,121 responses, which were extrapolated to eBay's US seller population of over 6 million.

[43] For further details, see: https://www.weforum.org/agenda/2018/01/ebay-ecommerce-fight-inequality-hanne-melin/

"replicas, counterfeit items, and unauthorized copies" policy, giving guidelines for sellers about protecting IP. Buyers are encouraged to report fakes to the platform.

In 1998, the company launched a **Verified Rights Owners (VeRO) programme**.[44] It allows IP owners to report any listings that might infringe on their rights. According to Dougherty (2011), more than 30,000 rights-owners, from Global 500 companies to industry trade associations and small businesses, participate. Companies sign up to be a member of the VeRO programme and provide the information regarding their trademarks and IPR with the relative documentation; they report suspicious sellers and listings, so that eBay can immediately act and remove the infringement.

eBay **investigation teams** in the US, Europe, and the Asia Pacific region assist law enforcement agencies. They investigate cases impacting eBay's services, including the sale of counterfeit goods. The teams provide relevant records upon request and conduct their own investigations.

eBay is active in the **fight against wildlife trafficking**. The company is part of a coalition led by WWF committed to reduce illegal trafficking online by 80% by 2020. In 2017, eBay prevented or removed 45,000 listings (nearly double the 25,000 listings in 2016) that violated wildlife trade policies.

4.2.5 Data protection

eBay considers itself a privacy leader. It was the first major digital platform to implement global binding rules on personal data, committing to upholding European standards throughout the world. The Luxembourg National Data Commission approved and certified eBay's policy.

4.2.6 Research and development (R&D)

eBay's R&D[45] spending is increasing. In 2017, the company invested in research and development US$1.224 billion, which is 10% more than 2016 (US$1.114 billion) and 12.5% more compared to the US$983 million invested in 2014.

4.3 Social sustainability

4.3.1 Decent work

eBay supports and complies with International labour organisation (ILO) labour standards. eBay employees in the US and members of their families are entitled to **health insurance, paid family leave**, and 12 weeks for **parental leave**. Financial benefits include stock grant plans, life insurance, disability benefits and a pension programme. Workers can join a **work life balance** programme and go on a sabbatical year.

Some measures have been undertaken to **make the working environment less hierarchical**: in the Korea office, employees eliminated the common practice of addressing colleagues with formal titles.

eBay has a **Supplier Code of Business Conduct & Ethics**. The code applies to anyone who does business with eBay. Suppliers are encouraged to require their subcontractors to acknowledge and implement equivalent standards of conduct. But these rules do not apply to third-party sellers, who are independent and are not subject to any managerial power by the platform.

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[44] For further details, see: https://pages.ebay.com/seller-center/listing-and-marketing/verified-rights-owner-program.html

[45] Source: Nasdaq

4.3.2 Welfare, anti-discrimination and inclusiveness

Diversity and inclusion are two founding principles of eBay's business model. The company has a **Chief Diversity Officer** and corporate diversity and inclusion reports[46] show the **diversity in race and ethnicity** of the employees is increasing. Whites composed half of the workforce, followed by Asians (39%), Hispanic (6%) and Black (3%) in 2017, up from 52%, 40%, 4%, and 2% in 2016. In leadership numbers, whites (63%) continue to outnumber other ethnicities.

eBay tracks its diversity initiatives: since the establishment of the programme in 2016, 7,000 employees' hours have been invested in relevant activities and more than 50 initiatives launched. A further step towards inclusiveness is ensured by the **Accessibility team**, which makes sure that the platform is designed taking into account also PWD.

Employee led groups called **Communities of Inclusion** monitor against discrimination imposed by age, disability status, ethnicity, gender, religion, military status, parental status, sexual orientation or gender identity. The communities provide a safe space for employees to discuss these sensitive topics. eBay is known for being very active in the **LGBTQ** sphere. In 2017 it partnered with Stonewall, an UK LGBTQ rights organisation, for a campaign named Rainbow Lace, whose proceeds went to Stonewall.

The company seeks to export its values to local communities. Through the **JumpStart initiative** launched near the corporate headquarters in San Jose, the employees train underrepresented minorities, women and immigrants on how to participate in e-commerce.

eBay promotes its diverse and inclusive culture also with its third-party sellers. In 2017 the platform hired a **Seller Diversity Ambassador** and a **Multicultural Marketing Manager** to ensure that sellers comply with the company's diversity and inclusiveness principles.

4.3.3 Empowering women

eBay is committed to **gender parity** in its workforce. In 2017, women made up 40% of employees, up 2% compared to 2016. In leadership positions, only one out of three employees are women. **eBay achieved pay parity between male and female employees in 2016**.[47]

4.3.4 Charity initiatives

eBay for Charity offers buyers and sellers the opportunity to support charities. A charity shop allows non-profit organisations to run online auctions. The target is to raise US$1 billion in charity funds by 2020. Up to 2017, US$810 million had been raised.

4.3.5 Online dispute resolution mechanisms

The **eBay Resolution Center**[48] mediates disputes on the site. According to Del Duca *et al*, (2014) "eBay's process has resolved more disputes over a longer period of time than any other online dispute resolution process in the world". The marketplace handles more than 60 million e-commerce disputes each year and the figure is constantly increasing. When, eBay launched the programme, it allowed buyers only to report "fraud alerts". Today, the system permits them to report a variety of other problem such as "item not received", "item not as described", or "unpaid item".

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[46] For further details, see: https://www.ebayinc.com/our-company/diversity-inclusion/

[47] For further details, see: https://www.eBayinc.com/stories/news/eBays-gender-pay-equity-study-finds-pay-parity-between-women-and-men/

[48] For further details, see: https://resolutioncenter.ebay.com/

4.4 Environmental sustainability

4.4.1 Green economy and energy efficiency

eBay aims for **100% renewable energy procurement**. It so far has failed to reach this goal. Corporate energy consumption rose 6% in 2017, due to an expansion of the company's offices, and above all, its data centres. Data centres account for 76% of the company's electricity consumption and 67% of global greenhouse emissions. The share of renewable electricity dropped to 48% in 2017 from 50% in 2016.

A decade ago, eBay committed **to reduce its GHG emissions**. The company disclosed its GHG figures through the **Carbon Disclosure Project**,[49] an independent non-profit organisation holding data on companies' efforts on climate change. However, the total emissions overall grew by 9% in 2017. Sellers are not included in eBay's environmental strategy. Data on sellers' carbon footprint and environmental practices are not collected.

eBay is implementing a number of **energy efficiency** practices in its offices. A Workplace Resources team works on saving energy, reducing waste and implementing green building principles. Another initiative attempts to reduce business trips - which have a big effect on carbon emissions - by investing in video conferencing technology.

eBay is struggling with efforts to avoid water waste, particularly at its data centres that use water to cool servers. The company consumed 575 million litres in 2017, 5% more compared to 2016.

eBay is a member of a number of coalitions for green energy:

- It is a signatory to the Corporate Renewable Energy Buyers' Principles and a member of the **Renewable Energy Buyers Alliance**.[50]
- It is a founding member of the **Business Renewables Center**,[51] an initiative led by the Rocky Mountain Institute for companies seeking to expand their use of renewable energy.
- It is a member of the **Business for Innovative Climate and Energy Policy**[52] coalition, whose goal is to work with the business community to lobby for climate change legislation. Within the Business for Innovative Climate and Energy Policy initiative, eBay is a signatory to the Climate Declaration, a call to action for climate change.
- In November 2016, eBay joined more than 350 businesses and investors in signing a letter to US and world leaders in **support of the Paris Climate Agreement**.

4.4.2 Circular economy, packaging and sustainable procurement

By 2020, eBay aims to cut its carbon emissions by **encouraging the sale of renewable items**. According to the 2017 progress report, it has cut emissions by 1.2 million tonnes. eBay is working on technologies, such as AI and augmented reality that could help develop the circular economy. For instance, digital marketplaces could help users create their personal inventory of things and to easily price and sell the items they do not need anymore.

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[49] For further details, see: https://www.cdp.net/en

[50] For further details, see: https://rebuyers.org/

[51] For further details, see: https://www.rmi.org/our-work/electricity/brc-business-renewables-center/

[52] For further details, see: https://www.ceres.org/networks/ceres-policy-network

The marketplace runs programmes with global shipping providers such as Pitney Bowes.[53] eBay's **"Global Shipping Program"**[54] is a partnership in the US and in the UK where businesses ship their items domestically to a procurement centre which is then in charge of the international shipping. Through this programme, the platform exerts its influence by **encouraging energy-efficient shipping**. The company offers sellers training on minimising packaging waste. The eBay **Shipping Supplies store**[55] sells eBay branded supplies designed to be eco-friendly.

4.5   Concluding remarks

By **overcoming the costs of distance selling**, **boosting local entrepreneurship**, and **integrating SMEs** into the global market, eBay contributes to a sustainable world. The platform has set **clear sustainability targets and measurement mechanisms**. It has taken steps to increase **diversity and inclusiveness**. Its **Retail Revival and Opportunity for all** programmes help small entrepreneurs and brick and mortars shops to participate in the global market and grow their business. **The achievement of the pay parity** represents a key step towards women empowerment. The Code of Ethics for the platform's suppliers ensures that good sustainability practices are also applied by other actors of the value chain. Room for improvement exists. The company's **environmental sustainability targets and green initiatives fail to involve third-party sellers**. Sellers are not measured on their carbon footprint and environmental impact. Although such limitations stem from eBay's **business model**, which avoids end-to-end control on the retailers, the platform could envisage taking responsibility for encouraging green practices.

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[53] For further details, see: https://www.pitneybowes.com/us

[54] For further details, see: https://www.ebay.com/help/selling/shipping-items/setting-shipping-options/global-shipping-program?id=4646

[55] For further details, see: https://www.ebay.com/str/ebayshippingsupplies

5. CASE STUDY: LUFAX

BY SHENGLIN BEN, MAN LUO AND WENWEI LI

5.1 Introduction

Established in 2011 and headquartered in Shanghai, Lufax (short for "Shanghai Lujiazui International Financial Asset Exchange Co., Ltd.") was originally an **online marketplace for the origination and trading of financial assets** (Figure 17). In March 2012, the company emerged as **a leading peer-to-peer (P2P) lending platform** in China (Malloy *et al.*, 2018). Lufax Holding is now China's leading **online wealth management and retail lending technology platform**, serving the growing middle class and providing financial institutions and local governments with smart financial solutions. Lufax has also been ranked among the **top 10 FinTech innovators** around the globe by H2 Ventures and KPMG in the past three years.[56] **Consumer lending** remains a core part of its operations with a key focus on the **use of big data and IT technologies**. Its loan balance at the end of May 2018 was US$24.5 billion. As of December 2018, it had more than **40 million registered users**.[57]

