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**Study of man-nature relationship over time with a
focus on the Chinese market perception towards
Sustainability**

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前言

在过去的几年里，可持续性这个词蓬勃发展。它已经变得如此广泛，以至于现在几乎所有的事情都可以被描述为可持续的。当我们去杂货店时，我们找到了“可持续食品”；当我们去购物时，我们发现了“可持续的衣服和产品”；几十年来，联合国一直致力于“可持续发展”；现在，每个人似乎都在努力实现一种“可持续的生活方式”。但究竟什么是可持续性？可持续性被定义为一个边界术语，将各个领域联系在一起，以实现一个共同的目标：为子孙后代保护我们独特的地球。可持续性科学遇上政治，政治遇上科学。在过去的二十年里，对气候变化的关注已经增长到很高的程度，各国决定建立全球伙伴关系，为了合作建立一个更加繁荣和积极的未来，在未来全球变暖将得到控制，和平与平等将成为世界社会的特征。

可持续性一词已经广泛传播，成为一个真正的流行词，而在过去，可持续性根本不受关注。事实上，我们看文学作品，很难找到1980年以前使用这个词的书。因此，本文的目的是研究这个词的起源，以及人与自然的的关系在历史上是如何发展的，特别是以中国为中心。中国是世界上最大的污染排放国，因为它刚刚实现工业化，而不像西方国家那样受益于几个世纪的现代化进程，同样考虑到可持续发展一直是一个在西方很受欢迎的主题，那么这个亚洲国家的绿色意识水平到底如何呢？这项工作想要了解人类改变对自然态度所经历的过程，并开始理解我们宝贵的星球是有限的这一事实。有趣的是，从18世纪第一次看到环境问题，到今天的联合国2030年议程，社会是如何一点一点地开始以更敏感的方式与自然联系起来的。

本文的第一章考察了“可持续性”一词的起源和它的间断使用时间，它经历了一个流行的时期和完全被忽视的时期。如今，这个词将不同的领域联系起来，以支持广泛的共同议程，它起源于林业。Hans Carl von Carlowitz 是一位德国林务学家，同时也是撒克逊矿业管理局的负责人。1713 年，他写了《森林经济》(Sylvicultura Oeconomica)一书，在书中，他解释了如何通过“持续、稳定和持续的利用”来长期管理和保护森林。在人口快速增长和城市扩张的历史时期，木材短缺成为一个严重的问题。为了应对这一问题，卡洛维茨提出了系统的植树过程对促进森林生长的重要性。这一章接着对人类和生态系统之间关系的发展进行了按时间顺序的概述，人类和生态系统之间的关系由于新的事件和影响而不断变化，例如工业革命的到来，可持续性被冷落，以及一个积极开采煤炭的新时代的开始。本章的最后一部分说明了与环境有关的最新发展，如第一次联合国会议倡导生态系统保护的重要性。

鉴于西方工业化和现代化的进程，第二章将重点放在中国。本章的第一部分想说明中国在短短几十年的时间里所经历的巨大发展，特别是 1978 年改革开放后的现代化时期。从那一刻起，它开始向世界主要强国之一的方向发展。然而，快速的经济飞跃也产生了许多负面后果，例如环境恶化，特别是空气、土壤和水污染。逐渐的，中国奠定了国家环境法规的基础，并在最近，承诺致力于应对气候变化。在此之后，本章对中国人口的可持续发展意识程度进行了研究，展示了不同年龄段人口的态度差异。不仅如此，鉴于人们对可持续发展概念的兴趣日益浓厚，第二章最后探讨了绿色环保对企业来说是否是一条有利的途径。五种不同的战略侧重于不同的方面，描述了公司如何通过内部运营和生产的可持续行动创造价值。

第三章阐述了时尚产业的现状及其对气候的影响。到目前为止，时尚业是世界上污染最严重的行业之一。根据麦肯锡公司的一项研究，2018 年，服装行业产生了全球 4%的二氧化碳，相当于法国、德国和英国温室气体排放量的总和。过度生产和过度消费令人难以置信，由于极端的面料、水和能源浪费，对环境造成破坏；也包括那些在恶劣条件下工作、工资低、受剥削、经常没有合同的员工。全球大流行对我们的购物行为产生了强烈影响，导致我们在各种封锁期间在网上

过度购买廉价衣服。这是时装销售迅速增长的原因，使其获得成功，并受到年轻消费者的欢迎。本章还列举了两家中国时尚公司的案例：江南布衣集团 (JNBY Group) 和希音 (Shein)，区别在于前者代表了在环境、社会和治理承诺方面的最佳实践，而后者则代表了陷入“漂绿”的最糟糕实践。

第四章总结了《巴黎协定》应对全球变暖和 2030 年议程及其可持续发展目标实现的现状。此外，政府间气候变化专门委员会 (IPCC) 提出了五种可能的未来情景。不同的预测描绘不同的潜在未来，从最积极的到最黑暗的，这意味着地球在我们的手中，我们选择争取最光明的未来。

Introduction

In the last few years, the term *Sustainability* has boomed. It has become so widespread that nowadays virtually everything can be described as sustainable. When we go to the grocery store, we find “sustainable foods”; when we go shopping, we find “sustainable clothes and products”; United Nations have strived for “sustainable development” for decades; and now everyone seems to be trying to achieve a “sustainable lifestyle”.¹ But what is sustainability exactly? Sustainability has been defined as a boundary term, linking together various fields in the achievement of a common objective: preserving our unique planet for the future generations. Sustainability is when science meets politics, and politics meets science.² In the last twenty years, the concern around climate change has grown to the point that nations have decided to establish global partnerships for the sake of collaborating for a more prosperous and positive future, where global warming will be kept under control and peace and equality will characterize world societies.

Unlike today, where the term sustainability has spread so widely becoming a real buzzword, there were times when sustainability was not a concern at all. In fact, if we look at literature it is hard to find books employing the term before 1980. Thus, the aim of this thesis is to study the origins of the term and how the man-nature relationship developed during history, with a particular focus on China. China is the biggest pollution emitter in the world despite its quite recent industrialization, unlike its Western counterparts that benefited from centuries of modernization progresses. So, considering that sustainability is a theme which is taking traction in the West, what is the level of green awareness in the Asian country? This work wants to understand the process through which humans changed their attitudes towards nature and started to comprehend the fact that our precious planet is finite. It is interesting to see how society little by little started to relate to nature in a more sensitive way, since a first glimpse of environmental concern in the eighteenth century till today’s United Nations 2030 Agenda.

¹ Caradonna, J. L. (2014). *Sustainability: A History* (1st ed.). P.1. Oxford University Press.

² Gieryn, T. (1999) *Cultural Boundaries of Science: Credibility on the Line*, Chicago, IL: Chicago University Press.

The first chapter of this thesis examines the origin of the term “Sustainability” and its discontinuous usage over time, as it experienced periods of popularity and periods in which it was entirely neglected. The word, which nowadays links disparate fields in support of a broad common agenda, has its origin in forestry. Hans Carl von Carlowitz, a German forester working as head of the Saxon mining administration, in 1713 wrote the book *Sylvicultura Oeconomica*, in which he explained how woods should be managed and preserved on a long-period basis, that is by a “continuing, stable, and sustained utilization”.³ In a historical period characterized by a rapid increase of population and expansion of cities, the shortage of wood became a serious issue. In response to the problem, Carlowitz suggested the importance of a systematic tree planting process to boost forest growth. The chapter then proceeds giving a chronological overview of the development of the relationship between humans and the ecosystem, constantly changing due to new events and implications, such as the advent of the Industrial Revolution, when sustainability was left out in the cold and a new era of aggressive coal exploitation started. The last part of the chapter illustrates more recent developments in relation to the environment, like the first United Nations conferences to advocate the importance of ecosystem protection.

Given the Western progress of industrialization and modernization, the second chapter focuses on China. The first part of the chapter wants to illustrate the enormous development that the country experienced in just a few decades, in particular its modernization period started right after the opening up reform of 1978. From that moment on it started its growth towards being one of the world’s major powers. Nevertheless, the quick economic leap generated many negative consequences as well, such as environmental degradation, especially through air, soil, and water pollution. Little by little China laid the foundations for national environmental regulations and has recently pledged its commitment to the fight against climate change. After that, the chapter goes on with a study on the degree of sustainability consciousness among the Chinese

³ Carlowitz, H. C. v. (1713). *Sylvicultura Oeconomica, oder hauswirthliche Nachricht und naturmässige Anweisung zur wilden Baumzucht ... zugleich eine gründliche Nachricht von den in Sächss. Landen gefundenen Turff, dessen Beschaffenheit, nutzen, etc.* Germany: Johann Friedrich Braun, p.105.

population, showing the attitude differences between the various population age segments. More than that, seeing the interest growing around the concept of sustainability, chapter two ends up with examining whether going green could represent an advantageous pathway for businesses or not. Five different strategies focusing on disparate aspects describe how companies can create value through sustainable actions in their internal operations and in their production as well.

Chapter three gives an insight about the situation of the fashion industry and its impacts on climate. The fashion industry is by far one of the most polluting industries in the world. According to a research conducted by McKinsey & Company, in 2018 the clothing sector was responsible for producing 4% of the global CO₂ which is around the same quantity of greenhouse gas emissions generated by France, Germany, and the UK combined.⁴ The overproduction and overconsumption are incredibly dramatic, causing damages to the environment due to extreme fabric waste and water/energy waste; but also to the employees working in miserable conditions, underpaid, exploited and often without a contract. The global pandemic had a strong impact also on our shopping behaviors, leading us to overbuy cheap clothes online during the various lockdowns. This is how fast fashion saw an expansion in its sales, making the business successful and popular mostly among the Generation Z young consumers. The chapter also includes two examples of Chinese fashion companies: JNBY Group and Shein, differentiating in the fact that the former represents the best practices in terms of ESG (environmental, social and governance) commitment, while the latter represent the worst practices, falling into greenwashing.

The fourth closing chapter presents the current situation in sight of the achievement of the Paris Agreement to tackle global warming and the fulfillment of the 2030 Agenda with its Sustainable Development Goals. In addition, five possible future scenarios, suggested by the Intergovernmental Panel on Climate Change (IPCC), are given. The different projections depict different potential futures, from the most positive one to the

⁴ Berg, A., Granskog, A., Lee, L., & Magnus, K. H. (2020, August). *Fashion on climate: How the fashion industry can urgently act to reduce its greenhouse-gas emissions*. McKinsey&Company. P. 3. <https://www.mckinsey.com/industries/retail/our-insights/fashion-on-climate>

darkest one, implying that the planet is now in our hands, and it is our choice to fight for the brightest one.

CHAPTER 1 - SUSTAINABILITY: ORIGIN AND DISCONTINUOUS POPULARITY OF THE TERM OVER TIME, MODERN DEVELOPMENTS AND PRESENT ENVIRONMENTAL CHALLENGES.

1.1 History and origin of the term

Today's environmental and ethical principle of sustainability has its origins in forestry. The term was first coined by Hans Carl von Carlowitz (1645-1714), a German forester who had entered the state service as head of the Saxon mining administration. In 1713 he wrote the book *Sylvicultura Oeconomica*, in which he explained how woods should be managed and preserved on a long-period basis, that is by pursuing 'kontinuierliche beständige und nachhaltende Nutzung' (a continuing, stable, and sustained utilization)⁵.

Carlowitz was the son of a forester, he was born in the Saxon town of Chemnitz during the Thirty Years War. As a respectable wealthy man, he studied law and public administration in Jena and traveled across Europe during his youth. When he returned to Germany, he was charged with the management of the Saxon mining industry in Freiberg. As his position requested, he oversaw the supply of large quantities of timber for mining purposes, but he soon faced the most severe issue of the time, the shortage of wood. Not only were the then-flourishing mine furnaces consuming enormous quantities of charcoal, firewood, and timber, but also the rapid increase of population and expansion of cities left entire forest areas exploited. The natural environment, which had already been damaged by the previous three-decades-long war, was now devastated. The areas in the proximity of the mines had been completely deforested without any concern to their future regeneration⁶. Moreover, due to food shortages many natural areas had been converted into grazing lands for animals like cattle, goats and pigs and extensive agriculture prevented the recovery and the regeneration of the forests.

⁵ Carlowitz, H. C. v. (1713). *Sylvicultura Oeconomica, oder hauswirthliche Nachricht und naturmässige Anweisung zur wilden Baumzucht ... zugleich eine gründliche Nachricht von den in Sächss. Landen gefundenen Turff, dessen Beschaffenheit, nutzen, etc.* Germany: Johann Friedrich Braun, p.105.

⁶ Schmithüsen, F. J. & Rojas Briaies, E. (2013), From sustainable wood production to multifunctional forest management – 300 years of applied sustainability in forestry. *ETH, Swiss Federal Institute of Technology Zurich, Department Environmental Sciences, 2012(1), p.6-7.* DOI: 10.3929/ethz-a-009955563

Hans Carl Von Carlowitz firmly called attention to the incorrectness of this short-term method based on immediate economic benefit and fierce exploitation of natural resources and, on the contrary, he strongly highlighted the importance of a systematic tree planting process to boost forest growth. This was an important milestone in the history of sustainable use of natural resources, since for the first time it was acknowledged that forests could be managed with a non-exhausting method. Carlowitz's studies and experience led him to the development of a new framework (illustrated in his book) that soon became the guide for other mining state administrators and new generations of foresters but, more importantly, his theory is still used today in forest management⁷.