Figure 17. Lufax's business model
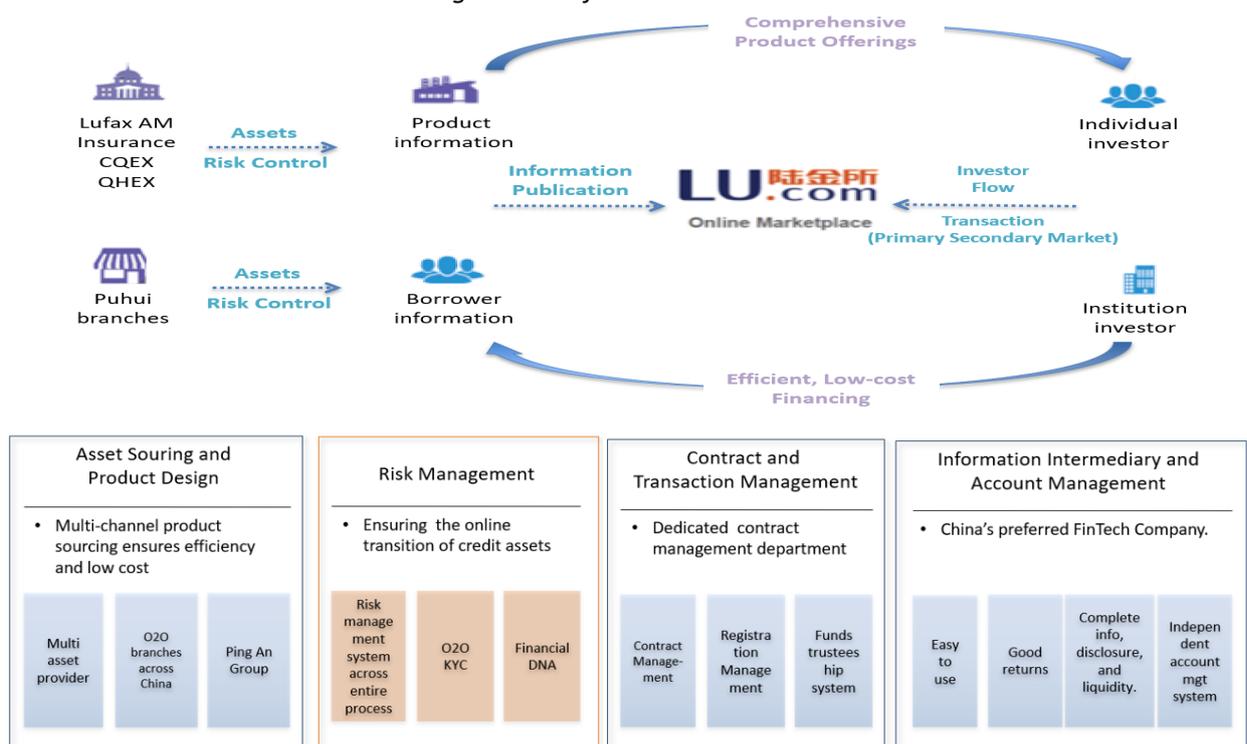
Source: Authors' elaboration on Malloy et al. (2018).

Its parent company, Ping An Group, holds 43% of the platform.[58] **Ping An Insurance** (Group) Company of China, Ltd. was established in Shekou, Shenzhen, in 1988. It began as a casualty insurance company, and later diversified into financial services from its core business of insurance. Ping An has grown into one of

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[56] For further details, see: https://h2.vc/wp-content/uploads/2018/11/Fintech100-2018-Report_Final_22-11-18sm.pdf

[57] For further details, see: https://www.lu.com/about/2018012131500.html

[58] For further details, see: http://about. Pingan.com/en/index.shtml

the three major **integrated finance conglomerates** in China. The Group's shares are listed on the **Stock Exchange of Hong Kong** and the **Shanghai Stock Exchange**. As of the end of 2017, the Group's total market capitalization ranked 6th among the financial groups all over the world, and 1st in terms of market capitalization and brand of insurance groups.[59]

Since Lufax 's sustainability view and approach are embedded in and comply with those of Ping An[60] in the majority of the dimensions examined, this case study reviews **the sustainability *status quo* of both Ping An and Lufax**.

5.1.1 Sustainability Overview

The highlights of Ping An and Lufax's efforts and achievements in promoting sustainability development include the following dimensions.

- **Economic sustainability**
    - Investing in core technologies and innovations facilitated the deployment of its ecosystems and led to greater efficiency, more effective risk management, cost reduction and improved customer services, contributing to more sustainable consumption and production.
    - Understanding the ultimate role of finance to serve the real economy and reallocating resources towards financially underserved communities, underdeveloped and rural areas to boost local economies through inclusive financial platforms such as Lufax and Puhui Financial.
    - Supporting local authorities (through Lufax's public finance management cloud platform for instance) and addressing issues critical to the living standard of civilians such as healthcare.

- **Social sustainability**
    - Prioritising continuous learning through a comprehensive training system both online and offline.
    - Fostering a healthy and inclusive work environment with a continuous evaluation of remunerations and benefits to ensure a reasonable and stable increase in employees' income.
    - Encouraging gender diversity and care for physical and mental health of staff.
    - Fostering entrepreneurship and creating job opportunities through inclusive finance platforms and poverty alleviation projects.
    - Key achievements in educational support.

- **Environmental sustainability**
    - Leveraged technologies to provide customers with more convenient and streamlined services, to provide paperless services and distance office operation, and to reduce operational resource consumption.
    - Implemented Leadership in Energy and Environmental Design (LEED)'s sustainability strategies in constructing green working environment.[61]
    - Providing green bonds to promote a circular economy and reduce pollution.
    - Addressing the risks brought about by climate change through its technological innovations.

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[59] For further details, see: http://www.pingan.cn/en/about/overview.shtml

[60] This was confirmed by Lufax representatives interviewed for this study.

[61] For further details on LEED, see: http://www.bu.edu/sustainability/what-were-doing/green-buildings/leed/

5.2 Economic sustainability

Investments

Ping An makes efforts to incorporate ESG factors into its investment decision-making process. An Investor Relations and ESG Management Committee was established to guide and monitor business units in integrating ESG factors into their investment and business decisions, thus supporting responsible investment and product development.

Ping An's investments focus on infrastructures such as railway, highway, clean power plants as well and oil and gas pipelines. The company launched large-scale funds in cooperation with municipal governments to support the development of smart city, inter-city railways and airport construction projects. Ping An also continues to invest in rural hydropower, retirement communities and long-term rental apartments. Each year, Ping An invests 1% of its revenue in technological R&D.

In 2018, its net profit attributable to shareholders of the parent company reached RMB112,573 million (more than US$16 billion) reaching a 18.9% YoY growth with an operating Return on Equity of 21.9%, and operating profit per customer equal to RMB531.25 (US$77).

5.2.1 Support to local economies, low-income countries and remote areas

Prior to 2018, Ping An's financial poverty relief initiative revolved around four major business segments: **rural insurance, rural social health insurance, rural banking, and rural Internet finance.** In 2018, Ping An launched Ping An Rural Communities Support, an initiative to support the national poverty eradication strategy. It comprises the "Village Officer Program", "Village Doctor Program", and "Village Teacher Program", to strengthen respectively industries, healthcare and education in rural areas.

Up to the end of 2018, the total poverty alleviation fund granted by Ping An reached RMB5.394 billion (US$784 million). A total of 330,000 people benefitted from its Village Officer Program and 15,000 low-income people received support from its industrial poverty alleviation loan.

To date, more than 70% of **Lufax's** investment funds have been sourced from tier-one cities, of which over 60% were redistributed to rural areas and cities in tier-three or below. These funds cover more than 60% of low-income counties in China. Since 2016, Lufax has also leveraged its Internet financial services to promote inclusive finance for agriculture, rural areas, and farmers, created job opportunities for more than 220,000 unemployed citizens and alleviated poverty for 80,000.

"Lufax public asset management cloud platform" drove the financial management of local governments. Its implementation is expected to **help local governments** improve their fiscal and taxation management.

Ping An's "Smart Social Health Insurance Management Cloud Platform" helped the government with big data processing, anti-fraud, overmedication control and implementation of standard prescriptions in four major areas including review of medical expenses, management of designated medical facilities, basic handling service and actuarial service. Up to December 2017, a total of 258 cities joined the smart social health insurance platform, covering a population of over 800 million. The number of partner hospitals totalled 2,135.[62]

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[62] For further details, see: http://www.pingan.cn/en/csr/social-responsibility-report.shtml

5.2.2 Support to small and medium enterprises (SMEs)

Ping An provides **inclusive finance to support financially underserved communities.** It facilitated the reallocation of under-utilised funds to agriculture, rural areas and farmers, SMEs, infrastructure construction and livelihood projects through subsidiaries such as Ping An Bank, Ping An Puhui and Lufax.

- In 2018, Ping An Bank successfully issued RMB35 billion (US$5 billion) in bonds which will be used exclusively for small and micro-enterprise loans.
- Puhui Financial, one of the subsidiary platforms of Lufax Holdings, is dedicated to improving its risk control with technical innovation, thus enhancing the financing options for small and micro-enterprises, family businesses, and working-class. Up to the end of 2018, it has provided more than 2.5 million small and micro-enterprises with over RMB500 billion (US$72 billion) worth loans, aiming to resolve their difficulties in accessing finance. The proportion of total loans to SMEs at Puhui Financial increased from about 44% in 2017 to 50% in 2018.

5.2.3 Promoting sustainable consumption and production[63]

Lufax has adopted data-driven risk management models and fintech solutions to expand the scope of its financial products, whilst lowering costs. Since the past decade, global efforts to counter terrorism financing and money laundering have led banks to terminate relationships with some communities, businesses, and individuals around the world which results in **exacerbating financial exclusion**. When a financial institution or intermediary cannot easily judge the identity and associated risks of a customer, they often avoid transacting with that customer altogether. This may disproportionately affect small banks, small firms, and low-income individuals in emerging and developing economies. Traditional customer identification systems often focus solely on data such as credit and income of customers and tend to exclude financially underserved customers more than the upgraded versions of 'Know your Customer' (KYC) solutions, which **assess risks in a more efficient and effective way without compromising the aim of financial inclusion**.

Lufax has entered the **KYC 4.0 phase**. Its **customer profiling tracks everything** from credit data, daily transactions, investment behaviour and money laundering risks, which allows the company to assess investor suitability more accurately through big data analytics of wealth levels investment experience, risk appetite and liquidity demands. More basic information, behavioural data, spending data, investment history, and credit information of registered client is also sourced from external partners in real time. Effective risk control and compliance management enable more inclusive and sustainable provision of financial services.

This is said against the backdrop that in China many marketplace lending platforms went bankrupt or involved themselves in fraudulent activities, which severely impaired the reputation of China's **marketplace lending industry**. Year 2016 witnessed the first ever negative growth in the number of marketplace lending platforms, the chaos and turbulence in the market called for tighter regulation. Only by effective risk control and compliance management Lufax remained sustainable.

Ping An has also been **optimising its supplier management by standardising its procurement procedure.**

As an online wealth management platform, however, **environmental information disclosure** on its financial products could be more transparent. The public should have access not only to environmental information on Ping An and its subsidiaries, but also on that of the **companies whose financial assets they**

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[63] This section corresponds to the "Fighting Counterfeit and IPR Protection" section of the Interview Guidelines. As this aspect is not applicable to Lufax, the interview focused on "promoting sustainable consumption and production".

invest in their portfolios. This is an area Ping An could possibly improve on so that customers can make more sustainable investment decisions.

5.2.4 Research and development (R&D)

During the past decade, Ping An has devoted 1% of its concurrent annual revenue to R&D of the next year. So far, it has invested more than RMB50 billion (US$7.5 billion) in **technological development**. The Group has gathered more than 30,000 R&D professionals and 500 big data experts, and established six research institutes specialising in five core technologies – biometrics, big data, AI, blockchain and cloud platform.

It uses innovative technologies to disrupt traditional financial business and service models. Solutions developed by Ping An (such as face recognition) are commercialised and applied by various business units. Ping An has submitted more than 12,000 **technology patent applications**, covering AI-based cognition, AI, blockchain, and cloud computing. With **1,205 patent applications on Fintech**, Ping An **ranked first** in the 2018 Global Fintech Patent Ranking (Top 20). Lufax has been investing in technology development with a focus on AI, interactive robotics and blockchain technologies.

5.2.5 Data Protection

Ping An's Information Security Management System is certified against ISO 27001. The group conducts internal and external audits on a regular basis, and continuously provides **trainings** on data security and customer privacy. The group and its subsidiaries such as Lufax have established a stringent **customer information protection system** to clarify the security protection measures for input, transmission, storage, and use of customer information. A series of measures to prevent data leakage effectively protected the security of customer information. In addition, the company established a Group Security Emergency Response Centre and built platforms such as business security risk management to proactively perceive threats to Group's information security, realize rapid response, and provide customers with a solid information security guarantee. They conducted **trainings** on topics such as data security and customer privacy for the Group's Information Security Department and information security related employees.

5.3 Social sustainability

5.3.1 Decent work

By the end of 2018, Ping An group employed a total of 376,900 staff, including 167,400 in house staff and 192,700 sales agents. The group has been investing in employee development and personnel training, and have taken measures to ensure stable and steady increase in employees' income. They advocate a working philosophy "**happy work, healthy life**" and they endeavoured to create a healthy working environment for employees.

Ping An Group established a **dual-excellence course system** and science and technology course system and has recently expanded staff learning channels through an online AI + smart learning platform "Zhi Niao". A **training platform open to 1.8 million employees** has also been established where training programmes are tailor made for employees of different positions.

The company also used **distance live stream platform to provide training for agents**; they used new technologies such as big data, cloud platform, and biometrics to provide agents with new marketing models. Moreover, they established a smart screening model to offer dynamic plans for career

development. The total resources allocated for training and development was RMB1 billion (US$152.5 million) in 2018, providing total training hours of 3.34 million, i.e. on average 9.21 per employee.[64]

5.3.2   Welfare, anti-discrimination and inclusiveness

Ping An makes efforts for **talents pooling and retention.** Market remuneration research has been conducted annually to monitor the competitiveness of employees' remuneration. The remuneration scheme is designed in a way where **income is closely linked with company performance, individual performance and contribution**. Employees receive full social insurances and benefits, benefits associated with public holidays and special occasions, maternity and sickness, heating/cooling expense. In addition, annual **check-ups, regular medical services and an Employee Assistance Program** are provided. The Company **does not encourage or force** employees to work overtime and require internal approval procedure for overtime.

Ping An is strongly **against gender or age discrimination in terms of remuneration, benefits, promotion, education and training.** They value gender equality in accordance with relevant laws and regulations of China. As shown in Figure 18, the proportion of male and female employees is almost even. The percentage of employees over 30 has seen a considerable increase from 2015 to 2018.

Figure 18. Employee Diversity

Time	Male	Female	Under 30	30 to 50	Above 50	Han Chinese	Others
2018	51.36%	48.64%	58.75%	39.86%	1.39%	94.91%	5.09%
2017	50.33%	49.67%	61.05%	37.62%	1.33%	95.05%	4.95%
2016	50.6%	49.4%	68.0%	30.8%	1.2%	95.3%	4.7%
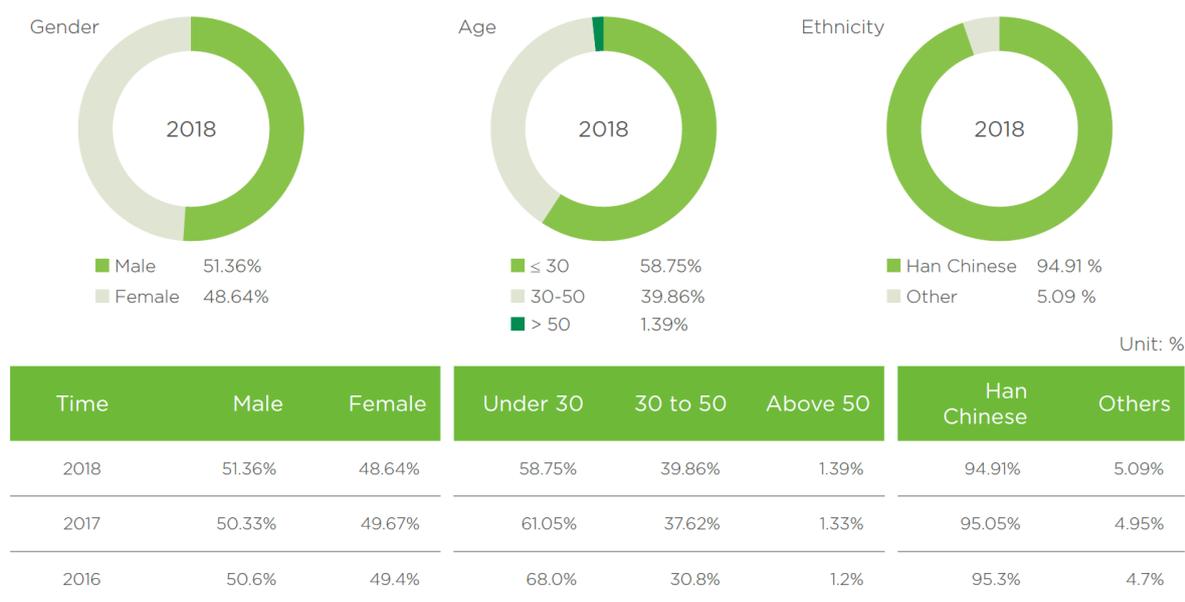
Source: Ping An company document, 2019

5.3.3   Empowering women

Ping An provides those employees who are **mothers** with exclusive baby cares spaces, where drinking water, freezers and cleaning equipment are available. In addition to the annual health examinations for all employees, they also provide female employees with gynaecological examinations and pregnancy check-ups.

Nevertheless, the gap between female and male in senior management positions is still an issue. Up to 2018, there were **685 women out of 2,694 senior management staff** and 3 women out of 14 executive managers, while the average working experience of female employees is actually longer than male

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[64] For further details, see: http://www.pingan.cn/en/csr/social-responsibility-report.shtml

employees' experience.[65] The ratio of basic salary and remuneration of women to men is not disclosed in the 2018 ESG report; therefore, it is not possible to assess whether gender gap exists when it comes to remuneration.

5.3.4 Creating job opportunities

Apart from the job Ping An has created directly through employment, it has also created job opportunities indirectly with Ping An Puhui. This portal **enhances financial inclusion**, thus allowing financially underserved communities (SMEs, rural areas etc.) to access financial resources at relatively lower cost. By providing loans to SMEs and urban areas, Ping An Puhui indirectly provided jobs for 382,000 people and helped 127,000 households out of poverty. They have issued loans totalling RMB104 billion (US$15.5 billion) to cities at tier-3 or below, of which loans issued to under developed counties totalled RMB4.89 billion (US$730 million).[66]

5.3.5 Fostering entrepreneurship

As mentioned above, Ping An devised industrial poverty alleviation strategies in accordance with local business environments, and helped underdeveloped rural households out of poverty by **encouraging and facilitating local entrepreneurial activities**. This was mainly achieved by injecting insurance as a safety net into the entire industrial value chain and encourages underdeveloped households to start up their own business. Its poverty alleviation team has significantly improved the utilization of funds of local business owners to whom they also introduced Ping An's KPI appraisal system.

Since 2017, Puhui Financial has been working with **China Women's Development Foundation** and Shanghai Soong Ching Ling Foundation to provide more than **RMB10 million** (US$1.5 million) **interest-free loans** and capacity building support to **rural entrepreneurs** in Inner Mongolia, Guizhou, Heilongjiang, Chongqing, Anhui and similar regions.

5.3.6 Charity initiatives

In 2018, **Ping An has established the Ping An Public Welfare Foundation and the Ping An Volunteers Association** to coordinate social welfare projects, promote employees' engagement and continue to enhance its charity management mechanism. Registered members on Pin An volunteers association reached 690,000 by the end of 2018. Within the year, RMB450 million (US$65 million) were invested on philanthropy projects.

In 2017, Ping An designated May 27, the group's founding day, as the first **"Ping An Charity Day".** In the same year, the Group also launched the "June 1st Charity-in-Action", calling upon 1.5 million Ping An staff to take part in a series of poverty-alleviation programmes. Figure 19 outlines Ping An's social responsibility actions covering **educational support, environment protection, support for Red Cross and Communities.**

Ping An has practiced its social responsibility with a **clear focus on educational support and environmental protection.** An important milestone for 2018 was the launch of its RMB10 billion (about US$1.5 billion) worth "Three-village Project". As mentioned above, it is composed of "Village Officer Program," "Village Doctor Program" and "Village Teacher Program" to strengthen industries, healthcare and education in rural areas. Ping An will provide a total of RMB100 billion (about US$15 billion) interest

[65] For further details, see: http://www.pingan.cn/en/csr/social-responsibility-report.shtml
[66] For further details, see: http://www.pingan.cn/app_upload/file/official/en-30yearsCSR.pdf

free loans to village officers in under developed areas across the country. These loans are expected to enable under developed villages to upgrade their industrial base.[67]

Figure 19. Ping An's Corporate social responsibility strategies

5.4   Environmental sustainability

5.4.1   *Green economy and energy efficiency*

Ping An leveraged digital innovation to provide paperless services and distance office operation, and to reduce operational resource consumption. The group has established **low-carbon potential indicators**, through which they indirectly reduce carbon emissions. Throughout 2018, with a surge in business volume, they still managed to indirectly reduce carbon emissions by 61,552 tCO2e.

In Shenzhen Ping An Financial Centre, a number of high-tech and smart technologies were implemented, thus enabling **energy-saving performance**. In its design and construction, innovative energy conservation solutions have been adopted including ice-storage system, reclaimed water system, energy-regenerative elevator technology and smart building control system. In 2017, Shenzhen Ping An Financial Centre officially obtained LEED core shell structure gold certificate issued by the US Green Building Council and Green Building Certification Institute, with a total score of 40 points, exceeding the standard for gold certificate by 6 points.

5.4.2   *Circular economy, packaging and sustainable procurement*

Ping An has worked on enhancing suppliers' standards and awareness of environmental protection. The company has set procurement quotas for providers of high energy consumption products and intends to cut off procurement from providers who violate the environmental protection requirements of the state or the Company.

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[67] The "Village Doctor Program" is designed to help villagers have easy access to medical services; the "Village Teacher Program" is designed to provide rural children with better education.

Ping An continued to focus on environment, investments in renewable resources and input in green credit. Ping An Bank actively **supported the efforts to create a circular economy.** Ping An Securities supported the development of **green bonds** and facilitated the development of public welfare in Western China and people's livelihood with green finance.