1.1.1 The principle of "Sustainability" spreads to Europe and to other continents

As a matter of fact, the German term *Nachhaltigkeit* (sustainability) that Carlowitz mentioned in his work soon started to circulate around different countries in Europe. At the time, along with Germany, various other countries in the Old Continent were struggling with wood shortages. Austria and Switzerland were in desperate need of wood material for the mining and salt production industry, whereas France, U.K, Sweden, Portugal, Spain and Italy, which were all located along the coastline, required timber supply mainly for the construction of ships for the naval forces. Gradually Carlowitz's mindset became reality, and it was carried out by the establishment of forestry sciences academies⁸. Starting with the foundation of the first school in Saxony, this phenomenon later spread all over Europe, followed by France, Spain, Portugal, and Italy. These new private schools developed into leading centers for the education of elite foresters who were starting to embrace the idea that there should be an equilibrium between human, commercial and industrial activities and natural resources. This new generation of young intellectual foresters grew into skilled and experienced scholars who covered high positions in universities and state administrations and even founded new private schools. Principles of renewable natural resources usage spread through word of mouth and soon

⁷ *ibidem*.

⁸ Grober, U. (2007). Deep roots: A conceptual history of 'sustainable development' (*Nachhaltigkeit*). Wissenschaftszentrum Berlin für Sozialforschung (WZB) p. 22-23.

this matter reached even remote areas like Russia, India and the United States. Little by little new forest management practices were developed, and new laws aiming to preserve green areas were established. However, it is during the Industrial Revolution that the masses started to witness for the first time the serious consequences of human activities on the environment and especially on people's health.

1.2 The Industrial Revolution impacts people's lives and health

The Industrial Revolution took place between the last decades of the 18th and the first half of the 19th century. England, among all the other European countries, was a pioneer in this radical transformation which led to a first step towards modernization. Its development in the island was made possible by a series of preconditions: institutions that favored individual initiative, advanced scientific research that stimulated technological breakthroughs, a vast sector of capitalist agriculture in the hands of large and medium-sized owners open to innovation and with high investment capacity, an excellent transport network, a rate of urbanization unmatched in any other country, a prosperous internal and international trade within a colonial empire, like the British one, rich in resources. Within only two decades, from 1760 to 1780, a series of incredible inventions was conceived and developed. Such new machines renovated the technology of the industries giving them an extraordinary leap in quality. The mechanization involved factories working in different sectors, such as the textile industry first, then followed by the mining, mechanical and iron and steel ones. A radical change in the transportation sector occurred as well: the first steamboat appeared in 1807, and around ten years later it allowed the first crossing of the Atlantic Ocean by a steamship. In 1814 the first locomotive was constructed and this paved the way for the inauguration of the first railway line in England.

Nevertheless, despite the flourishing moment, characterized by great inventions and important changes aimed at improving people's lives, negative consequences and hardships did not miss. The shift from an agrarian-handicraft society to an industrialized one brought new outcomes: the advent of new machinery demanded new kinds of jobs, hence, more and more people became essential to make the machines work. For this reason, a great number of peasants moved from the countryside to the new industrial cities

causing overpopulation in limited areas. Scattered artisanal shops gradually became obsolete, leaving space to the new factory system providing work to hundreds of skilled machine operators. Mass production allowed important improvements in the manufacturing industry but at the same time it terribly affected the new working-class who lived miserable existences due to poor living and working conditions. Charles Dickens wrote about this shameful situation endured by common people in his *Hard Times*:

*“It [Coketown] contained several large streets all very like one another, and many small streets still more like one another, inhabited by people equally like one another, who all went in and out at the same hours, with the same sound upon the same pavements, to do the same work, and to whom every day was the same as yesterday and to-morrow, and every year the counterpart of the last and the next”*⁹.

In addition, not only did Industrialization have important socio-economic consequences, but it also had a severe impact on the environment. Pollution was a typical element in all industrial cities and towns; streets and canals were awfully polluted with human waste and litter and upon the urban areas there used to hover a characteristic smoky fog. Once again, in *Hard Times* it is illustrated a description of an average industrialized British town of the time that the author decided to refer to as Coketown:

*“It [Coketown] was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves for ever and ever, and never got uncoiled. It had a black canal in it, and a river that ran purple with ill-smelling dye”*¹⁰.

1.2.1 From organic economies to an economy sustained by a new source of energy

Experts define the economies existing before the Industrial Revolution Era as *Organic economies* because they were subject to the constraints imposed by nature and its

⁹ Dickens, C., Busch, F., & Smiley, J. (2008). *Hard Times (Signet Classics)* (Reissue ed.) [E-book]. Signet, p. 58-59.

¹⁰ *Ibidem*.

processes¹¹. In ancient times, plant photosynthesis was the only form of energy available to humans and all other animate life; so, the amount of insolation produced yearly was the primary factor to foresee a difficult or promising year ahead. Plant photosynthesis was then surpassed by the discovery of fire which allowed humans to control nature to some extent. Fire became a new source of energy that deeply changed the ways of living of tribes, as it primarily provided heat, but as time passed by it also contributed to the development of new food preparation methods and activities of mineral ores smelting. Mankind was now able to manage the land they lived in by setting controlled fires in the nearby forests to make space for new urban areas or fields destined to agriculture. However, despite the sophistication of techniques and the development of societies, organic economies remained limited as an exponential growth was only possible depending on the energy supplied by nature each year.

When Industrialization gained momentum, it was evident that the sole energy secured by plant photosynthesis was not enough to sustain the mechanization growth. As a result, coal became the major player in terms of power source as it was the key element to boost steam machines and to manufacture iron and railroads. Actually, coal is a material that derives from plant photosynthesis as well, but its relevance stands with the fact that it was generated millions of years ago, therefore, its presence on earth was plentiful.

1.2.2 The rise of coal in the 18th century

Coal is a combustible fossil fuel which originated as a result of several physical and chemical cycles: 345 million years ago the hot and humid climate, along with a high concentration of CO₂ in the air, favored the growth of giant trees. The decaying and accumulation of vegetation alongside sedimentation, during various geological eras, caused the transformation of the plant into the dark rock we all know as coal today. It is known that coal was used in the Pre-Industrial Revolution Era as well, though it was a minor source of energy. Scholars state that it was first used in China around 1000 B.C., however around 1200 A.D., the Venetian merchant Marco Polo reported its widely spread

¹¹ Wrigley, E. A. (2013). Energy and the English Industrial Revolution. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 371(1986), p.2-3 <https://doi.org/10.1098/rsta.2011.0568>

employment in the country¹². In Western societies, coal was mentioned for the first time in some Greek philosophers' works, such as Aristotle's *Meteorology*. Despite the fact that the black fossil fuel was used for domestic heat before the 18th century, wood remained the primary energy resource over centuries. It was just with the outset of the "Age of Industrialization" that coal gained a particular success. Figure 1.1 depicts the rise of coal in England and Wales from 1561 to 1859: the exponential growth is evident as in the 19th century the annual coal consumption per head of population was five times higher than its usage in the 16th century.

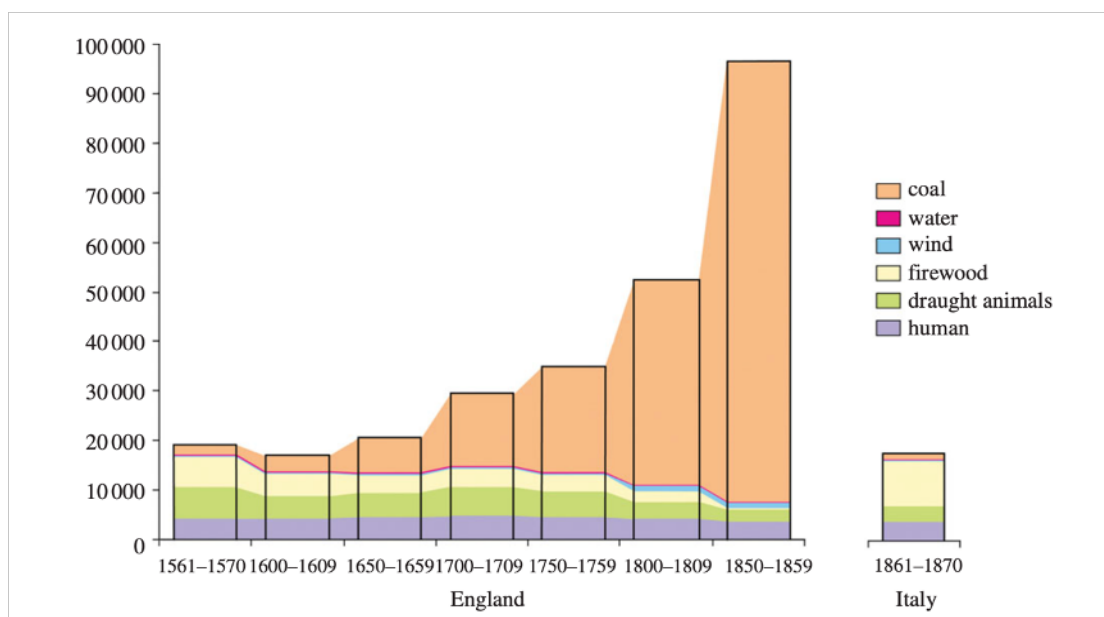


Figure 1.1 - Annual energy consumption per head (megajoules) in England and Wales 1561-1570 to 1850-1859 and in Italy 1861-1870, from *Philosophical Transactions of the Royal Society A* (2013).

Energy derived from human strength remained stable over the three-hundred-year period, instead draught animals, firewood, water and wind all decreased in the energy picture. In comparison, it can be seen how behind the situation in Italy was: in the 1860s, firewood still constituted an important player in the energy scenario, instead the consumption of

¹² Miller, B. G. (2005). *Coal Energy Systems*. Paesi Bassi: Elsevier Science, p.29. https://books.google.it/books?id=EAA5ROgPWq0C&pg=PA29&hl=it&source=gbs_toc_r&cad=3#v=onepage&q&f=true

coal did not increase as much as it did in England and Wales. Overall, the situation in Italy appeared to be the same as it was in Britain three centuries before.

Over the years, though, it became noticeable that the discovery of coal had brought negative effects both on the environment and on human's health. In modern times, coal mining developed to the point that entire mountains had been dug up, devastating the land, causing air and water pollution and disturbing nearby communities which were forced to leave their place of birth and to migrate somewhere else. The most severe problem provoked by coal mining is the generation of acid mine drainage which is the contamination of soil and surface of the water with heavy metals and toxins. Not to mention the fact that its extraction heavily affects miners' lives: mine collapses, explosions and accidents happen frequently, in addition dust inhalation compromises lungs and eventually might cause respiratory diseases. Besides, coal is reckoned to be an important factor to global warming as its combustion releases a big amount of greenhouse gas, around 30% more than the amount generated by petroleum.

*“With relatively few exceptions, the world’s modern environmental problems began with or were greatly exacerbated by the Industrial Revolution. The global challenges of widespread water and air pollution, reductions in biodiversity, destruction of wildlife habitat, and even global warming can be traced back to this moment in human history”.*¹³

1.2.3 Awareness of the polluting effects of the industries and transformations in the urban structure

At the beginning, the concept of pollution was not directly attributed to the smoke fogs produced by industries, on the contrary, it was mainly attributed to animal and domestic waste and filth left on the streets. There was a widespread misconception that the inhalation of the awful odors coming from stagnant water, excrement, litter and other waste could generate infectious diseases and respiratory problems (miasmatic theory of disease). In the XVIII and XIX centuries industry and hygiene did not appear necessarily

¹³ Rafferty, J. (2022). *Industrial Revolution*. Saving Earth | Encyclopedia Britannica. Retrieved January 30, 2022, from <https://www.britannica.com/explore/savingearth/industrial-revolution>

as antithetical terms of the urban matter¹⁴, in fact, the polluting factories erected in the middle of the cities did not bring up concerns, strong with the idea that their coal fumes worked as disinfection to the noxious smell hovering on the urban area¹⁵. Along with that, there was a shared thought according to which modernization meant wealth and welfare; so since mechanization constituted an element of modernization, its outcomes could only be positive and “therapeutic”.

In the course of the XIX century, industrialized cities witnessed an important transformation process which eventually led to the redevelopment of the urban spaces. Some of these major changes were promoted particularly by the Social Hygiene Movement, a school of thought that originated from a branch of Medical Science in the 1800s. The mindset of the movement was based on the idea that a pandemic could be provoked by different factors: water, air, soil, food, garbage, urbanization, excessive work, sexuality, bad manners and immoral behavior. Despite the non-medical practices applied by this discipline, at the time hygienists were considered prestigious and influential scholars and their opinions were generally followed by the authorities. They openly denounced the serious situation exacerbated over the years starting from the advent of the Industrial Revolution, arguing that new policies had to be applied to protect the health of the population. It is in such a backdrop that the relationship between factory and city started to take shape in terms of awareness of the polluting effects produced by industries at the expense of the citizens' lives.

At the time there were no specific regulations to limit the damaging effects of industries on the environment: the authorities in charge of the salubrity of cities were local and the policies applied based their action on the legal concept of *nuisance*¹⁶. This term used to embrace all that can harm others and therefore what we identify with pollution today, as well as noises, fires, other risks and inconveniences. The decree signed in France on October 15, 1810 stressed exactly that point; it organized the location of industrial plants

¹⁴ Parisi, R. (2001). Verso una città salubre. Lo spazio produttivo a Napoli tra storia e progetto. *Meridiana*, 42, p.54. <http://www.jstor.org/stable/23202454>

¹⁵ Barbero, A., & Corni, G. (2016). *Ambiente, popolazioni, economia*, “Grandi Opere”. Vol. XIII. Salerno Editrice. P. 515.

¹⁶ Jarrige, F., & Le Roux, T. (2017). *La Contamination du monde. Une histoire des pollutions à l'âge industriel*. SEUIL.

in urban areas, classified according to their degree of nuisance. Guillaume, Lefort & Jigaudon describe how the implementation of this legislation had on the one hand, rid or protected the city of Paris from the most polluting activities and how it has allowed these to settle, on the other hand, by successive accumulation in selected areas¹⁷. This is how the suburbs were built, starting with the relocation of industries from the heart of the city to its outskirts. Another event that contributed to the development of the cities was the construction of drainage and sewer systems which improved the sanitary conditions of the laboring class. Following a serious cholera outbreak, the British Parliament enacted the Public Health Act in 1848, which promoted the usage of clean water, the removal of domestic and public refuse and the construction of a Public Health Board¹⁸. All these activities were effective to foster hygienic practices and to control contagious diseases.