5.4.3 Climate change

Ping An Property & Casualty used its latest **technological innovations** and participated in seven typhoon warning and prevention operations in China, reported more than 350,000 risk warnings for climate disasters, carried out more than 10,000 on-site investigations on the potential risks in enterprises, and provided more than 400,000 sets of disaster and loss prevention materials for free. In addition, the company developed **pollution risk map** to help enterprises, governments and insurance companies understand the pollution risks in the regions they are involved in, so as to conduct targeted risk management and underwriting pricing. In 2017, its digital risk identification system was made open to external users, and an *ad hoc* module was added to the system to illustrate the current environmental protection laws and regulations and industry development.

5.5 Concluding remarks

Ping An has been awarded "The Most Respected Enterprise in China" by the Economic Observer for 17 years in a row, the "2018 Carbon-Value Award – Green Responsibility Award" by World Economic and Environmental Conference, and "Best Poverty-alleviation Contribution Award" by 21st Century Business Herald.[68] The Study has shown a number of good practices adopted by Ping An and Lufax that are summarised in what follows.

- **Economic sustainability**. Ping An's targeted investment and prolific R&D in core technologies such as biometrics, big data, AI, blockchain and cloud platform helped achieve greater efficiency, risk management, cost reduction and improved customer services, hence promoting more sustainable consumption and production. Lufax and its subsidiary platform Puhui Financial have been playing an important role in supporting local government, low income areas and SMEs. Ping An has supported local government (through its investment in infrastructure and Lufax's public finance management cloud platform for instance) and addressed issues critical to the living standard of civilians such as healthcare.

- **Social sustainability**. Ping An prioritizes continuous learning through a comprehensive training system both online and offline and provides a healthy and inclusive work environment. It has conducted continuous evaluation of remunerations and benefits to ensure a reasonable and stable increase in employees' income. Its attention to the physical and mental health of staff, especially to female staff is also worth mentioning. The real highlights in this category though, lie in Ping An's achievements in the fields of poverty alleviation framework and educational support.

- **Environmental sustainability**. Ping An has leveraged its technological advantages to provide customers with simpler and more convenient services, to provide paperless services and distance office operation, and to reduce operational resource consumption. It has implemented LEED's sustainability strategies in constructing green working environment, and has endeavoured to provide green financial services to promote a circular economy and reduce pollution. With its cutting-edge technologies, it also contributed to natural disaster relief to address the risks brought about by climate change

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[68] For further details, see: 2019 Ping An annual report.

While attempting to assess the sustainability of Lufax Holdings to shed light on the platform economy, very limited access was available to independent sustainable strategies of this company, as all the relevant activities are integrated in the broader Ping An's sustainability strategy. As Lufax grows, the platform should develop **a more independent and systematic approach to sustainability**.

An obvious area for improvement for the parent company, as mentioned in the "empowering women" section, is the **gender gap when it comes to senior management**. This raises the question whether female employees might be disadvantaged in terms of promotion opportunities. In addition, Ping An's overall ESG score has been negatively impacted by a lower percentage of female employees relative to sector peers.[69]

As mentioned earlier, Ping An could possibly improve on **environmental information disclosure** not only for the company itself but also for those companies whose financial products are sold via the Lufax platform to foster sustainable investments.

As Lufax and other subsidiaries of Ping An expand globally, **Ping An's support to SMEs and low-income economies should also go global,** in line with internationally recognised benchmarks of sustainable development. Finally, when compared to global peers, Ping An's governance scores are impacted by a **lack of separation between the roles of chairman and CEO and lack of a majority of independent directors**.[70]

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[69] For further details see http://www.pingan.cn/en/ir/senior-management.shtml
[70] For further details see http://www.pingan.cn/en/ir/senior-management.shtml

6. CASE STUDY: RAKUTEN

BY ZACHARY KILHOFFER AND SARA BAIOCCO

6.1 Introduction

Rakuten is a Japanese company based in Tokyo. It was founded in 1997 by Hiroshi Mikitani, who still leads as Chairman and CEO. Rakuten's operations began expanding internationally in 2005, and as of 2018, the Rakuten Group is active in around 190 countries.

Rakuten, meaning "optimism" in Japanese, began as an **e-commerce platform**. The **"Rakuten Ecosystem"** is ubiquitous throughout Japan, thanks to its strong credit card and payments business, ownership of high-profile Japanese baseball and football teams, and leading online marketplace **Rakuten Ichiba**. Rakuten is also building its brand globally with sponsorships abroad, notably the Futbol Club Barcelona soccer team and the Golden State Warriors basketball team.

Rakuten Ichiba is among the largest e-commerce companies in the world, but unlike its largest competitor, Amazon, Rakuten sells few items itself. Instead, like eBay or Alibaba, Rakuten focuses on helping third-party merchants reach new customers.

In all, **Rakuten Group** consists of around **70 businesses and services** in addition to Rakuten Ichiba. The main features of the **"Rakuten Ecosystem"** include e-commerce and fintech, card and payment, banking, securities, insurance, sports and culture, communications, digital content, life and leisure, and advertisements and media. Rakuten is also a major investor in tech unicorns; it took large, early stakes in the ride-sharing company Lyft and social media company Pinterest.

As of 2017, Rakuten group claims over US$55 billion in total assets and around US$8.5 billion in revenue. Revenues indicate continued growth of over 20% compared to the previous year. As of December 2017, Rakuten employs around 10,000 in Japan, and 15,000 worldwide.

6.1.1 Sustainability Overview

Rakuten has revised its sustainability standards along international recommendations. Rakuten has built on **GRI Sustainability Reporting Guidelines**, and Rakuten's Corporate Report 2017 refers to the UN's Sustainable Development Goals. The company has received a number of awards for its initiatives:

- **B Corporation Certification**[71] – Rakuten OverDrive received the B Corporation Certification, which recognizes for-profit companies meeting rigorous social, workforce, and environmental standards (2018).
- **Diversity Management Selection 100**[72] – recognition of implementing best practices in diversity management (2013).
- **Dow Jones Sustainability Indices**[73] – included for its second consecutive year as an index component for Dow Jones Sustainability Asia Pacific Indices (2017).
- **Gold level**[74] – awarded in Work with Pride's PRIDE Index for LGBT empowerment and inclusion in the workplace (2016, 2017).

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[71] For further details, see: https://rakuten.today/blog/rakuten-overdrive-b-corporation.html?utm_source=Rakuten+OverDrive+now+a+B+Corp%3A+recognized+for+social+and+environmental+impact&utm_medium=RSS&utm_campaign=RSS+Reader

[72] For further details, see: http://www.meti.go.jp/english/press/2014/0303_02.html

[73] For further details, see: https://global.rakuten.com/corp/news/press/2017/0911_03.html

[74] For further details, see: http://workwithpride.jp/pride-i/#prideEnglish

- **Gold medal**[75] – awarded from Global Anti-Counterfeiting Group for actions taken to prevent counterfeiting (2016).
- **Index component**[76] – selected for MSCI Japan ESG Leaders Index and MSCI Japan Empowering Women Index (2017).
- **Privacy Mark Certification**[77] – recognition award for accordance with Japanese Industrial Standard "Personal information protection management systems - Requirements (JIS Q 15001)" (15 companies of Rakuten Group accredited as of 2018).

As indicated in the Corporate Report 2017, Rakuten Group revised its sustainability priorities in 2017. These are based in part on a survey distributed to stakeholders. As shown below in Figure 20, **"data security and customer privacy"** were found to be the highest priority for Rakuten and its stakeholders.

Figure 20. Sustainability priorities

Source: Corporate Report 2017.

These 16 priority areas form the core for Rakuten's sustainability approach as of 2017. As part of its annual Corporate Report, Rakuten reports on initiatives taken with respect to its sustainability priorities. The remainder of this case study provides additional details on Rakuten's initiatives in the areas of economic, social, and environmental sustainability.

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[75] For further details, see: https://rakuten.today/blog/fighting-counterfeits-in-e-commerce.html

[76] For further details, see: https://global.rakuten.com/corp/news/press/2017/0911_03.html

[77] For further details, see: https://global.rakuten.com/corp/about/governance/security.html

6.2 Economic sustainability

6.2.1 Investments

Rakuten has substantial focus on investment in innovative fields, as demonstrated by Rakuten Group's **expansion into mobile phone networks, financial products, media and marketing, and IT infrastructure**. This represents part of a shift that it sees necessary for the company, and Japan more generally, to remain relevant as digital services grow in relevance versus manufacturing. The Corporate Report 2017 particularly highlights its **Mobile Virtual Network Operator services business**, **C2C business**, **advertisement technology**, **InsurTech**, and **sharing economy** as part of its growing business portfolios. On the latter, Rakuten has launched a service similar to AirBnB.

Rakuten's primary indicators for financial management are return on equity, return on assets, and the equity ratio. [78] Keeping these indicators in balance is a priority for Rakuten Group. However, Rakuten is also considering shifting assets between some of its businesses based on performance and expected return on investment. In this regard Rakuten could make use of economic capital[79] management, which would manage business performance based on assumptions of capital and expected yields, as well as business risk characteristics. This is expected to allow Rakuten Group better control of its business portfolio and more efficient allocation of assets and capital.

6.2.2 Support to small and medium enterprises (SMEs)

Rakuten's e-commerce platform benefits SMEs by giving them access to a global marketplace. For example, SMEs are able to establish brand sites in Rakuten Ichiba through **Rakuten Marketing Platform** (RMP) as of December 2017. However, Rakuten is also active in promoting SMEs in other ways. As noted, **Rakuten University** in Indonesia and Malaysia provides classes intended to help support SME owners and entrepreneurs to enter e-commerce.

Rakuten also has the potential to support SMEs through its expansion into financial products. In the 2017 Corporate Report, it emphasised loans to SMEs through e.g. **Rakuten Europe Bank**, which has European operations centred in Luxembourg.[80] Rakuten is also a founding member of **SME Finance Forum**. The SME Finance Forum was established in 2012 by the **G20 Global Partnership for Financial Inclusion (GPFI)** as a knowledge centre. It operates to connect SMEs with FinTech and bank organisations globally, intended to help SMEs with finance and expertise through networking and content resources.[81]

6.2.3 Fighting counterfeits and IPR protection

Rakuten has proactively fought against counterfeits, both in Japan and abroad. In 2007, it launched a programme to filter out potential counterfeits. Rakuten works with 1,100 brands to identify and investigate complaints of counterfeits and compensate consumers if they mistakenly purchase fakes up to the value of 300,000 yen (approximately €2,500). Since the programme was put in place, **Rakuten says it has detected between 98-99% of counterfeit products put on sale** before online publication.[82]

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[78] Return on equity is a measure of how well a company uses investments to create earnings growth, calculated by dividing net assets by shareholders' equity. Return on assets is a measure of how profitable a company is versus total assets, calculated by dividing net income by total assets. The equity ratio is the share of total assets funded by stockholders rather than creditors, and is an indicator of leverage.

[79] Economic capital is the amount of risk capital required to cover its risks.

[80] For further details, see: https://www.bank.rakuten.eu/files/REB_Pillar_III_Report-2017.pdf.

[81] For further details, see: https://www.smefinanceforum.org/about/what-we-do.

[82] For further details, see: https://rakuten.today/blog/fighting-counterfeits-in-e-commerce.html.

In Europe, Rakuten France has pursued a similarly aggressive anti-counterfeit strategy, aiming to detect fakes before they appear online. Once detected, the products are banned. Rakuten France has signed an agreement with French customs to exchange information and is a signatory of a MoU with European Commission on sale of counterfeit goods via the internet. Lastly, Rakuten continues to invest in research on fraud detection through the Tokyo **Rakuten Institute of Technology** facility.

6.2.4 Data Protection

In recent years, Rakuten has become increasingly concerned with **data protection**. Data protection is likely to continue being a greater focus given new products in communications, marketing, and data.

Rakuten has been criticised for **incidents in which sensitive data of customers were leaked**. In one incident in 2005, around 36,000 Rakuten customers had their personal data leaked, including names, addresses, phone numbers and email addresses. In around 10,000 of these cases, their credit card numbers were leaked as well. The leak in question concerned Rakuten customers who purchased from American Merchandise Concept using Rakuten Ichiba.[83]

Rakuten's Binding Corporate Rules Policy,[84] which forms the substance of its data protection policy, is modelled off the data protection laws of the European Economic Area (EEA). The policy covers merchants, suppliers, customers, as well as Rakuten employees. Beyond abiding by EEA standards, the Binding Corporate Rules specify that Rakuten must act in compliance with all local legislation.

Additionally, 15 companies of Rakuten Group are accredited with **ISO/IEC 27001 ISMS Certification**,[85] which is one of an international family of standards. This certification requires that management, among other initiatives, must:

- Systematically examine the organisation's information security risks, accounting for threats, vulnerabilities, and impacts;

- Design and implement a coherent and comprehensive suite of security controls and/or other forms of risk treatment to address unacceptable risks;

- Adopt an overarching management process to ensure that information security controls continually meet the organisation's information security needs.

Five companies in the Rakuten Group have also received the **Privacy Mark Certification** – in accordance with Japanese Industrial Standard "Personal information protection management systems - Requirements (JIS Q 15001). This is a standard for establishing, implementing, maintaining and improving a personal information protection management system.

6.2.5 Research and development (R&D)

Rakuten invests heavily in R&D. For example, it founded the **Rakuten Institute of Technology** in Tokyo in 2006, which is a dedicated R&D facility. It now operates at five branches globally, namely Tokyo, San Mateo, Paris, Singapore, and Boston. Its research operations consist of over 100 researchers from Japan and around 30 other countries.

A good deal of the research is also targeted at technologies that Rakuten may further implement into its various businesses, such as autonomous systems, distributed computing, robots and automation,

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[83] For further details, see: http://info.japantimes.co.jp/weekly/news/nn2005/nn20050813a8.htm and https://www.japantimes.co.jp/news/2005/07/29/business/rakuten-admits-new-client-data-leak/#.XJjC-yJKhhE.

[84] For further details, see: https://corp.rakuten.co.jp/privacy/en/bcr.html.

[85] For further details, see: http://www.27000.org/ismsprocess.htm.

machine learning and algorithm design. Much of the research of Rakuten Institute of Technology is technical, oriented towards e-commerce platforms or particular business activities. For example, in the sphere of payments, the Rakuten Institute of Technology is interested in AI facial payment technology.

6.3 Social sustainability

6.3.1 Decent work

Rakuten has a number of initiatives in ensuring decent work. To begin, it offers a **variety of employee support facilities** in headquarters, located in Futako Tamagawa, such as cafeterias with free meals, fitness centre, variety of clubs (e.g. photography and tennis), massage and acupuncture. **Parental leave** is offered to men and women. **Paid vacation** (average of 15.8 days annually) is offered to employees, at a 69.6% acceptance rate. **Career development** is also encouraged through biannual performance and career orientation reviews, and other initiatives reinforced in 2017. Permanent employment contracts account for over 92% of Rakuten employees. Lastly, Rakuten claims a 0% occupational disease rate, with no fatalities, and a 0.3% injury rate as of Dec. 2017.

6.3.2 Welfare, anti-discrimination and inclusiveness

Rakuten is strongly investing in diversity as part of its global orientation – it has individuals 77 nationalities employed, and high corporate emphasis on a **diverse workforce**. Particular inclusion initiatives include **halal and vegetarian meals** available in the cafeteria, prayer room, and cross-cultural training programs. 20% of those employed at global headquarters, Rakuten Crimson House, are non-Japanese, and non-Japanese also account for 20% of executive officers and above. Some 80% of new engineering hires are non-Japanese as well (Economist, 2017).

A key initiative in this regard is **"Englishnization"**, through which Rakuten's official business language shifted from Japanese to English. This is intended to make Rakuten more welcoming to non-Japanese and increase global competitiveness. It is also a marked contrast to Japan's famously insular culture, which is not generally welcome to outside influence and migration.

Rakuten is also involved in **anti-discrimination and inclusiveness** for other minorities. It has an explicit policy of inclusion for PWD, the LGBT community, and people needing to care for children or elderly. Rakuten updated its definition of "spouse" to ensure LGBT people are covered by the company's benefits scheme. It also offers an internal LGBT network for information sharing and support for LGBT employees and allies as of June 2016. These efforts resulted in achieving "Gold Level" in Work with Pride's PRIDE Index.

Additionally, Rakuten **employs persons with disabilities** at a rate of 2.6% of employees as of December 2017– above the 2% mandated statutory employment rate. Rakuten has exceeded statutory PWD employment rates since November 2014. Furthermore, Rakuten Socio Business, Inc. was founded to create good work environment for persons with disabilities.

6.3.3 Empowering women

Women represent 38% of all employees and 21% of managers. In part this can be attributed to support measures for families at stages including marriage, pregnancy, childbirth, back to work, and after elementary school. For example, Rakuten Crimson House's offers **in-house childcare centre**, and arrangements for nursing and babysitting for sick children. Additional measures include a **working parents' network**, range of seminars on maternity leave and returning to work, and a newsletter for employees on childcare leave. The rate of women returning to work after giving birth improved by 10%

since 2013, and at present around 95% of women return to work after giving birth. As a result of these efforts, Rakuten was selected as an index component for MSCI Japan ESG Leaders Index and MSCI Japan Empowering Women Index in 2017.

6.3.4   Charity Initiatives

Rakuten Group has a number of initiatives targeting youth, disaster relief, and local community empowerment.

Youth initiatives include **Rakuten IT School**, which is a *pro bono* program for high school students to learn about e-commerce and other topics. It claims 6,955 graduates at 245 schools as of February 2018. The IT School attempts to find innovative ideas for local problems with local partners and e-commerce – e.g. revitalizing Futaba District, promoting depopulated regions, and the initiative "Fair Trade Town Nagoya".

A number of initiatives aim to support **vulnerable children** and **general disaster relief** through events such as **donation matching days**. Rakuten's US subsidiary Ebates and the Rakuten Group held matching crowdfunding drive to assist victims of Hurricanes Irma and Harvey with school supplies, and the Rakuten Clutch Special Charity Fund collected donations for victims of natural disasters in Japan and Peru.[86] Additionally, a range of Rakuten-led projects aim to help vulnerable children, such as those in foster care.

Rakuten has special initiatives in developing countries. Rakuten University in Indonesia focuses on assisting SMEs enter e-commerce. A similar initiative is also in place in Malaysia. Lastly, Rakuten Recipe – a free website for crowdsourced recipes – supports hunger in developing countries. For every two recipe reviews written, Rakuten Recipe donates one meal to a child in a developing country through the non-profit organisation Table for Two.[87] As of January 2018, it has donated an amount equivalent to 643,378 meals.

6.4   Environmental sustainability

6.4.1   Green economy and energy efficiency

Rakuten has a number of environmental sustainability initiatives and recognises international agreements including the Paris Agreement. Rakuten also tracks of and publishes environmental data, specifically **Greenhouse Gas Emissions** and **Energy Consumption** for offices and warehouses in Japan.

In 2013, Rakuten launched **Rakuten Energy** to provide a cleaner form of electricity. Rakuten Energy is recognised as a retail electricity provider by Ministry of Economy, Trade and Industry's Agency for Natural Resources and Energy as of 21 February 2017.

As of 27 March 2017, Rakuten and Global Engineering Co., Ltd. announced a new private trading platform called the **Rakuten Energy Trading System (REts)**[88] to stimulate the power savings market. REts is a J-Credit[89] trading system for "environmental values"[90] and "negawatts", which is a term for the value gained from energy conservation. With the REts platform, Rakuten hopes to incentivise reduced energy consumption and greenhouse gas production.

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[86] For further details, see: https://global.rakuten.com/corp/investors/assets/doc/documents/ar_2017_all.pdf.

[87] For further details, see: http://www.tablefor2.org/home.

[88] For further details, see: https://trading.energy.rakuten.co.jp/rets/ (in Japanese).

[89] J-Credits are Japanese government-certified carbon offset credits, earned by reducing emissions or increasing absorption of greenhouse gases.

[90] "Environmental values" refers to greenhouse gas reduction effects obtained through renewable energy, energy conservation, and other initiatives, which have been certified and given numerical values by the government or local municipalities. For further details, see: https://global.rakuten.com/corp/news/press/2017/0327_01.html.

Rakuten further promotes environmentally friendly travel and shopping. For example, **"I-sharing"** allows customers, hotels and merchants with Rakuten Travel and Rakuten Ichiba, to access optimised electricity supply from low-cost and renewable sources. Every 1kW of electrical fee savings from each customer supports **Rakuten's Forest** - a conservation project to protect the endangered golden eagle and its habitat. Rakuten also promotes eco-shopping and eco-travel through coupons to consumers who stay at more eco-friendly accommodations or purchase more eco-friendly goods.

Rakuten has changed the products it allows to be sold due to environmental scrutiny. Rakuten Ichiba ended the exchange of whale and dolphin meat in 2014, a decision the company states was taken to comply with the March 31, 2014 ruling by the International Court of Justice.[91] However, Rakuten's decision came soon after a UK-based non-governmental organisation, the Environmental Investigation Agency, published a report[92] claiming that Rakuten is the world's largest online marketplace for whale products and elephant ivory.[93] Rakuten also forbids trade of ivory and sea turtle products since 2017.[94]

6.4.2 *Circular economy, packaging and sustainable procurement*

By nature of its e-commerce marketplace, Rakuten **promotes reuse of second-hand products**. Rakuten's **Recycle-Jungle** market enables users to exchange used products, and thus provides the possibility to reuse many types of products. In addition, Rakuten operates the Rakuma flea market app for C2C trading, which integrated the Rakuma and Fril platforms in February of 2018.

Rakuten has also entered the e-reader market, and introduced a recycling program for the Kobo e-readers it sells. If Rakuten branches into other products, similar recycling programs might follow this model.

6.5 Concluding remarks

Rakuten is expanding quickly into new business ventures that open up risks and opportunities for sustainable practices. This is a key reason for its new sustainability strategy, of which **data protection is the first priority**.

Rakuten has demonstrated that good business practices and sustainability can go hand in hand. First, its focus on **building a diverse and global employee base** is complemented by decent work, anti-discrimination, and inclusion practices. Second, it has promoted **clean energy and energy conservation through a credit trading platform**. Third, Rakuten operates **dedicated research facilities** through the Rakuten Institute of Technology. This allows it to continually refine its practices, leveraging emerging technologies to introduce new services. Fourth, Rakuten has strong policies to **combat counterfeits**, and an emerging focus on data protection. Lastly, Rakuten Ichiba provides a base for **entrepreneurs and SMEs** to reach a global marketplace, creating new chances for growth. This may be further bolstered by selling few products itself, and avoiding potential conflicts of interest with its business partners.