Along with the redevelopment of the cities, nature began to constitute an important element in the urban common areas. In the second half of the XIX century, the hygienist movement used to compare the urban environment, damaged and attacked by man, with wild nature, the only guarantee for the survival of the world. In *Walden*, Thoreau (1845) wrote about the enriching virtue of a simple life in nature and the importance that this one has on the people's lives¹⁹. Noteworthy of the XIX century is also the appearance of the word *Ökologie* (ecology), mentioned for the first time in a German biologist's book published in 1866. Gradually, the need of natural spaces became a publicly debated matter: hygienists denounced the living conditions of those living in the slums of the cities, whose health was endangered by the filthy gray air and the excessive work efforts.

In response to the rapid urbanization phenomenon, the British government established the Select Committee on Public Walks which, in 1833, reported the need to compensate for the consequences of the cities' growth such as overpopulation, pandemic illnesses, filth, and lack of morale. It was believed that the opening of public parks could constitute a form of relief towards these issues and that it could foster improvements in the physical and mental health of the laboring class as well. Around the same period, Lewis pointed

¹⁷ André Guillaume, Anne-Cécile Lefort et Gérard Jigaudon. (2004). *Dangereux, insalubres et incommodes : paysages industriels en banlieue parisienne, XIXe-XXe siècles*, Seyssel, Champ Vallon, p. 2-3.

¹⁸ Office, T., & Stationery Office, T. (2001b). *Public Health Act 1848*. Stationery Office. P. 588-91.

¹⁹ Thoreau, H. D. (2017). *Walden*. Gibbs Smith, Publisher.

out the significance of the *welfare of the poor*, a method to support the lower classes and to avoid the *costs of death*, which meant all the expenses related to the sudden lack of labor due to illnesses and deaths of working people in adult age. In 1844 it was announced the importance of solar light, as it was a vital form of energy to the well-being of individuals, and it was highlighted how the absence of it could result in worsening of wellness, energy and salary.²⁰

1.2.4 Birth of the first public parks

The first modern public parks were created and made available to everyone in the society around the 1830s. This new vision, supported by the *Public park movement*, depicted the illusion of having a rural country in the city, a green lung providing open space and fresh air to the oppressing situation of the towns. This was the first time gardens were considered for their social nature, not for their aesthetics. They were purchased by local councils or often offered as gifts to the local communities by philanthropists and rich magnates, and this constituted a motive of great civic pride.²¹ The green areas soon became sites of many leisure activities and attractions that included music, sports, pleasant horticultural layouts; and often they came together with libraries, museums, art galleries and plant nurseries.²² This flourishing time also contributed to the appearance of new jobs dealing with the management and the decoration of parks, among them there were park designers, landscape gardeners, district surveyors and engineers. In many cases, competitions were held in order to assign the creation of the park to a non-local civic artist who had to present his display to an expert in the field; eventually the winner received a prize and the permission to start the works with the idea he envisioned. Between 1885 and 1914, the opening of green open spaces was thriving; quite remarkable was the inauguration of Hyde Park (London) in 1851, location of the Great Exhibition and the Crystal Palace. In 1872, Yellowstone became the first National Park in the world and this

²⁰ BPP, *First Report of the Commissioners for Inquiring into the State of Large Towns and Populous Districts*, 1844 (572), xvii, 42-3.

²¹ Taylor, H. A. (1995). Urban Public Parks, 1840-1900: Design and Meaning. *Garden History*, 23(2), 202–203-204. <https://doi.org/10.2307/1587078>

²² Jordan, H. (1994). Public Parks, 1885-1914. *Garden History*, 22(1), 86–87. <https://doi.org/10.2307/1587004>

paved the way to a new phenomenon which consisted in the preservation of ecosystems for the generations to come.

1.3 From the birth of the first environmental movements to a global concern about the Biosphere

As it was previously mentioned, the appearance of the first public parks for the well-being of the poor, contributed to creating a great space for socialization. The aggregation of people coming from that civic environment brought about new proposals about the actions on the public parks and their management. This was a major change in the conventional decision system, which had always been on a top-down basis, rather than bottom-up. It was from that point that the opinions of ordinary people started to matter in the civic issue. Such a situation favored the birth of the *Garden city movement*, a civil movement that spread in England in the last decades of the XIX century and that consolidated its presence in many European countries in the XX century. Ebenezer Howard in his *To-morrow: a Peaceful Path to Real Reform* (1898) envisioned a method for the planning of the city, proposing a halfway between the country and the city: the Garden City. The Garden City was a utopian view of a place where people could live in harmony with nature and themselves, a place where social life and all the activities and services that concerned it were free of the inconveniences typical of the built up area.²³

The new raised awareness of the importance that the natural element has on the mental and physical sphere of the human being, favored the rise of some pioneering environmental movements. The formation of associations was a phenomenon which characterized the XIX century; wherever this was permitted by the current political system and wherever there was a sufficiently consolidated middle-class, people used to gather to discuss a multitude of subjects and issues. Initially, the focus of the organizations was projected more onto the safeguard of animals, especially birds, rather than onto nature itself. England was a forerunner in the field, as the Royal Society for the

²³ Osborn, F. J. (1946). The Garden City Movement: Reaffirmation of the validity of Ebenezer Howard's idea. *Landscape Architecture*, 36(2), 43–45. <http://www.jstor.org/stable/44661658>

Protection of Birds was founded there in 1889, its President was Winifred the Duchess of Portland who was particularly interested in advocating the welfare of animals and wildlife.

Between the end of 1800 and the beginning of 1900, a series of movements directly concerned with nature conservation arose in the scenario. Though they were not political movements, still, they were interest groups aiming at putting pressure on the government to take action on the questions regarding nature protection. In the United States, the great economic growth and the development of infrastructures had caused harsh consequences on part of the huge natural areas which were culturally meaningful to the population. In response to the threat, a rich literary production in support of the ethic and spiritual values of wilderness appeared and some environmental organizations were founded. A well-known association was the Sierra Club, founded in the US in 1892 by naturalist John Muir. The Club counted many achievements among which were the protection of the boundaries of the Yosemite National Park and the support to the creation of new national protected areas.²⁴ Aldo Leopold was another remarkable figure in the ecology field in particular for his works and his great intellectual influence. Through his *A Sand County Almanac* (1949) he highlighted the relation between mankind and nature, he also introduced the concept of *Ethic Land*²⁵, according to which humans should limit their exploitation of the land and change their behavior towards it: from invaders of nature to citizens of it. Also Europe witnessed the rising of many environmental movements. Unlike the US ones, which advocated for the protection of wild nature typical of the north American area, the European land had already survived to millennia of changes. For this reason, the organizations that emerged in the Old Continent were characterized by a strong spirit of attachment to the natural assets, as they were associated with a sense of national identity, nurtured by the literary culture of the time.

The period right after the Second World War was characterized by a new world order. With the objective of promoting peace and security on a global scale through international cooperation, the United Nations was founded in 1945. Along with the development of a

²⁴ Parsons, M. R. (1910). The Sierra Club. *The Annals of the American Academy of Political and Social Science*, 35(2), 204–209. <http://www.jstor.org/stable/1011269>

²⁵ Frese, S. J. (2003). Aldo Leopold: An American Prophet. *The History Teacher*, 37(1), 99–100. <https://doi.org/10.2307/1555604>

new collaboration across nations, the environmental question started to pave its way in the global context. In the 1960s, some major environmental organizations destined to a global influence were founded, among them were WWF (World Wide Fund for Nature) and Friends of the Earth. UNESCO, a specialized agency of the UN, which was created to foster the sharing of information about Education, Science and Culture among countries, held a meaningful meeting called the “Biosphere Conference” in Paris in 1968. During the conference, attention was drawn to the lack of actions taken for the conservation of nature by some countries and to the need for strong cooperation on an intergovernmental basis to achieve common objectives rapidly. It was the first time that the scientific term *biosphere reserve* was mentioned to raise awareness in the public; the concept indicated all the space on earth where life flourishes and particularly, where there is a coexistence between humans and other living things. The objective of the meeting was to acknowledge the existence of the biosphere and thus, its limits; by doing so, it was admitted that the world, as the only place in the universe where life is possible, had been exploited in an unrestricted way by the global population for centuries. The message conveyed by UNESCO clarified the significance and uniqueness of our planet. The success achieved led to the foundation of the Man and the Biosphere (MAB) Programme, launched 3 years after the conference. The purpose of the programme was to improve the relationship between man and nature and to push for a rational and sustainable use of natural resources.

The new sensitivity towards the subject contributed to the consolidation of a global awareness on the fact that natural resources are limited, thus their usage has to be balanced and reasoned.

1.3.1 Post-war economic miracle and the demographic eruption

The global economic development that characterized the post WWII period, from the 1950s to the first years of 1970s, marked an important stage in the history line. The United States and many Western European and Asian countries, along with those nations that had been brutally ravaged by the global conflict like France, Italy, Germany, Japan, etc., experienced a flourishing period of economic growth, often designated with the name

Economic Miracle. As Jánosy and Jellinek maintained “all economic miracles are reconstruction periods”²⁶, the war-consequent era, which was characterized by the rebuilding of the ruined cities and by the restoration of peace and harmony among countries, enabled the global population to witness great improvements in the living standards that resulted in a totally unexpected *Birth Quake*.²⁷ In fact, the heavy implementation of the labor force fueled the suffering economy of the time, impacting the fertility rate which increased to the point that “the number of babies born annually in many countries nearly doubled within just a few years”.²⁸

The rise of the employment rate due to the quick production growth permitted, further, an important increase in the workers’ *relative income*, an element that influenced the fertility behavior of the population. In fact, according to Easterlin’s studies, “couples whose resources are abundant relative to their aspirations will feel freer to have children”.²⁹ Moreover, it was in that period of demographic and social change that the lifestyle aspirations typically owned by the rich started to spread to the rural and lower parts of the population, creating a sort of homogeneity among social classes. The Baby Boom left an important mark in the over time demographic trend. Studies affirm that the fertility rate in the US had declined drastically right after 1800, when the average Caucasian woman used to give birth to seven children; by 1990, with the drop of births, the number of newborns per woman diminished to only two.³⁰ Although the Baby Boom constituted a sort of recovery of the fertility levels, right after 1960 it was replaced by the *Baby Bust*.

²⁶ Jánosy, F., & Jellinek, H. D. (1971). The End of the Economic Miracle: Appearance and Reality in Economic Development. *Eastern European Economics*, 10(1/2), p.9. <http://www.jstor.org/stable/4379427>

²⁷ Macunovich, D. J. (2002). *Birth Quake: the Baby Boom and Its Aftershocks*. The University of Chicago Press.

²⁸ Macunovich, D. J. (2002). *Birth Quake: the Baby Boom and Its Aftershocks*. The University of Chicago Press, via Van Bavel, J., & Reher, D. S. (2013). The Baby Boom and Its Causes: What We Know and What We Need to Know. *Population and Development Review*, 39(2), p.257. <http://www.jstor.org/stable/41857595>

²⁹ Van Bavel, J., & Reher, D. S. (2013). The Baby Boom and Its Causes: What We Know and What We Need to Know. *Population and Development Review*, 39(2), p. 259. <http://www.jstor.org/stable/41857595>

³⁰ Greenwood, J., Seshadri, A., & Guillaume Vandenbroucke. (2005). The Baby Boom and Baby Bust. *The American Economic Review*, 95(1), 183. <http://www.jstor.org/stable/4132676>

1.3.2 Debates on population growth and limits of natural resources

The impetuous growth of the world economy and the thriving demography after World War II led to questions about the ability of the environment to tolerate their impact, also in relation to the extension of the industrialization process in less developed countries. Among the figures who started to wonder about the possible dangers and backlashes that might have happened in the near future, there was a Stanford professor who wrote *The population bomb*. Though the book became a bestseller right after its publication, it has been strongly criticized for its heavy alarmist tones, as it advocated for an immediate action to control population to prevent “famines and ecocatastrophes” from happening in the following decades. Despite the fact that many of the predictions illustrated by Ehrlich were revealed to be incorrect, the book managed to draw public attention to the fact that natural resources are limited.

Following in the footsteps of the demographer Thomas Malthus, Ehrlich attacked the uncontrolled population growth which had been going on for centuries. He warned about the fact that a population-food crisis would have been inevitable in world underdeveloped countries, resulting in mass starvation: “Each year food production in these countries falls a bit further behind burgeoning population growth, and people go to bed a little bit hungrier”.³¹ However, the overpopulation problem would not have spared developed countries either, and it would not have appeared in the form of food deprivation, but in the form of environmental decline. From that moment on, it was made clear that the planet itself was going to be less and less able to sustain the degree of development of material growth pursued by human civilization.