However, Rakuten has room to improve its sustainability practices. For example, its corporate report, wherein its sustainability practices are summarised, **does not discuss many specific targets**. In human resources, it lists the percent of women of all employees and in upper management, but does not indicate a particular target to reach by a certain date. Including targets is vital to measure and demonstrate progress.

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[91] For further details, see: https://www.japantimes.co.jp/news/2014/04/03/business/corporate-business/rakuten-bans-whale-meat/#.XBi9RxNKgkh.

[92] For further details, see: https://www.eia-international.org/wp-content/uploads/Blood-e-Commerce-FINAL.pdf.

[93] For further details, see: https://www.theguardian.com/environment/2014/apr/04/rakuten-ends-whale-meat-sales.

[94] For further details, see: https://www.bbc.com/news/world-asia-40535801.

As an additional note, Rakuten's overall **e-commerce model** essentially allows merchants to make their own decisions with regard to labour and environmental standards. While merchants must confirm with the law and Rakuten's terms, it is otherwise unclear to what extent Rakuten promotes their sustainable practices. This may be explained by the type of business Rakuten Ichiba is; Rakuten Ichiba is a marketplace, and consumers and merchants are largely left to make their own decisions. As in other areas of the platform economy, it remains to be seen to what extent it is appropriate for platforms to play referee over people and businesses using the platform. Regardless, Rakuten's ubiquity in the Japanese market allows it great leverage to influence how merchants do business.

7. CONCLUSIONS

BY ANTONELLA ZARRA, FELICE SIMONELLI, SHENGLIN BEN AND WILLIAM ECHIKSON

As the platform economy grows, so does its impact on our economy, society and environment. Online marketplaces are founded on the belief that everybody should be part of the global market. The principles of **inclusiveness, growth and prosperity** are embedded in marketplace business models. Yet, it remains unclear whether, on balance, these platforms are leading towards a sustainable world.

7.1 Key findings

The report has examined the main impacts of the platform economy on the economic, social and environmental pillars of sustainability.

Economic sustainability. Online intermediaries connect **rural merchants** to the global marketplace. They provide entrepreneurs from remote areas with additional income and help lift them out of the poverty. Micro and small enterprises largely benefit from the platform economy, especially in emerging markets (UNIDO, 2018). Many platforms press for **free trade**. Alibaba's electronic World Trade Platform[95] (see Chapter 3) calls for low tariffs, free-trade zones and logistics support. Marketplaces often support local brick and mortar shops by **training** them and assisting their digital transition, creating a win-win partnership equation. Successful initiatives such as eBay's Retail Revival[96] (see Chapter 4) could be adopted by other platforms. Platforms play a prominent role when it comes to **financial inclusion**, offering loans and financial services to previously underserved rural residents (see Chapters 3 and 5).

In spite of these benefits, a number of crucial questions about platform sustainability remain unanswered. Although they make massive investments in new technologies such as AI, platforms pay less attention to **specific investments tailored to sustainable development**. **Taxation** represents a key challenge. Because Internet companies are able to complete transactions without a physical presence in a country, it is difficult to determine their fiscal obligations. It represents a challenge to make sure they pay the correct amount of taxes where they create value. **Competition** policy must be considered. The Internet creates a winner-take-all dynamic. The more users are attracted to a platform, the more it becomes attractive to additional users. The emergence of Internet giants may shut off the growth of competitors. Additional research needs to be carried out to understand the implications of company size on sustainability.

Social sustainability. The impact of the platform economy on employment conditions and workers' access to social protection depends on the platform's business model. **Large online marketplaces** employ thousands of full-time workers. They often provide social security benefits, paid leaves, retirement plans, training as well as stable and high salaries. By contrast, platforms exercise **limited control over third-party workers**. Individuals working at the premises of the merchants receive no social protection from the marketplace, which often acts as a mere intermediary.

Different platform business models must be considered. Vertically integrated marketplaces such as Amazon, which not only have their own warehouses and logistics services but also sell their own branded products, differ from third-party marketplaces such as eBay. A **vertically integrated marketplace** exerts strong control over the value chain and can impact and define the working conditions of employees more

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[95] The Alibaba's electronic World Trade Platform is a private sector-led initiative, for public-private dialogue to incubate e-Trade rules and foster a more effective and efficient policy and business environment for cross border electronic trade development.

[96] Retail Revival is the eBay's 12-month economic development pilot programme whose scope is to grow small businesses by helping them to start selling online. It is a partnership between eBay and some towns in the US and UK, where small entrepreneurs are helped and trained to sell their products online.

than a third-party marketplace. Yet Amazon and some other vertically integrated platforms have been criticised for imposing poor working conditions and implementing aggressive anti-union tactics.

Gaps are visible in marketplace approaches to social issues. **Adherence to the ILO standards** for decent work are not displayed on marketplace websites. Marketplaces fail to disclose the share of young employees. Incentives to youth entrepreneurship and employment are important drivers of social sustainability. Platforms fail to report figures on work accidents. Marketplaces could put more effort into **anti-harassment policies**.

In contrast, marketplaces are relatively advanced in pursuing **gender equality**. Gender diversity and female entrepreneurship are considered priorities, and platforms are putting in place initiatives to encourage equal opportunities. While Europe and the US have made substantial steps towards pay parity (achieved by eBay in 2016), Asia lags. The platform economy can **reduce discrimination** both at the transaction level (the anonymity of the transaction reduces gender and race biases) and at the company level (through diversity and inclusion programmes). Programs such as Seller Diversity Ambassador[97] launched by eBay in 2017 (see Chapter 4) represent a step towards an inclusive e-commerce and could be adopted by other marketplaces. Platforms contribute to the inclusion of disabilities both within their workforce (see Rakuten's overarching strategy on diversity in Chapter 6) and in the global economy (see the eBay's Accessibility Team[98] in Chapter 4).

Rankings and reputational algorithms represent another important challenge. For instance, who should come first in the product listings - the cheapest product or that rated best by consumers? This leads to the more general issue of ensuring **fair relations between large digital platforms and their business users**, especially SMEs. Transparent terms and conditions and effective mechanisms for redress when such terms and conditions are not respected are essential. This aspect should become more prominent in online marketplaces' sustainability strategies.

Environmental sustainability. Platforms need to improve their efforts to promote environmental sustainability. While platforms are investing in energy efficient solutions for their data-centres and for their offices, integrating renewable energy in their sourcing strategy and enforcing responsible water management practices, most marketplaces **fail to set targets and measure their progress**. The lack of measurement undermines the reliability of the reporting systems. In addition, their approach to environmental sustainability would benefit from putting forward a comprehensive strategy to fight climate change.

Marketplaces are leveraging **technology to preserve the environment**. Initiatives such as Ant Forest[99] (see Chapter 3), which encourages users to reduce their carbon footprint, or Rakuten's Energy Trading System[100] (see Chapter 6), which enhances the liquidity of the carbon offset market, aim to reduce energy consumption and foster the green energy transition.

Even when platforms have limited control on the supply chain, they can still be influential. The role of **logistics services** is pivotal. Vertically integrated firms (such as Alibaba with its logistics business Cainiao Network; see Chapter 3), push their courier service partners to adopt a more sustainable shipping system, by using bio-degradable bags, tape-free boxes and package recycling bins. Packaging optimisation algorithms match packaging needs based on parcels' mass and volume, reducing the amount of packaging

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[97] eBay's Seller Diversity Ambassador's goal is to ensure that sellers from all the ethnicities, genders, and sexual orientations are well represented in the marketplace.

[98] eBay's Accessibility Team aims to solve issues using an eBay site due to disability or impairment.

[99] Ant Forest encourages users to reduce their carbon footprint by providing people with individualized carbon savings data direct to their smartphone, connecting their virtual identity and status to their earnings of "green energy" for reduced carbon missions, and by providing carbon offset rewards through a physical tree planting programme.

[100] The REts platform incentivises the reduction of energy consumption and greenhouse gas production.

materials. Yet when firms act as mere intermediaries, without owning any logistics assets, their impact on sustainable consumption and packaging is limited. They should **encourage their merchants to put in place environmentally sustainable practices**. At this stage, unfortunately, it seems that only few marketplaces do so.

While the platform economy **contributes to the achievement of sustainable development**, from reducing inequality to encouraging diversity, room for improvement remains. The **absence of an independent, harmonised reporting standard** hampers a fair and reliable comparison between best and worst performers. Platforms must adopt a systemic approach to measure their efforts in achieving economic, social and environmental targets. They should **encourage their suppliers, sellers and consumers to adopt sustainability practices.** This would broaden the ecosystem of actors involved in the sustainability challenge. The promotion of sustainable development by digital platforms represents a giant opportunity. It must be seized.

7.2   Operational recommendations

Against this background, a number of operational recommendations can be devised to help improve the sustainability of online marketplaces and digital platforms.

1. **Introducing a harmonised sustainability reporting system.** Platforms are implementing unilateral and spontaneous sustainability reporting standards, which result in a fragmented landscape, where they often show only the initiatives where they are good performers. This does not allow a fair comparison between players, offsetting the advantages of adopting reporting practices. A harmonised sustainability reporting system adopted by all the players would allow to identify the strengths and weaknesses of different platforms' sustainability strategies. A common reporting system would entail the definition of clear targets and the assessment of the progress towards them, which is pivotal to adjust their strategy overtime and achieve higher goals. The framework introduced in Chapter 2 illustrates sub-themes of sustainability where platforms are relevant, and could represent a starting point for a common reporting standard.

2. **Improving marketplaces' sustainability.** Platforms could be more impactful in several ways, ranging from increasing investments tailored to sustainable development to fighting climate change, from promoting youth employment to adhering to the ILO standards, from ensuring fair relations with their business users to reducing the environmental footprint of shipment. In these fields, they could and should up their efforts, set up a clear strategy and then measure their performance, disclosing more information to their stakeholders.

3. **Improving sellers' sustainability.** Marketplaces must encourage third-party sellers to be more sustainable and they should support sustainable seller efforts by increasing their visibility on the platform. Sellers should not just compete on price and service – but also on their programmes to support economic, social and environmental sustainability. Besides their ratings based on price and service, consumers could benefit from more information on merchants' social and environmental commitments. It should be reported if they are part of global initiatives in the field of climate, renewable energy, or sustainable packaging, if they have an internationally recognised environmental or social certification, or if they comply with sustainability standards.

4. **Improving consumers' sustainability.** At the moment, consumer purchases are driven by the price/quality of the product and the ranking of the merchant. By increasing the visibility of the merchants' sustainability, consumers may make their final purchase decision based on how sustainable a seller is. Marketplaces should inform consumers on the importance of 'sustainable consumption'. They could run awareness campaigns to explain to consumers why sustainable

consumption is important in achieving the SDGs and how they can contribute to them by purchasing 'sustainable products'. They could allow consumers to select green logistics options or to compensate the emissions linked to their purchases. They could incentivise sustainable consumption by rewarding consumers who choose the 'sustainable' sellers. Consumers preferring the more environmentally or social-friendly merchants could receive vouchers to purchase in sustainable shops. This would create a virtuous circle, where consumers will choose sustainable sellers, and sellers will be more willing to embrace sustainable strategies.