In 1972, when the extraordinary economic growth of the "golden age" (1945-1973) was coming to an end, a group of MIT researchers published *The Limits to Growth*, a study on the future of the entire planet commissioned by the Club of Rome. Along with *The population bomb*, the report caused huge sensation and raised awareness about the causes and long-term consequences of the uncontrolled growth of the population and of the global economy. The objective of the researchers was to catalyze the debate on the relationship between economic growth and environment; and to explore to what extent

³¹ Ehrlich, P. R. (1970). *The Population Bomb* (19th printing ed.). P. 3. Ballantine Books. Canada.

the human orientation of unstoppable growth is adaptable to the natural limits imposed by our planet. In the Meadows model, with essential resources available in limited quantities, the increase in consumption necessarily tends to zero over time; in this way, the main proposition of the *theory of optimal growth* which prevailed in those years was contradicted. Scholars started their research by detecting the *world problematique*, which is made up of different, yet interdependent elements, common to all societies such as monetary and economic disorder, environmental deterioration, precarious employment, poverty, etc. Subsequently, they extracted five variables that determine or limit growth: population, food production, pollution, natural resources, and industrial production. The System Dynamics method used for the report, assumed that none of the variables examined was independent and that all interacted constantly with each other: population cannot grow without food, and food production requires more capital to feed the growing population, eventually more resources are required. This leads to an increase in pollution levels due to greater resources and waste produced, which negatively affects food-population growth. In other words, it was considered a circular macrosystem in which each factor retroactively affects itself in the long run.

According to the experts, the problem was the human tendency to concern mostly for the matters that are close to us in terms of space and time, “In general the larger the space and the longer the time associated with a problem, the smaller the number of people who are actually concerned with its solution”.³² People are more likely to focus on the safety of their families and friends at present time, rather than to worry about future events that may occur over the boundaries of the geographic area where they live. Those who have a broader global perspective are few, for this reason the MIT researchers struck attention on the alarming socio-environmental issues and advocated for a necessary and immediate change in individual behavior to bring the situation under control.

³² Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W., III. (1974). *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. P.18. Universe Books.

1.3.3 The definition of Sustainable Development

After the Club of Rome and the UN conferences sounded the alarm, eventually a transition occurred: from a period in which it was believed that the natural and social ecosystems existed as separate entities, with overlappings only in some areas of the world, the ecosystem started to be admitted as entirely incorporated within a socio-economic planetary dimension capable of influencing its characteristics, even without the direct presence of man on the territory, as occurs for example with climate change.

Only with *Our Common Future* report, produced by the United Nations World Commission on Environment and Development, the conceptual transition that has marked this historical period was announced. The report affirmed the need to give absolute priority to the essential needs of the poor part of the world and noted that the state of technology and social organization may be inconsistent with the ability of the environment to absorb the effects of human activity. The objective of the Commission was not to give a forecast of a decaying future of natural calamities, famines, poverty and hardships; but it was to convince single individuals, institutions and governments about the fact that time to take right decisions and concrete actions towards global concerns had come. The Commission stressed the idea that the future can be changed into a “more prosperous, more just, and more secure [one]”³³ to provide new generations all the resources they would have needed. The report also introduced the concept of *Sustainable development* by stating: “[...] it meets the needs of the present without compromising the ability of future generations to meet their own needs”.³⁴ For the first time the environment was no longer intended as mere nature to be preserved, but it was meant as a place where nature and human beings coexist in a sustainable way, where growth and prosperity are ensured for both of them. Sustainable development requires to meet the needs of everyone, without discriminations because every individual has the right to aspire for a better life and future, hence, growth and evolution of societies cannot preserve ecosystems intact,

³³ World Commission on Environment and Development. (1987). *Our common future*. P. 11. Oxford: Oxford University Press.

³⁴ *Ivi*, p. 15.

but if the development is sustainable, the ecological basis for development will be preserved.

The Commission first met in October 1984 and by the time the report was published, many environment-related calamities took place around the world. Chernobyl nuclear catastrophe, droughts and famines in Africa, diseases generated by contaminated water drinking and malnutrition, etc., were only some of the major critical events that somehow had an impact on the ecosystems and on the global population itself, as they caused millions of deaths. Indeed the impact of human activities on nature has always been critical, from the moment humans started to hunt animals and agriculture began to be one of the main sources of nourishment³⁵; however, in the twentieth century the effects of hundreds of years of pressure started to become evident more than ever. In fact, almost all the parameters that give information on the relationship between man and environment indicate, since the period after the Second World War, a clear tendency to worsening of the problems. The Swiss ecology historian Christian Pfister therefore coined the concept of the *1950s syndrome* (1998) for this radical reversal in ecological history. He borrowed the medical term “syndrome”, which indicates the mixture of different symptoms that make up a disease, and in the same way he intended to focus on a multitude of elements (societal, cultural, physical) that affected the above-mentioned time span. The term wanted to describe the alteration in the state of affairs: the world was transitioning “from a slow-going to a rapid loss of sustainability”.³⁶ In fact, the post-war economic development did not happen without leaving a footprint on the environment: the population growth and the general trend towards new consumption patterns that required high resources caused considerable pollution. The 1950s syndrome was, in this regard, the result of a Europeanization of *America's way of life* that included the movement of individuals by car, the ostentation of consumption far beyond immediate needs, a growing consumption of meat and much more.

³⁵ Bentley, J. H. (2013). Environmental Crises in World History. *Procedia - Social and Behavioral Sciences*, 77, p. 110. <https://doi.org/10.1016/j.sbspro.2013.03.067>

³⁶ Uekoetter, F. (Ed.). (2010). *The Turning Points of Environmental History*. University of Pittsburgh Press. P. 90. <https://doi.org/10.2307/j.ctt5hjsg1>

Not to mention the Early Twentieth Century Warming, registered between the 1890s and the 1940s which, as a consequence, led to other anomalies like the Arctic warming, the Dust Bowl drought and heat waves in North America, and again, harsh winters and heated summers in Europe.³⁷ Moreover, studies illustrate that CO₂ levels witnessed an important increase between the 1950s and 1980s. For long it has been wrongly believed that the alterations in the quantity of greenhouse gasses were due to the onset of industrialization, however scientists attribute the growth of emissions exactly in the twenty five years following the late 1950s.³⁸

1.3.4 Earth Summit in Rio de Janeiro and adoption of Agenda 21

In order to restrain the worsening of the environmental situation, the United Nations Conference on Environment and Development (UNCED) was held in the Brazilian city of Rio de Janeiro in 1992. Representatives of 178 nations attended the meeting which went down in history as the Earth Summit, after which it was agreed to the adoption of the so-called Agenda 21, a plan of action which proposed a series of tools for the application of the principles of sustainability. The Conference wanted to draw attention to environmental devastation with the aim of reaching a final agreement regarding three major points: reducing greenhouse emissions, containing deforestation and guaranteeing a healthy equilibrium in the preservation of biodiversity. This document laid the foundations for concrete actions to be taken in the matter of planning, management and conservation of the environment, addressing both those who act directly on the territory and governments, by proposing operational tools.

The civil engagement that appeared around the Summit was surprising, in fact, the event was open to non governmental organizations (NGOs) and non-state actors as well. Such a consensus on the environmental matter constituted an important signal of a widening in public participation and ensured the presence of a widespread will to change the exacerbated situation that afflicted the Earth.

³⁷ Hegerl, G. C., Brönnimann, S., Schurer, A., & Cowan, T. (2018). The early 20th century warming: Anomalies, causes, and consequences. *WIREs Climate Change*, 9(4). P. 11. <https://doi.org/10.1002/wcc.522>

³⁸ Uekoetter, F. (Ed.). (2010). *The Turning Points of Environmental History*. University of Pittsburgh Press. P. 92. <https://doi.org/10.2307/j.ctt5hjsg1>

CHAPTER 2 – CHINA: FROM MAJOR POLLUTION EMITTER TO SUPPORTER OF THE ENVIRONMENT

2.1 Sustainability in China

Given the history of the Western industrialization and modernization, which were the outcomes of a process that took place across centuries, and which contributed to the creation of the developed nations that we know today, it is interesting to observe that the current biggest polluter of the world is not an Occidental country, but rather an Asian one: China. At this point a question comes up: how is it possible that China is on the top list of the major greenhouse gasses emitters? Giving a background, despite the shorter and more recent modernization period compared to the European/US ones, China grew at an incredible pace right after 1978 due to the opening up reform. The so-called *open door policy* marked a shift in the country's development strategy from a self-sufficient and isolated one to a more active participation in the international scenario. The strategy pursued by the Chinese government was referred to as 中学为体西学为用 (*Zhong xue wei ti, xi xue wei yong*), which meant that Chinese values remained the core while the Western technology would be imported from industrial market economies to allow the development in the Chinese economic and military sectors³⁹. The issuing of the new policy led to important changes in the Chinese system on its whole: the technology transfer from foreign powers made possible the rapid rise of local industries, but also the speed of urbanization has been remarkable as it grew from 17.92% in 1978 to 59.58% in 2018⁴⁰, improving the living standards of the population as well. The once agriculture driven nation had changed, in fact, also the land destined to cultivation was decentralized to individual smallholdings, and Special Economic Zones (SEZs) were created to speed up and encourage Foreign Direct Investments (FDI) and foreign trade⁴¹. As a consequence, the then small towns (some of them were even villages) attracted so much foreign

³⁹ Huan, G. (1986). CHINA'S OPEN DOOR POLICY, 1978-1984. *Journal of International Affairs*, 39(2), p.2. <http://www.jstor.org/stable/24356571>

⁴⁰ Yuan, J., Zhang, L., Tan, Y., & Skibniewski, M. J. (2019). Evaluating the regional social sustainability contribution of public-private partnerships in China: The development of an indicator system. *Sustainable Development*, 28(1), p. 259. <https://doi.org/10.1002/sd.2001>

⁴¹ Agarwala, N. (2021). China: combating environmental degradation. *International Journal of Environmental Studies*, p.2. <https://doi.org/10.1080/00207233.2021.1974756>

investment that soon became boomtowns, producing important migration flows towards them. Shenzhen is a great example, its population counted around 30,000 people in 1979 and now counts over 12 million citizens; also in the last decades the city developed so much that it is now known as the Chinese Silicon Valley.

Migration towards urban areas led individuals to adopt new ways of living, not to mention the way that people began to use the land and the other natural resources (unrestrained deforestation became a severe issue since it was implemented to create maximum revenues) as a result of the progressive removal of welfare and social security⁴². Clearly all the advancements that China achieved were energy-reliant, so this translated into a rise in the consumption of energy which primarily came from coal. If we check some data on the carbon dioxide (CO₂) global emission levels, China climbed the rankings of the most polluting countries on the planet right after it joined the World Trade Organization (WTO) in 2001. In fact, the new trade openness contributed to the growth of the country's carbon emissions which went up from 1.37 Gt CO₂ in 1978, 5.2 Gt CO₂ in 2007 to 9.64 Gt CO₂ in 2018, with an average annual growth of 5.0%⁴³. Opening its economy to the world, China went through an incredible growth not witnessed so far by any other nation. The rise of industrialization also helped to lessen poverty and increase national income. To quantify the numbers of the development: from 2001 to 2011 the Chinese economy saw an annual growth rate of 10.5%, with a raising gross domestic product (GDP) from 10,965.52 billion yuan in 2001 to 47,288.16 billion yuan in 2011⁴⁴. However this quick economic boom was followed by environmental decline: air pollution, climate change, biodiversity loss and water scarcity are the most serious problems that appeared due to the impact of the 40-year-long development.

Facing the new climate deterioration that has been manifesting ever since the economic surge, the Chinese central government decided to take action to keep under control the

⁴² *Ivi*, p.3.

⁴³ Zheng, X., Lu, Y., Yuan, J., Baninla, Y., Zhang, S., Stenseth, N.C., Hessen, D.O., Tian, H., Obersteiner, M., and Chen, D., 2020, Drivers of change in China's energy-related CO₂ emissions. *Proceedings of the National Academy of Sciences* 117(1), p.31.

⁴⁴ Ren, S., Yuan, B., Ma, X., & Chen, X. (2014). The impact of international trade on China's industrial carbon emissions since its entry into WTO. *Energy Policy*, 69, p.624. <https://doi.org/10.1016/j.enpol.2014.02.032>

environmental situation afflicting the country. A series of policies were undertaken since the 1980s, starting with the foundation of an environmental protection structure: the State Environmental Protection Administration (SEPA); followed by the establishment of an environmental legal system and finally prioritizing the matter of environmental protection in the national plans. However, according to Alvin Y. So and William S. Tay in *Handbook of modern China* the perspective of the Chinese government towards environmental protection has changed several times, in particular its position has been marked by four major views: “(i) pollution first, clean-up afterwards; (ii) sustainable development; (iii) cleaner production; and (iv) low-carbon economy”⁴⁵. At the beginning of the opening up years, China was driven by a strong sentiment of pursuit of economic modernization, its aim was to emulate the development that took place in the Western industrial countries since the Industrial Revolution as it was perceived as a successful model. The strategy “pollution first, clean-up afterwards” perfectly describes the attitude embodied by the Chinese government which prioritized rapid economic growth at the expense of the environment. Leaders thought that environmental damages and pollution were unavoidable elements if the economic development was to be achieved, a necessary evil to go through for the time needed to grow rich enough to start worrying about cleaning up.

Following the “UN Declaration of Environment and Development” pronounced in Rio in 1992, China committed to the concept of Sustainable development as it was believed to be coherent with the national strategy of seeking a balance between economic growth and environmental protection. Nevertheless, confronted with important obstacles such as the huge population and the still not advanced economy, the government decided to fulfill the Sustainable development only partially, primarily focusing on relieving the nation from poverty. Once again the environmental side has been neglected and has not been taken into account as it should have. However, despite the limited green action undertaken, this constituted a first glimpse of concern manifested by Chinese political elites on the green matter; in fact, environmental protection was then officially recognized as “the key

⁴⁵ So, A. Y., & Tay, W. S. (2012). *Handbook of Contemporary China* (1st ed.). World Scientific Publishing Company, p.212.

to sustain economic development” and it was given relevance in the 9th Five-Year national plan (1996–2000)⁴⁶.

With the advent of the 21st century, the Chinese government shifted towards a more progressive interpretation of sustainable development, drawing attention to the achievement of a qualitative economic growth, more attentive towards the environmental matter and embracing the *circular economy*. With the 11th Five-Year Plan (2006–2010), as a matter of fact, China committed to a greener attitude in the production system providing “low input of raw materials, high output of material goods, low consumption of energy, low emissions of pollutant, and recycling of wastes into productive materials”.⁴⁷

The latest paradigm change owned by China on environmental conservation – to pursue a low-carbon economy – was driven by the international pressure to find a solution to stop climate change. After the endorsement given to the Kyoto protocol, China became particularly motivated to show its dedication to reduce the carbon levels within its borders⁴⁸.

The establishment of an environmental legislation certainly mirrored the position taken by the central government towards environmental matters. In fact, in China this type of legislation appeared later compared to other countries. Western nations due to their anticipated industrialization process witnessed a series of natural incidents along the way, for this reason environmental laws had been introduced earlier. As a matter of fact, foreign industries in order to escape environmental regulations present in their countries of origin tried to establish partnerships with Asian countries. Among them, China soon became the main *pollution haven*, besides being the *workshop of the world*. In China the first legislation on the environmental matter was introduced in 1979 with the *Environmental Protection Law*. After that, due to the increasing climate worsening effects in the country, which was creating concern also in the international community, little by little new policies were undertaken to tackle the situation. By 1993, new environmental protection laws were adopted by the National People’s Congress and many existing laws were

⁴⁶ *Ivi*, p.213.

⁴⁷ *Ivi*, p.214.

⁴⁸ *Ivi*, p.215.

revised⁴⁹. The laws on ecosystem protection developed to the point that by the end of August 2014, thirty laws about the protection of the environment and the conservation of natural resources were approved (Table 2.1)⁵⁰. At that point the whole set of environmental elements was covered by a complete and comprehensive environmental legal system.

Table 2.1 - Existing environmental and resources laws in China, from Sustainability (2014).

Note	Name	Adopted	Went into Effect	Revised	Went into Effect
1	Environmental Protection Law	1979-09-13	1979-09-13	1989-12-26 2014-04-24	1989-12-26 2015-01-01
2	Marine Environment Protection Law	1982-08-23	1983-03-01	1999-12-25	2000-04-01
3	Law on Prevention and Control of Water Pollution	1984-05-11	1984-11-01	1996-05-15 2008-02-28	1984-11-01 2008-06-01
4	Forestry Law	1984-09-20	1985-01-01	1998-04-29	1998-07-01
5	Grassland Law	1985-06-18	1985-10-01	2002-12-28	2003-03-01
6	Fisheries Law	1986-01-20	1986-07-01	2000-10-31	2000-12-01
7	Mineral Resources Law	1986-03-19	1986-10-01	1996-08-29	1997-01-01
8	Land Administration Law	1986-06-25	1987-01-01	1988-12-29 1998-08-29 2004-08-28	1988-12-29 1999-01-01 2004-08-28

⁴⁹ Mu, Z., Bu, S., & Xue, B. (2014). Environmental Legislation in China: Achievements, Challenges and Trends. *Sustainability*, 6(12), p.8969. <https://doi.org/10.3390/su6128967>

⁵⁰ *ibidem*.

Table 2.1. Cont.

Note	Name	Adopted	Went into Effect	Revised	Went into Effect
9	Law on Prevention and Control of Atmospheric Pollution	1987-09-05	1988-06-01	1995-08-29 2000-04-29	1995-08-29 2000-09-01
10	Water Law	1988-01-21	1988-07-01	2002-08-29	2002-10-01
11	Law on the Protection of Wildlife	1988-11-08	1989-03-01	-	-
12	Law on Urban and Rural Planning	1989-12-26	1990-04-01	2007-10-28	2008-01-01
13	Law on Water and Soil Conservation	1991-06-29	1991-06-29	2010-12-25	2011-03-01
14	Surveying and Mapping Law	1992-12-28	1993-07-01	2002-08-29	2002-12-01
15	Law on Prevention and Control of Environmental Pollution by Solid Waste	1995-10-30	1996-04-01	2004-12-29	2005-04-01
16	Electric Power Law	1995-12-28	1996-04-01	-	-
17	Law on the Coal Industry	1996-08-29	1996-12-01	2011-04-22	2011-07-01
18	Law on Prevention and Control of Environmental Noise Pollution	1996-10-29	1997-03-01	-	-
19	Flood Control Law	1997-08-29	1998-01-01	-	-
20	Law on Energy Conservation	1997-11-01	1998-01-01	2007-10-28	2008-04-01
21	Law on Protecting Against and Mitigating Earthquake Disasters	1997-12-29	1998-03-01	2008-12-27	2009-05-01
22	Meteorology Law	1999-10-31	2000-01-01	-	-
23	Law on Prevention and Control of Desertification	2001-08-31	2002-01-01	-	-
24	Law on the Administration of the Use of Sea Areas	2001-10-27	2002-01-01	-	-
25	Law on Promotion of Cleaner Production	2002-06-29	2003-01-01	2012-02-29	2012-07-01
26	Law on Evaluation of Environmental Effects	2002-10-28	2003-09-01	-	-
27	Law on Prevention and Control of Radioactive Pollution	2003-06-28	2003-10-01	-	-
28	Renewable Energy Law	2005-02-28	2006-01-01	2009-12-26	2010-04-01
29	Law on Promotion of Circular Economy	2008-08-29	2009-01-01	-	-
30	Law on the Protection of Offshore Islands	2009-12-26	2010-03-01	-	-

Note: In order of adopted date; data current to 31 August 2014.

From a political point of view, in the last decade China has made environmental protection and the fight against climate change two key topics of the leadership of the President Xi Jinping and of the Party within national borders, as well as of China as a whole on the world stage. After the void left by the US withdrawal from the Paris Accords, formalized on November 4, 2019, China presented itself to the world as a supporter of the agreement and as a leader of the four major emerging economies (China, Brazil, South Africa and India). On the internal front, the need for environmental recovery has been one of the most recurring themes of the President's leadership, in line with the manifesto speech he gave during the 19th National Congress of the Chinese Communist Party (2017), where the word "environment" occurred 89 times, while the word "economy" occurred only 70 times.

During the twelfth five-year plan (2011-2015), the government tried to implement the “carrot and stick” policy: the first was constituted by the tightening of pollution limits, the second was instead to provide a series of subsidies for investments to improve the environmental situation. President Xi Jinping wanted to tackle the issue in a more radical way, by adding structural interventions to the previous policy. China is a unitary state, but the provinces and local administrations enjoy very wide autonomy (for this reason they are called Local People's Governments), which allows them to implement different plans that are not homogeneous and with results that are difficult to control. Furthermore, due to this autonomy, even in the field of environmental protection, the rush to build infrastructure has led to an uncontrolled increase in public debt, which has brought some local administrations to the brink of default. Without affecting the operational autonomy of local administrations, the complex of the new reforms tends to limit their discretion and to establish systems of control, verification and coordination, not only by the central government, but also by the population and by the potential investors⁵¹.

In 2014 China revised its Environmental Protection Law, this constituted the first update on its environmental policies in over 20 years, as its previous enactment occurred in 1989⁵². The revision of the law entered into force in January 2015 and it introduced five key provisions⁵³: 1) an increase in the responsibilities of polluters, with significantly harsher sanction mechanisms, the possibility of closing down plants that do not comply with the rules and the obligation to publish the documents of the environmental impact assessment; 2) increase in the responsibilities of public bodies and officials, who are not only assessed on the basis of the environmental performance of the territories they manage, but are also subject to heavier measures in the case of non-supervision or violation of the law itself, with penalties that also include arrest; 3) increase in transparency, which means disclosure to the public, specifically public administrations must release environmental monitoring data to the public as well as the most polluting

⁵¹ Centro Studi per l'Impresa Fondazione Italia Cina (CeSIF). (2021). *XII Rapporto Annuale CeSIF. Scenari e Prospettive per le Imprese*. Fondazione Italia Cina, pp. 222.

⁵² China: Environmental Protection Law Revised. (2014). [Web Page] Retrieved from the Library of Congress, <https://www.loc.gov/item/global-legal-monitor/2014-06-06/china-environmental-protection-law-revised/>.

⁵³ Centro Studi per l'Impresa Fondazione Italia Cina (CeSIF). (2021). *XII Rapporto Annuale CeSIF. Scenari e Prospettive per le Imprese*. Fondazione Italia Cina, pp. 222-223.

industries; 4) legal actions in the public interest, which can be sponsored by NGOs with specific requirements; 5) protection for whistleblowers who report environmental crimes. For the first time, albeit with severe limitations, the population was directly involved as an active element of the supervisory action, both towards the action of public administrations and towards industries. The environmental law defined a much harsher scenario than the previous one, with regard to both industries and local administrators, without however defining the rules for the development of the environmental market. Despite all the efforts made to overcome the legislation void, many environmental problems are still present due to years of uncontrolled pollution. Based on the estimates collected by the Rhodium Group, in 2019 global emissions reached 52 gigatons of CO₂, with an increase of 11.4% over the last ten years⁵⁴. China itself was at the first place in the ranking as it contributed over 27% of total global emissions, surpassing even the US which emitted 11% of the worldwide total and generating more greenhouse gas emissions than all the developed countries combined⁵⁵ (Figure 2.1).

According to the Bloomberg report, China's emissions were so vast that in certain cases its biggest national companies exceeded the pollution amount generated by entire nations. These giant firms work in different sectors such as cement, power, steel, oil refining. An example is China Baowu, the largest steelmaker in the world, which in 2020 generated more CO₂ than Belgium and Austria combined⁵⁶. The same was for the state-owned China Petroleum & Chemical (subsidiary of the Sinopec Group) which is responsible for generating 733 million metric tonnes per year, more than Spain's and Canada's emissions combined.

⁵⁴ Larsen, K.; Pitt, H.; Grant, M.; Houser, T. (2021, May 6). *China's Greenhouse Gas Emissions Exceeded the Developed World for the First Time in 2019*. Rhodium Group. Retrieved April 20, 2022, from <https://rhg.com/research/chinas-emissions-surpass-developed-countries/>

⁵⁵ *Ibidem*.

⁵⁶ Wu, J., & Kan, K. (2021, October 24). *The Chinese Companies Polluting the World More Than Entire Nations*. Bloomberg. Retrieved April 20, 2022, from <https://www.bloomberg.com/graphics/2021-china-climate-change-biggest-carbon-polluters/>

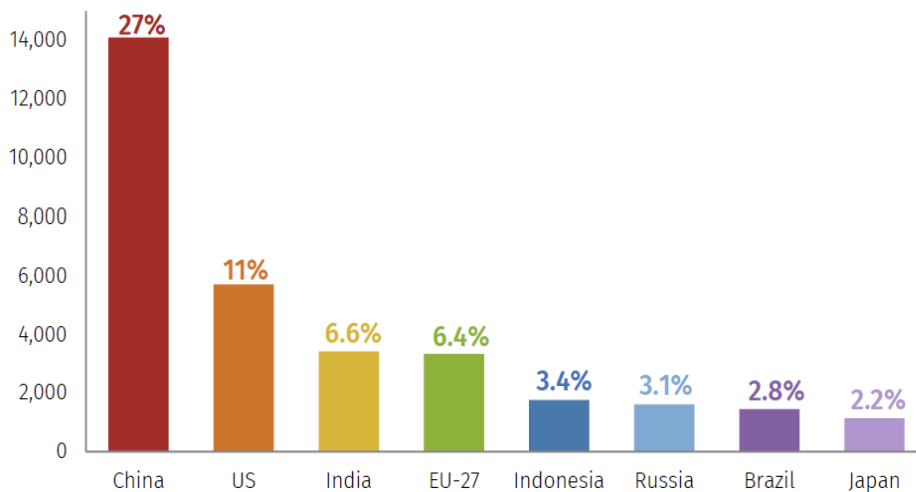


Figure 2.1 - 2019 net GHG emissions from the world's largest emitters, from Rhodium Group (2021).

2.1.1 Growing Public Environmental Awareness among Chinese people

In terms of awareness of the Chinese population, environmental protection was never a concerning matter. For a long time, the public followed the perspective provided by the government according to which environmental degradation and pollution were two inevitable side effects of the country's economic growth. In the 1990s an environmental consciousness started to develop due to a rise in the mass media coverage of environmental matters but also due to a stronger pressure carried out by the international community, in particular since the 1992 Rio Earth Summit. Only when the central government started to take the environmental issue more seriously, a series of campaigns and programmes were organized at a central, provincial and local level to attract the interest of the population⁵⁷. Many agencies carried out surveys to study the local and national environmental attitudes and perspectives of the Chinese citizens; among the promoters there were academic institutions, non-government organizations (NGOs), mass

⁵⁷ Wong, K.K., (2003), The environmental awareness of university students in Beijing, China. *Journal of Contemporary China*, **12**(36), p.526–527, DOI: 10.1080/10670560305472

media, the State Environmental Protection Administration (SEPA), and polling firms⁵⁸. As education attainment is reckoned to be an important factor affecting people's attitude and behavior in the environment, the first study on public awareness was conducted by the Contemporary China Research Center of Peking University, which collected data from ten universities in Beijing during the 1998–1999 academic year⁵⁹. Apart from students, also the general public, radio audiences, newspaper readers, factory workers, environmental bureaucrats were polled. Overall, the population was aware of the environmental degradation in the country: water pollution, deforestation and soil erosion were the issues perceived as the most urgent to tackle; however people still prioritized economic growth rather than environmental protection. A second survey was held in December 2007, sponsored by the China Environmental Awareness Program whose objective was to raise consciousness by providing environmental education. Between the two surveys there was a time span of approximately ten years. The results allowed to delineate a shift in the priorities of the Chinese population, although without great changes in their practice towards the issue.

Table 2.2 shows how respondents ranked the top five most pressing environmental issues in China. Generally, people tend to perceive as more urgent the short-term environmental issues (rather than long-term climate problems that might appear in the future) since they have more tangible and visible effects that have an impact on their daily lives. In fact, the two polls followed exactly that path: people voted water pollution, air pollution, solid waste, and decline of arable land higher than forest destruction and climate change⁶⁰.