ANNEX A:

OVERVIEW OF THE MAIN SUSTAINABILITY REPORTING STANDARDS

BY ANTONELLA ZARRA

This Annex provides an overview of the main sustainability reporting standards adopted by businesses worldwide, i.e. the GRI, the Sustainability Accounting Standards Board (SASB), the OECD Guidelines for Multinational Enterprises, the ISEAL Alliance and the Sustainability Assessment of Food and Agriculture (SAFA). The selection of reporting systems has been driven by both their reputation and potential relevance to platform economy.

The GRI standards

The GRI is considered the pioneer in sustainability reporting since 1997. GRI is an independent international organisation, based in Amsterdam, but active in more than 100 countries. It helps **companies and governments** to take actions on issues such as climate change, human rights, governance and social well-being with the main goal of generating social, environmental and economic benefits for everyone. Based on a survey launched in 2013 by Ernst & Young and the Boston College Center for Corporate Citizenship, more than two-thirds of the companies interviewed declared to employ the GRI Standards when drafting their own reports. One of the advantages of the GRI is that it works also as a collector; in fact, the **GRI Sustainability Disclosure Database** keeps track of the sustainability reports issued by companies across the years.

The developers of the GRI structured a top-down framework of standards – which can be used all together or only for specific sub-topics – to assess companies' impacts on environment, economy and society. The analysis of such dimensions results in a final sustainability report shared by companies with their shareholders and stakeholders (and made publicly available). Figure 21 illustrates the four GRI 'series', i.e. the sets of standards that GRI makes available to companies.

The GRI **100 series** embraces **three universal standards** (GRI 101, 102 and 103), which outline the generic standards that companies could adopt when compiling their sustainability reports:

- **'GRI 101: Foundation'** is the starting point to use the GRI standards. It sets out the **reporting principles** to define the **content** and the **quality** of the sustainability report (presented in Table 2). It lists the requirements for drafting a sustainability report in compliance with the GRI Standards. The document guides companies on how to apply the reporting principles and provides tools to assess them. For instance, when deciding on the content of its report, the reporting firm should map its stakeholders, and explain how their expectations and interests have been considered. To identify stakeholders' expectations, a process of stakeholder engagement should be established. The company should self-assess how it is performing with regard to sustainability and its three dimensions (environmental, social, and economic) at global, national and regional level. In a nutshell, first, the reporting organisation lays out its understanding of sustainable development, then it assesses its contribution towards the achievement of sustainable development goals, both at global and at local level. Finally, it describes how its long-term strategy is aligned with those goals.

Figure 21. Overview of the GRI Standards
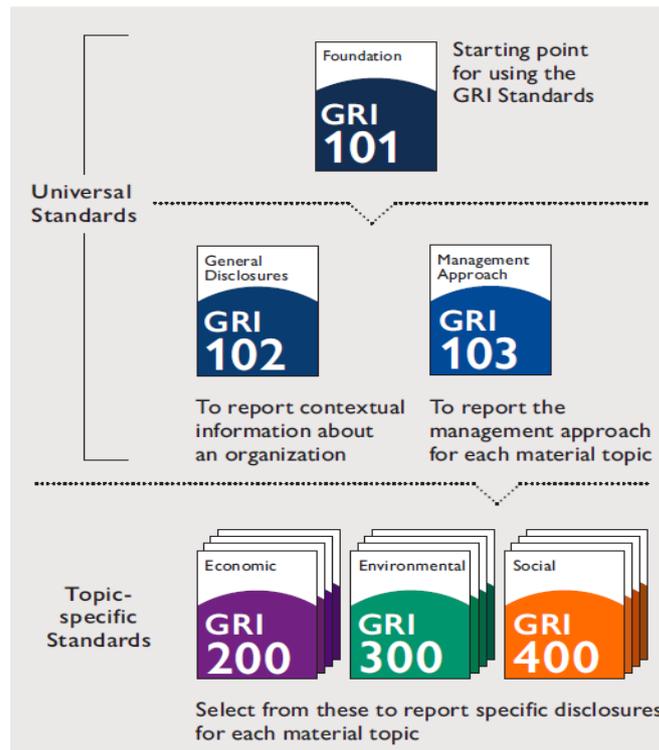
Source: GRI Standards, GRI 101: Foundation (GRI, 2016).

Table 2. Reporting principles

Reporting Principles to define report content	Reporting Principles to define report quality
Stakeholder Inclusiveness	Accuracy
Sustainability Context	Balance
Materiality	Clarity
Completeness	Comparability
	Reliability
	Timeliness

Source: GRI Standards, GRI 101: Foundation (GRI, 2016).

- **'GRI 102: General Disclosures'** requires companies to provide stakeholders with **background information** about the companies and its sustainability reporting procedures. This includes:
  o organisational profile, e.g. the name of the firm, the description of its activities, its primary products, brands and services, the markets served and the nature of ownership;
  o strategy, i.e. a statement from senior management on the relevance of sustainability in the firm and the strategy for addressing it, description of key impacts, risks and opportunities;
  o ethics and integrity, i.e. a list of the main values and norms of behaviour;
  o governance, e.g. information about the governance structure of the organisation and the appointed executives responsible for economic, environmental and social topics;
  o stakeholder engagement practices, e.g. the list of stakeholders related to the firm, the percentage of employees covered by collective bargaining agreements; and
  o reporting process, i.e. a list of all entities included in the organisation's consolidated financial statements or equivalent documents.

- **'GRI 103: Management Approach'** requires companies to disseminate information on how they handle material topics.[101] As stated on the GRI website, "it is designed to be used for each material topic in a sustainability report, including those covered by the topic specific GRI Standards (series 200, 300, and 400) and other material topics. Applying GRI 103 with each material topic allows the organisation to provide a narrative explanation of why the topic is material, where the impacts occur (the topic Boundary), and how the organisation manages the impacts".

Furthermore, the GRI system includes three **topic-specific standards**, covered in the GRI 200, 300 and 400 series, i.e. **economic, environmental and social**. These are used to report information on impacts related to these three topic:

- The **GRI 200 series** addresses the **economic aspects** of sustainability, i.e. impacts on the economic conditions of its stakeholders, and on economies at regional and global levels. It does not focus on the financial condition of an organisation. Overall, the economic series focuses on the flow of capital among stakeholders, and on the extent to which a company has **positive economic impacts on society**.
- The **GRI 300** series deals with the **environmental aspects** of sustainability, i.e. impacts on living and non-living natural systems, including land, air, water and ecosystems. More specifically, some series focus on the **inputs** used to manufacture and package products and services (e.g. GRI 301, Materials), others deal with the **energy consumption**, the issue of biodiversity or emissions, etc.
- The **GRI 400** series deals with the **social dimension** of sustainability, i.e. impacts on the social systems within which companies operate. For instance, GRI 401 addresses the topic of **employment**, which goes from the company approach to employment or job creation, to the working conditions standards applied to its employees.

The Sustainability Accounting Standards Board (SASB)

The **SASB** is an American sustainability reporting framework established in 2011 to complement the Financial Accounting Standards Board, the body in charge of setting up the accounting principles in the US. Unlike reporting standards such as the GRI, which is an independent body outside the financial regulatory system, the goal of the SASB is to integrate ESG standards with the financial standards that companies are already filing with the Form 10-k, a mandatory disclosure form required by the Securities and Exchange Commission . The SASB Sustainability Accounting Standards encompass i) **disclosure guidance** and ii) **accounting standards or metrics**.

The framework devises **industry-specific standards** classified under the Sustainable Industry Classification System. Currently, it covers around **80 sectors**, and it focuses on those ESG sub-factors which are relevant to each industry. Companies use the standards to disclose information to the stakeholders. The system envisages the establishment of industry-specific working groups that aim at completing the standards and updating the key performance indicators. Within the SASB framework, investors play a key role. In fact, they improve the effectiveness of the sustainability reporting by participating in the development of the standards through the Investor Advisory Group.

The **SASB's Materiality Map** (Figure 22) works as a snapshot of the material sustainability issues on an industry-by-industry basis and is constantly updated. It is an interactive tool, through which users can look at the relevant metrics per sector. The Map can be surfed on a **sectoral level** (with macro areas such as

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[101] Material topic is here defined as "a topic that reflects a reporting organisation's significant economic, environmental and social impacts or that substantively influences the assessments and decisions of stakeholders" (Definition retrieved from the consolidated set of GRI sustainability reporting standards; GRI, 2016).

Health care, Transportation, Services, Consumption) and on an **industry level** (for instance, Consumption further embraces, *inter alia*, Agricultural Products, Tobacco, Food retailers, E-commerce). Furthermore, the SASB Materiality Map identifies five categories of **issues** affecting the sustainability level of companies:

- Environment;
- Social Capital;
- Human Capital;
- Business Model and Innovation; and
- Leadership and Governance.

Within this framework, cells are highlighted according to the "**level of materiality**" of each issue in the specific sector/industry. For instance, dark grey cells indicate that the issue is likely to be material for more than 50% of the industries within the sector (or companies within the industry), whereas white cells are not affecting at all the industries within the sector (or companies within the industry).

Figure 22. The SASB' Materiality Map – Sector level

© 2018 SASB™ Materiality Map™

Source: SASB.

The standards have been built upon "suitable criteria" which have the following features:

- Relevance;
- Objectivity;
- Measurability; and
- Completeness.

The SASB Standards for e-commerce

E-commerce is included in the list of industries belonging to the "Consumption" sector. SASB defines e-commerce as the industry whose firms "provide an online marketplace service for other firms or individuals to sell their goods and services, as well as retailers and wholesalers that provide an exclusively web-based platform for consumers to buy goods and services" (SASB, 2017). The definition includes both

B2C and B2B marketplaces. In its Guidance for Disclosure of Sustainability Topics, the SASB provides five sustainability **topics** affecting online sales:

- Hardware infrastructure energy and water management;
- Logistics and packaging efficiency;
- Data security and fraud protection;
- Data privacy and advertising standards;
- Employee recruitment, inclusion and performance.

Each topic is quantified through **accounting metrics**, divided by **category** (quantitative or discussion and analysis) and **unit of measure.**

Table 3. Examples of sustainability disclosure topics and accounting metrics

Topic	Accounting metric	Category	Unit of measure
Hardware Infrastructure Energy & Water Management	Total energy consumed, percentage grid electricity, percentage renewable energy	Quantitative	Gigajoules (GJ), Percentage (%)
	(1) Total water withdrawn and (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Cubic meters (m3), Percentage (%)
	Description of the integration of environmental considerations into strategic planning for data centre needs	Discussion and Analysis	n/a
Logistics & Packaging Efficiency	Total GHG footprint of product shipments	Quantitative	Metrics tons CO2-e
	Description of strategies to reduce the environmental impact of product delivery	Discussion and Analysis	n/a
Data Security & Fraud Protection	Discussion of management approach to identifying and addressing data security risks	Discussion and Analysis	n/a
	Number of data security breaches, percentage involving customers' personally identifiable information (PII), number of customers affected 22	Quantitative	Number, Percentage (%)
Data Privacy & Advertising Standards	Percentage of users whose customer information is collected for secondary purposes, percentage who have opted in	Quantitative	Percentage (%)
	Discussion of policies and practices relating to behavioural advertising and customer privacy	Discussion and Analysis	n/a

Source: SASB.