⁵⁸ Wong, K.K., (2010), Environmental awareness, governance and public participation: public perception perspectives, *International Journal of Environmental Studies*, 67:2, p.170-171, DOI: 10.1080/00207231003683424

⁵⁹ Wong, K.K., (2003), The environmental awareness of university students in Beijing, China. *Journal of Contemporary China*, 12(36), p.520, DOI: 10.1080/10670560305472

⁶⁰ Wong, K.K., (2010), Environmental awareness, governance and public participation: public perception perspectives, *International Journal of Environmental Studies*, 67:2, p.171, DOI: 10.1080/00207231003683424

Table 2.2 - Top five most pressing environmental issues in China, from International Journal of Environmental Studies (2010).

Seriousness ranking	1998 survey ^a	2007 survey ^b
1 st	Water pollution	Domestic (consumer) wastes
2 nd	Air pollution	Declining arable land
3 rd	Forest destruction	Air pollution
4 th	Solid wastes	Climate change
5 th	Others	Solid waste pollution

Another remarkable aspect is the fact that respondents put domestic (or consumer) waste at the first place in the 2007 survey. Due to the economic development, China became a wealthier nation, consequently the social conditions and behavior of people, especially those residing in top-tier cities and more developed areas, changed along with it. As consumption increased, waste became a direct consequence, growing to the point that its management started to constitute a serious issue to be taken care of. Apparently the cause of the environmental worsening in China had changed from the production to the consumption sector. In the course of the survey, participants were asked to assess the top five most pressing social issues in China (Table 2.3): both in 1998 and 2007 polls, environmental protection remained at the bottom of the ranking, as it was considered a marginal problem compared to other social issues. Apparently people were more concerned with job lay-offs, education, social security, healthcare, and income gap which were all elements regarding their immediate personal welfare and livelihood⁶¹.

⁶¹ *Ibidem.*

Table 2.3 - Top five most pressing social issues in China, from *International Journal of Environmental Studies* (2010).

Seriousness ranking	1998 survey ^a	2007 survey ^b
1 st	Crime & delinquency	Health care
2 nd	Education	Employment
3 rd	Population	Income gap
4 th	Employment	Environmental protection
5 th	Environmental protection	Corruption

Furthermore, the 1998 and 2007 surveys also included an evaluation of the man-nature relationship perceived by Chinese people. The findings suggested a shift in attitudes and behavior patterns, as in the 1998 survey the “man over nature” perspective still prevailed: around one-third of the surveyees (33.9%) believed that men should conquer nature to their advantage⁶². Moreover, 23.2% of people (Table 2.4) also stated that “nature has the power of self-regeneration and that human beings can do little harm to the nature ecosystem”⁶³. Conversely, in the 2007 survey changes in the attitudes appeared visible as 18.6% (fewer than the 1998 survey) of the participants believed in the self-regeneration of nature, thus they thought that natural resources usage should have been more attentive and responsible. There was also a considerable reduction in those who were hesitant to give an opinion on the subject, which dropped from 27.5% to 7.7%. This great result may have been achieved through the campaigns and plans organized by the government to provide an environmental education strong enough to grow consciousness and to persuade the population to change lifestyles and to give an active contribution to nature protection.

⁶² *Ivi*, p.173-174.

⁶³ *Ivi*, cit., p.174.

Table 2.4 - Attitude towards the proposition that 'nature has the power of self-regenerating; and human beings can do little harm to the nature ecosystem', from International Journal of Environmental Studies (2010).

	1998 survey	2007 survey
Totally agree	6.8%	3.8%
Agree	16.4%	14.8%
Disagree	24.1%	43.1%
Totally disagree	25.2%	30.6%
Don't know	27.5%	7.7%

Since 2007 China has undergone many changes, as a result of the development process also the opinion of the population might have changed, especially under environmental matters. Sustainable development seems to be an essential theme nowadays, a goal to be pursued by all nations. But is it the same also at a local level? What do Chinese people think of Sustainability and how do they approach it? The aim of this chapter is to detect whether the Chinese population is interested in the concepts of sustainability and green consumerism and to analyze which segments are more committed to pursue sustainable habits. Moreover, it will be explained which Sustainability Strategies can be adopted by corporations to enhance sustainable behavior.

2.2 Green consumerism

Green consumerism is a state within which consumers buy products and services that are the outcome of a production process that does not harm the environment or endanger human health. Green consumerism is driven by green consumers and it entails recycling and protection of natural resources. This type of consumerism is environmentally conscious as it lessens the flows of materials in the consumption chain, but it is particularly sustainable because it also gives a perfect picture of how the product life cycle is like (Figure 2.2), in this way it allows to improve the production methods as the ultimate objective is to reduce the impact on the environment and to make the usage of resources

and energy more efficient⁶⁴. Within all the characteristics offered by a product, the standard consumption patterns usually focus only on the product performance without paying attention to the effects that its production may have on the environment, including its transportation, its usage and its discarding. In fact, non-green consumers usually do not take into consideration all the other external and non-economic impacts on the environment (effects that are not directly related to the product's tangible characteristics). Sustainable consumption is a productive method to face the current environmental challenges, it aims at improving the people's quality of life, providing products and services that meet the primary needs of society without resorting to an extensive usage of natural resources or toxic materials. All of this is done following the logic of not compromising the needs of the future generations. Sustainable consumption influences our choice-making in relation to food, clothing, transportation, and leisure; in the long-run it generates new habits and behaviors that eventually translate into new lifestyles.

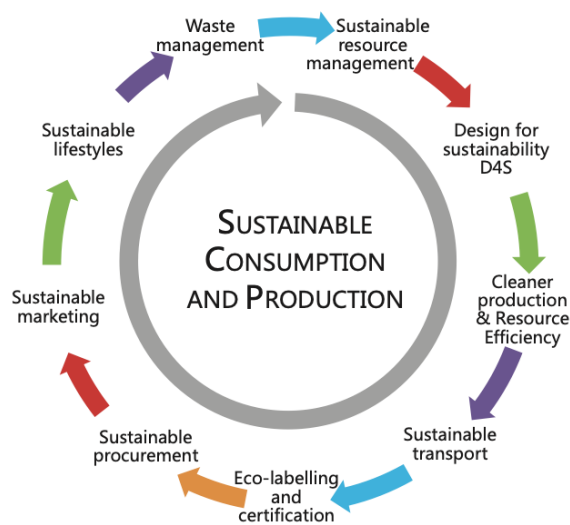


Figure 2.2 - Sustainable consumption and production, from Report on Consumer Awareness and Behavior Change in Sustainable Consumption (2017).

⁶⁴ Yan, L., Lei, Z., & Min, J. (2017, May). *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption* (L. Chong & L. Shaoxing, Eds.). China Sustainable Consumption Research Program. P. 2-3.
https://www.oneplanetnetwork.org/sites/default/files/en_report_on_consumer_awareness_and_behavior_change_in_sustainable_consumption_in_china-final.pdf

However, as studies have revealed, sustainable consumption is not possible solely with the presence of awareness; in many cases consumers are aware of the environmental degradation but still do not contribute to change the traditional consumption patterns. Green consumption is a behavior influenced by different factors that include age, gender, income, education level, consumer's individual properties like environment-linked knowledge and attitudes towards the environment, and personal value orientation⁶⁵. Even if there is awareness about it, it does not mean that the actual action will follow directly. Following Kokkinen's maturity model, there are four stages that individuals must go through to achieve green consumerism and beliefs⁶⁶. In the first stage consumers express concerns for the hostile events occurring around them and for the risks to human health, as a consequence, they attempt to educate themselves and to grow an environmental knowledge to find solutions to the climate issues. In the second stage, some individuals have developed a certain degree of green knowledge, enough to push them to embrace a sense of social responsibility and take part in environmental initiatives. In the third stage, environmental concerns are recognized also at a national and global level. In the fourth stage, the consciousness is so strong that it is implemented through green practices that then become habitual behavior and institutional norms. Therefore, the transformation from a traditional consumption to a sustainable one has to be supported by external policies, but it primarily starts from the intention of the single consumer. Once he has acknowledged the information, eventually the intention becomes behavior.

In 2016 Zhu and Sarkis stated that according to the data collected from 52 peer reviewed journal publications, Chinese consumers' green attitudes were still positioned between the first and the second stage in the maturity framework, but some signals of change were already appearing⁶⁷.

⁶⁵ Li, Y., Lu, Y., Zhang, X., Liu, L., Wang, M., & Jiang, X. (2016). Propensity of green consumption behaviors in representative cities in China. *Journal of Cleaner Production*, 133, p.1328. <https://doi.org/10.1016/j.jclepro.2016.06.012>

⁶⁶ Zhu, Q., & Sarkis, J. (2016). Green marketing and consumerism as social change in China: Analyzing the literature. *International Journal of Production Economics*, 181, p.298. <https://doi.org/10.1016/j.ijpe.2016.06.006>

⁶⁷ *Ibidem*.

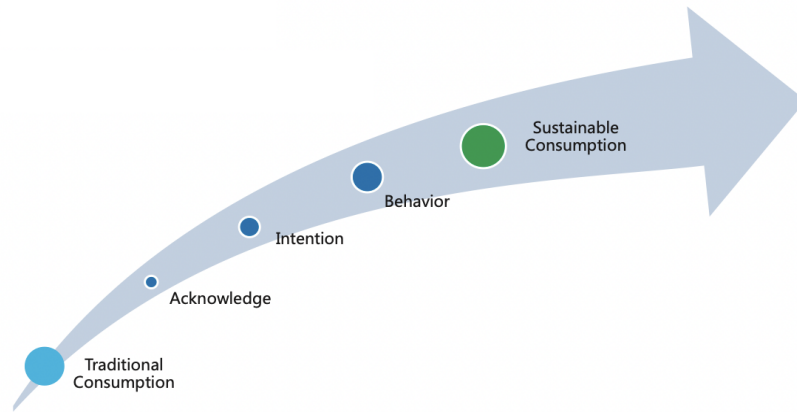


Figure 2.3 - Path of consumption behaviour change, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

2.2.1 Green consumerism in China

In the period between September and October 2016, the China Chain Store and Franchise Association (CCFA) worked with the Department of Environment of Renmin University of China to conduct a survey to study consumer behavior in relation to sustainable consumption. The data was collected through 9370 questionnaires in 10 major cities in China: Beijing, Dalian, Qingdao, Xi'an, Chengdu, Nanjing, Shanghai, Hangzhou, Shenzhen, and Wuhan. The data collected showed that over 70% of the interviewees knew that consumption has an impact on the environment: 30.13% of which fully agreed; 40.85% agreed; and 20.20% partly agreed. Just 8.82% of the participants stated to disagree slightly or totally.⁶⁸

⁶⁸ Yan, L., Lei, Z., & Min, J. (2017, May). *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption* (L. Chong & L. Shaoxing, Eds.). China Sustainable Consumption Research Program. P. 7.

https://www.oneplanetnetwork.org/sites/default/files/en_report_on_consumer_awareness_and_behavior_change_in_sustainable_consumption_in_china-final.pdf

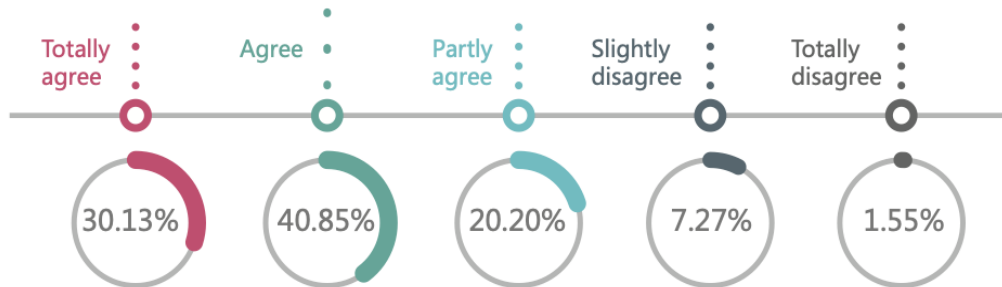


Figure 2.4 - Consumers agree that consumption has an impact on the environment, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

The level of economic development of the cities influences the awareness of sustainable consumption. Among the 10 cities surveyed, it was detected that cities like Shenzhen, Shanghai and Hangzhou, besides being the most economically developed cities, also present the highest consciousness⁶⁹. Also age is an important element in relation to awareness, according to the data collected, the younger consumer generation is more aware of sustainable consumption (Figure 2.5). Apparently, people between 20–29 years old are the most promising green consumers, however they find more obstacles to put their intentions into practice as they have a lower income and purchasing power compared to the consumer group of 30-49 year-olds who are more advantaged in conducting green consumption behavior⁷⁰.

⁶⁹ *Ibidem*.

⁷⁰ *Ivi*, p.8.

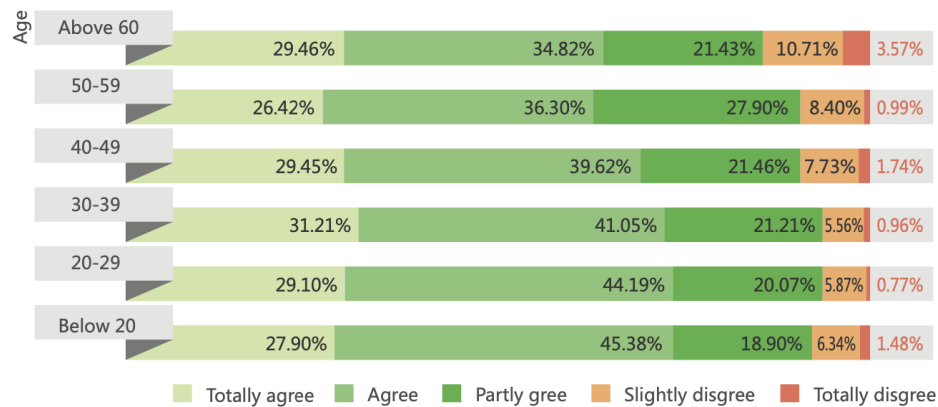


Figure 2.5 - Age difference and consumer awareness, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

In terms of gender, environmental awareness is not affected by it, but it can be seen a difference in the actual behavior between males and females: according to the data of online-shopping through the Alibaba platform, women of all age groups have the strongest preference on green products. In particular, young moms aged between 29-35 years old are the consumer segment that most contributed to increase the sales of sustainable products. This dissimilarity is due to the fact that generally women are those who take care of the household and its daily supplies for the family, the sustainable products that they prefer to buy are linked to health and food safety.