The OECD Guidelines for Multinational Enterprises

The **OECD Guidelines for Multinational Enterprises** are a set of recommendations from governments to multinationals on **responsible business conduct**, which were introduced for the first time in 1976. The main goal of the Guidelines is to encourage enterprises to maximise the positive impact they can have on sustainable development. The guidelines provide **voluntary principles and standards** for social responsibility in areas such as employment and industrial relations, human rights, environment, information disclosure, corruption, consumer issues, science and technology, competition, and taxation.

Governments following the Guidelines are called to set up National Contact Points, whose main role is to foster the uptake of such recommendations by companies. More specifically, National Contact Points undertake promotional activities, handle enquiries, and contribute to the resolution of issues that arise from non-compliance with the Guidelines. So far, all OECD countries and 13 non-OECD countries have adhered to the Guidelines.

Figure 23. Countries adhering to the OECD Guidelines

Source: OECD.

The ISEAL Alliance

The **ISEAL Alliance** "*represents the global movement of credible and innovative sustainability standards*".[102] It is a membership-based organisation founded in 2002, which covers a large number of sectors, ranging from tourism to fisheries and jewellery and whose activity is to **prepare codes for its members**. The mission of ISEAL is built around ten 'credibility principles', shown in Figure 24: sustainability, impartiality, improvement, transparency, relevance, accessibility, rigour, truthfulness, engagement and efficiency.

With its 'Standard Setting Code', ISEAL trains members on the good practices for **environmental and sustainability standards**. The 'Assurance Code' helps firms to **monitor their compliance** with standards. The Code of Good Practice for Assessing the Impacts of Social and Environmental Standard ('Impacts Code'), supports standards systems to **measure and improve the results** of their work and to ensure that standards are **delivering the desired impact**. According to Cafaggi and Renda (2012), such code is similar to an Impact Assessment guidance for policy-makers. Figure 25 below displays the theoretical framework for evaluation recommended by the ISEAL Code of Good Practice, which mirrors existing methods of *ex post* evaluation of projects, expenditure programmes and policies by public bodies.

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[102] For further details, see www.isealalliance.org.

Figure 24. The credibility principles of the ISEAL Alliance

Source: ISEAL Alliance.

*Figure 25. Framework for evaluation*
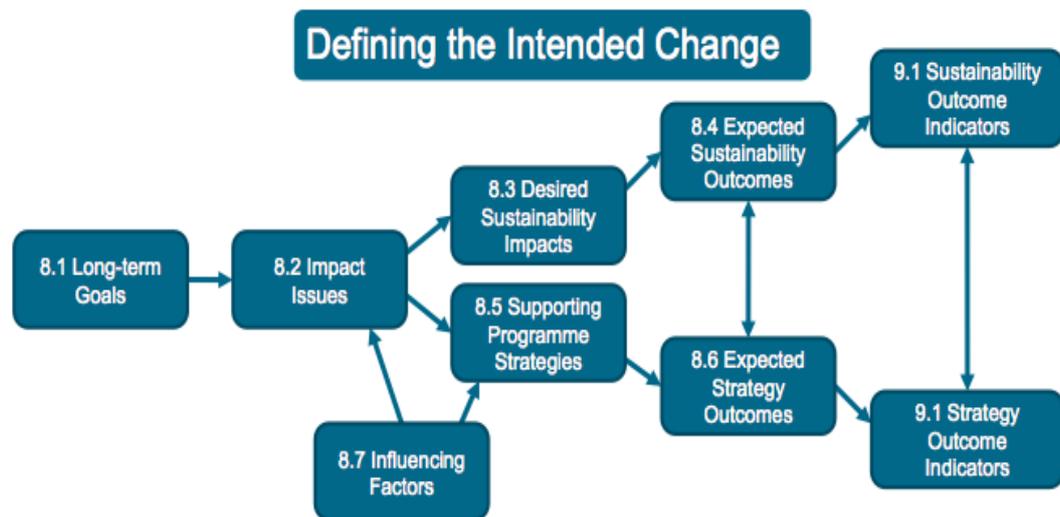
Source: Cafaggi and Renda (2012).

Sustainability Assessment of Food and Agriculture (SAFA)

The Food and Agriculture Organization has developed a universal framework for **SAFA systems**, which in 2013 resulted in the elaboration of Guidelines for *ex ante* sustainability assessment and *ex post* monitoring. The Guidelines are the outcome of a mapping process of all sustainability indicators for the food industry. The SAFA guidelines are based on six principles: relevance, simplicity, cost efficiency, goal orientation, performance orientation and transparency. Cafaggi and Renda (2012) consider such guidelines as comprehensive, as they include the whole range of sustainability aspects (environment, society, economy and governance). More specifically, SAFA seeks to measure economic resilience, social

well-being, environmental integrity, and good governance by defining and assessing a list of indicators for each dimension (see Figure 26).

Figure 26. SAFA evaluation framework
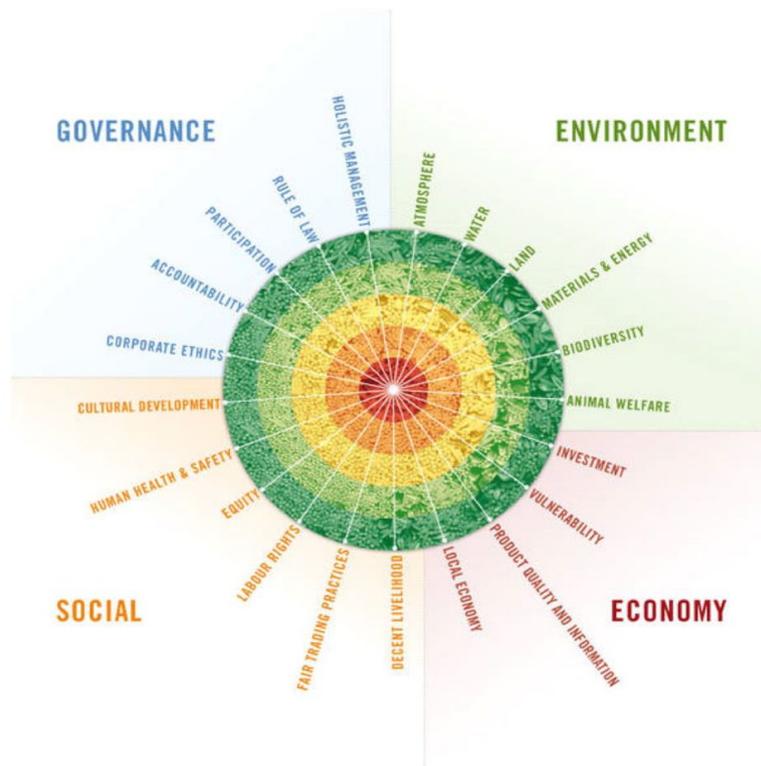
Source: SAFA Guidelines.

As in the case of the GRI Standards, a **top-down approach** has been adopted. In fact, the first layer of the reporting system looks at four dimensions of sustainability (good governance, environmental integrity, economic resilience and social well-being). Each dimension is then divided into 21 core sustainability issues (layer 2), each of which, in turn, are detailed into 58 sub-themes (layer 3) associated with sustainability goals and equivalent measurement criteria.

SAFA works across four main stages of analysis, as shown in Figure 27. The first stage (mapping) requires the provision of organisational documents, value chain maps and detailed descriptions of assessed entities (e.g. type, value chain position, geography). In addition, at this stage, the goals and scope of the assessment are set. In the second stage (contextualisation), the reporting company is called to review SAFA's sub-themes. Some questions for the specific sub-themes help the user identify the relevance for the entity to be assessed. SAFA suggests that the reporting company consults adequate sources (such as reports, publications and maps) to gather information necessary to find out the relevance of certain sub-themes to the company. In stage three (indicators), the company has to select *ad hoc* tools and indicators. Tools are the measurement systems for different sustainability topics, whereas indicators can be:

- **Performance-based**, i.e. 'outcome indicators'; they focus on the results of compliance with an objective and can measure the performance of an operation, identify trends and communicate results.
- **Practice-based**, i.e. 'process indicators'; they refer to compliance with certain procedural requirement as a proxy for a good practice.
- **Target-based**, i.e. indicators focusing on whether companies have plans, policies or monitoring systems, with targets and ratings helping assess steps towards implementing them.

Figure 27. Steps of the SAFA system

STEP 1 MAPPING	STEP 2 CONTEXTUALIZATION	STEP 3 INDICATORS	STEP 4 REPORTING
Description of assessed entities	Sub-themes: review of sub-themes based on boundaries and sustainability objectives	Indicator selection	Polygon at aggregated and broken down level to illustrate sub-theme scores together with contextual issues, including risk areas (hot spot issues), boundaries and data quality, based on Accuracy Score.
Boundaries of assessment (space and time) and visual representation		Irrelevant sub-themes and indicators are not selected	Final report, where all relevant issues and scope are treated and rationale, irrelevant sub-themes and indicators are justified, areas for improvements are identified. See Appendix B: Performance Report Checklist.
What is excluded from SAFA? (cut-off criteria)	Indicators: review of default (or replacement) indicators in relevant sub-themes and use of data regarding geographical, environmental, social, political and economic context to determine detailed ratings	Guidance notes for indicators	Critical Review – two levels are outlined – Level 1 for less formal SAFA assessments which involve documenting the results but this is not subject to external 3rd party audit, while Level 2 for more formal applications of SAFA includes a 3rd party audit.
		Determine Accuracy Score for each indicator	
Relationships of different supply chain members		Documentation of input data and score	
		Rating at indicator level, aggregation of results at sub-theme and theme level	

Source: SAFA Guidelines.

SAFA gives priority to performance-based indicators and adopts a weighting system, assigning larger weight to more accurate indicators (

Figure 28). As a final stage (reporting), SAFA explains how to draft a report which should include all the elements assessed in the previous steps.

Figure 28. SAFA weighting system

PERFORMANCE	PERCENTAGE SCORES
● BEST	80-100 percent
● GOOD	60-80 percent
● MODERATE	40-60 percent
● LIMITED	20-40 percent
● UNACCEPTABLE	0-20 percent

Source: SAFA Guidelines.

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Over the past few decades, new digital platforms such as China's Alibaba, Japan's Rakuten and the U.S.'s eBay have grown from startups into multinational giants. With a few clicks of the keyboard, these online marketplaces bring together a seller and a buyer from anywhere in the globe.

This study examines the transformative impact of online marketplaces on economic, social and environmental sustainability. It finds great opportunities. Platforms promote growth, break down barriers of distance and leap over rigid class structures, bringing marginalized outsiders into the mainstream. The study also identifies dangers stemming from the growth of e-commerce, from the reduction of labor protection to an explosion of shipping waste.

What are the responsibilities of platforms? How can they promote sustainability? Policymakers are asking these questions, but struggling to find the correct balance between the opportunities against the dangers. Until now, these questions have received little attention from scholars. This study fills a much-needed void by providing some initial answers and recommendations for improvement.

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