Health and safety are the main drivers that push Chinese consumers to purchase environmentally friendly products. In particular, after the COVID-19 outbreak this trend has increased, people have become more conscious of health and quality resulting in making safe purchases. The main reasons that motivate consumers in China to buy sustainable products are food safety and health (61.99%), benefit for the environment (50.21%), and better quality (49.16%)⁷¹. According to the data collected by Alibaba on online purchasing in 2015⁷², the type of green products that gained more success in terms of sales were (in order) household appliances, Mother and Child Care products, and Food.

⁷¹ *Ibidem*.

⁷² Alibaba Research Institute (2016). Report on China's Green Consumer.

Considering that the 1980s and the 1990s generation individuals make up most of the online customers, it is clear that the above-mentioned product categories are consistent with the age and the life stages of those consumer profiles. Moreover, based on McKinsey&Company report published in 2017, the post-90s generation, which comprises people born between 1990 and 1999, is a population group that totally differs in attitudes and behavior from their parents. They grew up in a different China compared to the one that the previous generations experienced, as it developed and became wealthier, more exposed to western culture and richer in new technologies⁷³. Influenced by the social media era, they are more attentive towards health, quality and lifestyle.

Once it has been proved that Chinese consumers are inclined to purchase sustainable products, it is interesting to see to what extent they are willing to pay for them as these have a higher price. In fact, the premium price for these types of goods might be an obstacle as customers generally consider various features in the process of choosing between the different products⁷⁴. Studies affirm that when there is a gap between the willingness and the actual consuming behavior, the difference stands between the perceived quality of the product itself and its higher price (compared to normal non-green products)⁷⁵. CCFA and the Department of Environment of RUC have conducted a survey per year from 2011 to 2015 in the cities of Beijing, Shanghai, Wuhan and Shenzhen; the results do not present big differences in the trend. According to the questionnaire, 46.1% of the participants were willing to pay an extra under 5%; 25.1% were willing to pay a premium between 5%-10% and eventually a group of 16.4% stated to be unwilling to pay extra money for green products (figure 2.6).

⁷³ Baan, W., Luan, L., Poh, F., & Zipser, D. (2017, November). *Double-clicking on the Chinese consumer. The new health craze, the rise of the post-90s generation, and other trends worth watching*. McKinsey&Company.

P.14.<https://www.mckinsey.com/~/media/mckinsey/featured%20insights/china/double%20clicking%20on%20the%20chinese%20consumer/double-clicking-on-the-chinese-consumer.pdf>

⁷⁴ Li, Y., Lu, Y., Zhang, X., Liu, L., Wang, M., & Jiang, X. (2016). Propensity of green consumption behaviors in representative cities in China. *Journal of Cleaner Production*, 133, p.1328. <https://doi.org/10.1016/j.jclepro.2016.06.012>

⁷⁵ Ivi, p.1329.

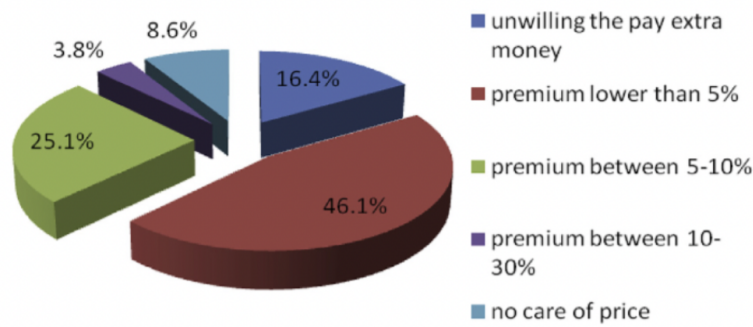


Figure 2.6 - Consumer's willingness to pay for green products, from *Journal of Cleaner Production* (2016).

Moreover, the data from the *Report on Consumer Awareness and Behavior Change in Sustainable Consumption* reveal that people manifest a higher willingness to pay (WTP) a premium for green products that are included in the following five categories of consumption: food, electric supplies, furniture, garments, and groceries. From figure 2.7 it can be seen that between the five elements there is not much difference in the WTP: about 30% of Chinese consumers are not willing to pay a premium, less than 10% of the consumers are willing to pay an extra between 10% and 20%, and another 10% of consumers say that the price of the premium does not matter⁷⁶.

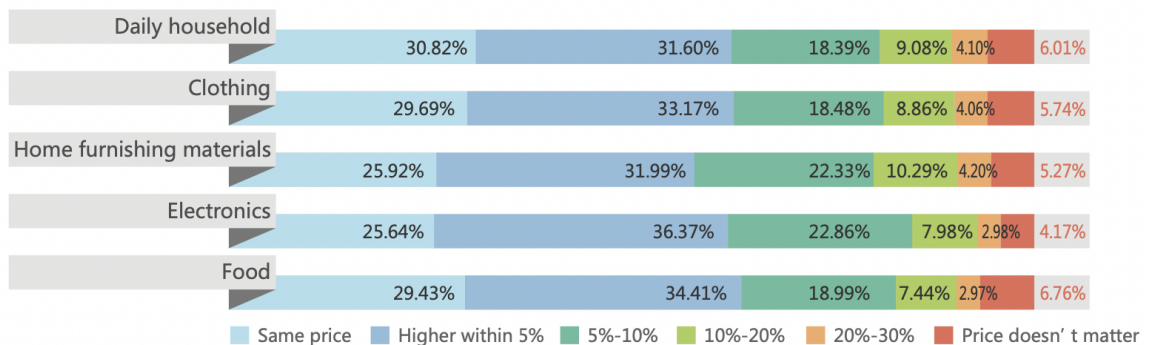


Figure 2.7 - Willingness to pay premium (different categories), from *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption* (2017).

⁷⁶ Yan, L., Lei, Z., & Min, J. (2017, May). *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption* (L. Chong & L. Shaoxing, Eds.). China Sustainable Consumption Research Program. P. 12.

https://www.oneplanetnetwork.org/sites/default/files/en_report_on_consumer_awareness_and_behavior_change_in_sustainable_consumption_in_china-final.pdf

At this point it is justifiable to wonder why the category of food has a WTP percentage that is not higher than other product categories. The fact is that even if it is the type of product that happens to be the closest to health and safety (main drivers to sustainable consumption), it is a good that has to be purchased in bigger quantities. Being the expense flown out all at the same time it is too costly for families to sustain. Age is another factor to be considered in the WTP research: it appears that young people can accept a higher premium (9.74% of under 20 years old can accept a premium higher than 20%), while people aging 40-49 years old have the strongest willingness to pay an extra due to their higher purchasing ability⁷⁷.

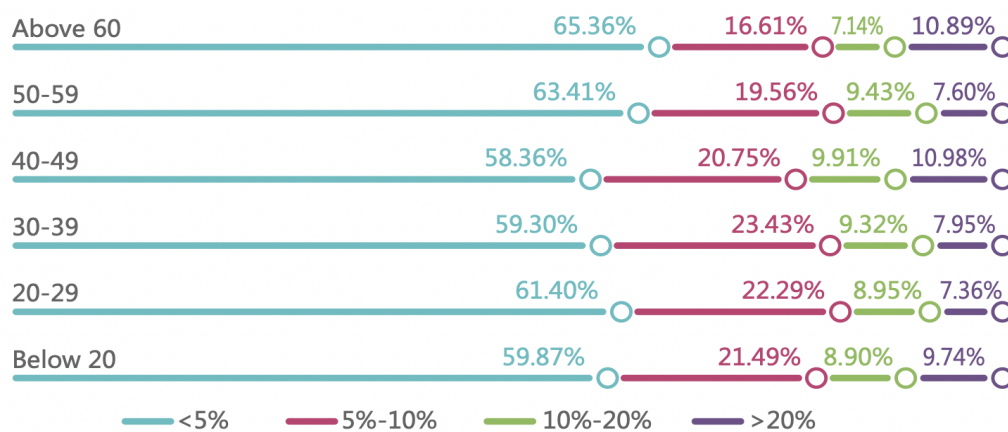


Figure 2.8 - Age and willingness to pay, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

Education level and income are other two factors to take into consideration when it comes to studying the willingness to pay a premium. In fact, as figures 2.9 and 2.10 show the higher these two values the higher will be also the WTP of the consumer⁷⁸.

⁷⁷ Ivi, p.13.

⁷⁸ Ivi, p.14.

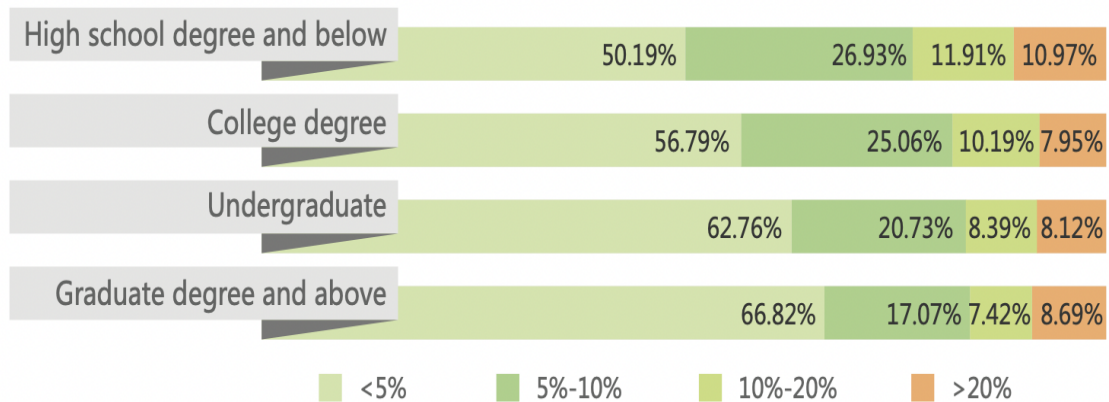


Figure 2.9 - Education level and willingness to pay premium, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

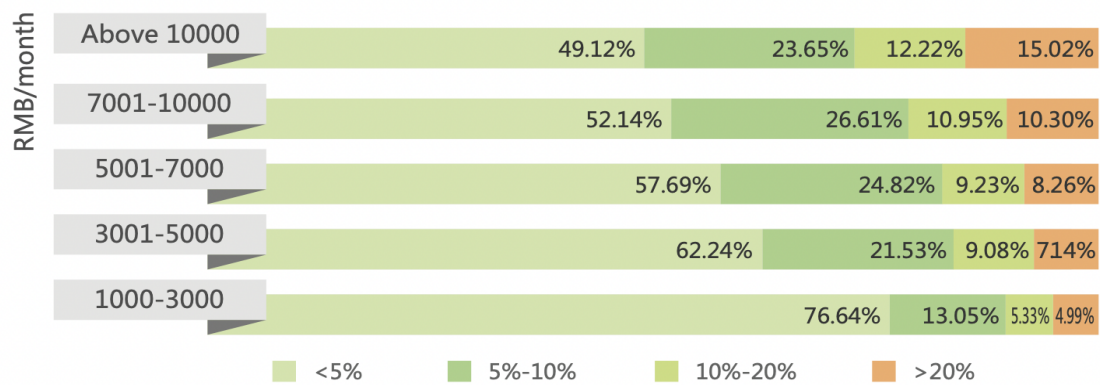


Figure 2.10 - Income level and willingness to pay premium, from Report on Consumer Awareness and Behaviour Change in Sustainable Consumption (2017).

According to the data, sustainable consumption habits are developing little by little. It seems that the three most frequent behavior conducted by Chinese consumers are: recycling wastes which is the 63.88%; use public transportation or walk as much as possible to reduce individual car use, 59.66%; and controlling the temperature of the air conditioning (not under 26 degrees in summer and not over 28 degrees in winter) which makes up the 51.46%⁷⁹. Even if most of the consumers stated that recycling waste represents their number one sustainable habit, the classification of urban waste is still rare

⁷⁹ Ivi, p.15.

and not implemented on a large-scale level. The Chinese urban population produces from half a kilo to three quarters of a kilo of solid urban waste per day which is primarily disposed of in landfills. About 17-18% of urban solid waste is brought to incineration. Although imposed by the general policies of China, waste sorting is poorly implemented: in large cities, for example, waste can be thrown into bins, but often, especially in internal alleys, it is customary to abandon waste on a segment of specially designated road. Garbage collectors can pass several times during the day to collect abandoned waste and empty the bins, but it is a consolidated practice that waste which might have an economic value (such as plastics, glass, etc.) is collected by private citizens, who then sell them to recovery plants⁸⁰.

The growing delivery economy exploded in the last years in China has led to dealing with enormous quantities of discarded packaging and the situation was exacerbated by the arrival of COVID-19. The outbreak of the global pandemic influenced the consumer sentiment and behavior and resulted in sparking two megatrends: sustainability and digital⁸¹. The shift to online shopping had developed progressively during the pre-covid years, however it has accentuated during the lockdown period in 2020 all over the world. With the fast-growing e-commerce and food delivery industries, the packaging industry saw a soaring increase in its output as well; in fact, according to the State Post Bureau in April 2020 package deliveries had increased by 27% compared to April 2019⁸². In the last period, China has displaced the United States and is currently the largest global packaging market. Nevertheless, the growth of packaging usage has led to a severe waste and leakage of these materials into the environment, raising certain concerns among the population. According to a McKinsey research, the COVID-19 crisis had an important impact in the mindset of consumers especially when it comes to sustainability: in many of the countries surveyed it appeared that people are now more attentive and conscious of

⁸⁰ Centro Studi per l'Impresa Fondazione Italia Cina (CeSIF). (2021). *XII Rapporto Annuale CeSIF. Scenari e Prospettive per le Imprese*. Fondazione Italia Cina. P. 227.

⁸¹ Feber, D., Lingqvist, O., Nordigaarden, D., & Seidner, M. (2022). 2022 and beyond for the packaging industry's CEOs: The priorities for resilience. *McKinsey&Company*, p.2. Retrieved May 2, 2022, from: <https://www.mckinsey.com/industries/paper-forest-products-and-packaging/our-insights/2022-and-beyond-for-the-packaging-industrys-ceos-the-priorities-for-resilience>

⁸² Bloomberg News. (2020, May 23). *China's War on Urban Waste Has a New Foe: Delivery Packaging*. BloombergQuint. Retrieved May 2, 2022 from <https://www.bloombergquint.com/global-economics/china-s-war-on-urban-waste-has-a-new-foe-delivery-packaging>

the hygiene and food safety of packaging, besides already being aware of the fact that the packaging sector owns a significant ecological footprint⁸³.

Due to these new emerging trends and attitudes, packaging companies, and manufacturing companies in general, should foresee the new consumers' preferences in terms of product features. Moreover, they should take into consideration three other aspects⁸⁴: first, the way local consumers use the products and dispose of the packaging. Second, undertake an incremental approach which means to act sooner rather than later. Even if consumers express a strong willingness to pay more for green products, it does not mean that they will actually do it in their daily actions; in addition, people do not always know exactly what they want and what they expect from the market. For this reason, companies should implement low-impact changes to see if these may have successful outcomes in the long run. Third, an important element to be ensured is communication. Nowadays the sustainability narratives around the product and the package itself are the key to attract consumers' interest. On top of that, the packaging not only is important to communicate the sustainability practices implemented for its production, but also to indicate how the product can be recycled, as global and local regulations are becoming more and more strict.

According to the data provided by online-purchase from Alibaba, the mean premium of sustainable products is 33%, which is a lot higher compared to the willingness to pay expressed by consumers, for this reason many Chinese people will not choose green products. High price is just one of the several barriers to the full adoption of ecologically-responsible behavior. It appears that even if the disposable income of Chinese citizens is increasing, they are still frugal in their purchase choices⁸⁵. Another obstacle is the lack of

⁸³ Eriksson, D., Feber, D., Granskog, A., Lingqvist, O., & Nordigården, D. (2020). Sustainability in packaging: Inside the minds of global consumers. *McKinsey&Company*, p.2–3. <https://www.mckinsey.com/industries/paper-forest-products-and-packaging/our-insights/sustainability-in-packaging-inside-the-minds-of-global-consumers>

⁸⁴ Feber, D., Granskog, A., Lingqvist, O., & Nordigården, D. (2021). Sustainability in packaging: Consumer views in emerging Asia. *McKinsey&Company*, 1–7. Retrieved on May 2, 2022 from: <https://www.mckinsey.com/industries/paper-forest-products-and-packaging/our-insights/sustainability-in-packaging-consumer-views-in-emerging-asia#>

⁸⁵ THE SILK INITIATIVE. (2021, October). *What Does Sustainability Mean to Chinese Consumers?* Retrieved May 2, 2022, from <https://www.thesilkinitiative.com/post/what-does-sustainability-mean-to-chinese-consumers>

education and effective communication related to sustainability. Even if the green practices implemented by companies are seen in a positive light, in many cases people do not fully understand what they are buying; also, sustainability is not the main driver when it comes to purchasing a new product. Apart from the price, also the quality, and the safety of the product have a major impact on the buying behavior of the consumer, not to mention the taste if it is a food and beverage good. Even if a sustainable product is healthy and safe but has a bad taste, its green properties do not justify its choice over a non-sustainable product with a good taste. Green attributes should add value to the product by offering something more than all the competitors and not limit it.

2.3 Going green: opportunity or obstacle for companies?

Due to the changes in the market and in particular in the consumer's attitude, firms have to ask themselves another important question: does it pay to be green? Is it financially worth it to put efforts in the pursuit of a green strategy? Can it represent an opportunity for the company to create a competitive advantage or explore new markets? Well, actually it is not so easy to say. According to Orsato in his *Sustainability Strategies: When Does it Pay to be Green?*, academics and managers have fantasized about the win-win hypothesis of businesses to obtain profits from eco-investments for quite a long time. However, the author asked himself the question: if eco-investments are as profitable as these people believe, why are companies that assume this corporate proactive behavior not that widespread? It is because "the profitability of environmental investments is similar to other issues in business: it is conditional to specific circumstances".⁸⁶ Obviously there are positive examples of businesses that generated returns to the point that they were able to create competitive advantage and generate new market spaces. It is the case of the Swedish Tetra Pak, founded in 1951 and one of the first companies in the world producing packaging for milk. The firm is now strongly committed to implement sustainability practices in its business, besides also being particularly focused on the recycling aspect of its packaging, not to mention the support that it gives to foster local recycling actions of the discarded packages. But how did the company become so

⁸⁶ Orsato, R. J. (2009b). *Sustainability Strategies: When Does it Pay to be Green?* (INSEAD Business Press). Palgrave Macmillan. P. 3.

successful? In the 1960s it released a pioneering invention: the aseptic technology for packaging. This technology has the great characteristic to preserve food, keeping it fresh and safe and maintaining its flavor for months even without the use of refrigeration or preservatives. This new multi-layered packaging represented a revolution, though its recycling process was very difficult, especially in those areas where waste collection was not implemented on a large scale. Brazil, which was the location of one of the company's subsidiaries, was exactly an area where recycling activities were not a habit of the local population. This is why Tetra Pak decided to carry out a series of campaigns to boost the awareness of the local people by educating them about the importance of the post-consumption recycling cycle of the cartons. Moreover, it also gave technical expertise to local councils and cooperatives of collectors in order to implement practical actions to solve the problem. However, up to 2004 a solution to recycle Tetra Pak packages had not been found yet, in fact there were no technical methods to separate the different layers making up the package itself. Fortunately, later that year a resolution arrived: thermal plasma technology. This technology was perfect as a recycling option as it allowed to separate the various components and resend them to the production chain under the aspect of raw materials. The Thermal Plasma plant generated such great results that a proposal to merge the two companies in a joint venture was presented, however although this merging would have been very profitable as it constituted a form of return on ten-year investments, Tetra Pak refused the offer. To conclude, time and strong commitment led the company to achieve its goal of increasing the recycling rates and alleviating the environmental pressure; all these actions generated new sources of affluence and alleviated poverty. Eventually, despite the fact that Tetra Pak decided to reject the merging opportunity, it still enhanced its market and reputational value to the eyes of the public, a very important element as this can influence their perception and attitudes toward the products manufactured by that company.

Another example of corporate environmentalism yet quite different to the previous one is the one conducted by Bakelittfabrikken, a Norwegian company expert in thermoplastic molding which contributed to the establishment of a new company: The Personal Independent Vehicle Company (PIVCO). The new firm had the idea to develop a special vehicle able to attract part of the niche market for urban and suburban eco-friendly

transportation. The electric vehicle, called *Think*, was thought to be the second household car but also as a vehicle used by organizations and municipalities. Despite the great distinctiveness of the car, from its design to its innovative and low environmental impact assembly (contrarily to the traditional car manufacture process), the company was not able to avoid financial trouble due to the high costs to bear. At first the consortium members and the Norwegian government came into help, but then the company found itself facing another crisis leading to bankruptcy. However, the innovative idea at the base of the enterprise was still attracting interest externally, in fact PIVCO was then bought by Ford Motor Company which developed and invested in the production of a new generation of *Think City*. This was not the end, as the company was once again acquired by Kamkorp Micro-electronics. In conclusion, PIVCO had an innovative idea and the right competences to implement it, but as it was shown this was not enough to survive in a fierce marketplace, especially if the company competitors were not only the electric vehicles manufacturers, but also traditional vehicles manufacturers. The enterprise struggled to obtain returns from the eco-investments implemented resulting in several bumpy rescues from other business groups.

The different environmental activities carried out by firms define the scope of their corporate environmentalism. We can see from figure 2.11 where the strategies pursued by companies position their investments. In the graph, the vertical axis indicates the actions undertaken by a company to pursue environmental protection which eventually end up with generating *public benefits*; this is a strategy based on sustainability business models. So, the closer eco-investments are to the top of the graph (Environment) the more sustainable they are. While the horizontal axis describes actions that lead to business purposes which eventually generate *private profits*; this is typical of companies that base their activities on unsustainable business models. In fact, the closer the investments are positioned to the right side of the horizontal line, the more focused they are on maximizing profits. Clearly, enterprises that generate more public benefits than private profits position themselves where line E is depicted. Whereas companies that focus more on achieving private profits are represented by line B. The cone-shaped area between line E and B, represents the win-win scope of sustainability strategies, which is when both public

benefits and private profits are generated; in other terms it is the optimal situation in which it pays to be green.

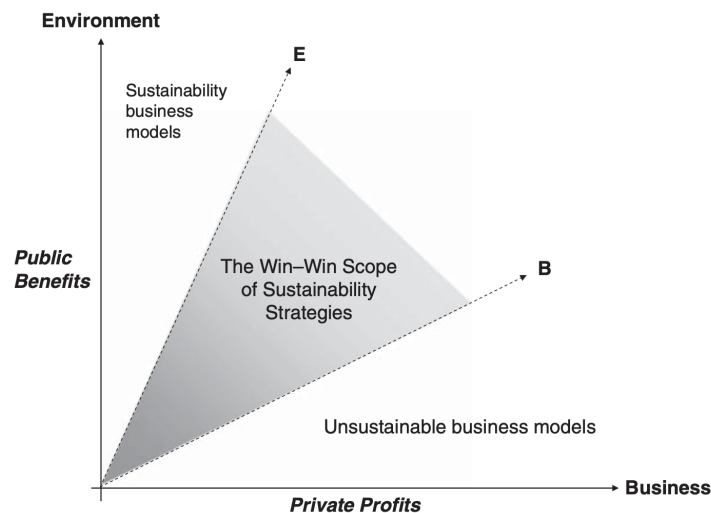


Figure 2.11 - The scope of corporate environmentalism, from Sustainability Strategies: When Does it Pay to be Green? (2009).

What if the company is positioned outside of the cone? If it is closer to the *environment* arrow, then the risk is to not fulfill the expectations of the shareholders, hence, it may not create enough economic value. On the other hand, if it is closer to the *business* arrow, the company tends to operate in a traditional way, without paying attention to the sustainability of its operations. In this case, the company will not have any sort of economic crisis due to the new costs of green investments, but the risk is to face opposition from environmentalists or to not be compliant with the new environmental regulations that might appear in the future⁸⁷. Of course, the goal of companies is to reach the win-win zone, however they should not forget that going beyond the E line (towards the upper part) can be beneficial too, as sometimes it happens that innovations lead to

⁸⁷ Orsato, R. J. (2009b). *Sustainability Strategies: When Does it Pay to be Green?* (INSEAD Business Press) . Palgrave Macmillan. P. 13-14.

profitability, creating incredible value where it did not exist before. Still, managers have to understand that this is something that does not always occur. This is the case of Tetra Pak with the success of the plasma plant where the strong managerial commitment resulted in beneficial outcomes.

Given the two above illustrated company cases, let's see where the strategies carried out by Tetra Pak and Think Nordic are located in the same graph (Figure 2.12).

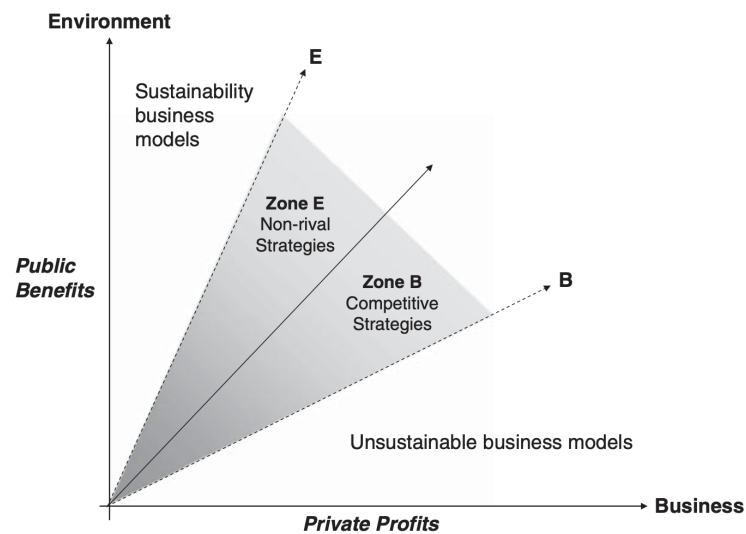


Figure 2.12 - Competitive and non-competitive strategies, from Sustainability Strategies: When Does it Pay to be Green? (2009).

The strategy pursued by the former company is collocated somewhere around Line E, so that area can be called Zone E. The characteristic of that zone is that the environmental strategies are non-rival and non-competitive. In fact, Tetra Pak generated broad benefits (improving social conditions and reducing poverty) to Brazilian society during a time span of a decade characterized by educational campaigns to sensitize people about the importance of recycling. Moreover, the strategy adopted is non-rival since in that exact period there were no other companies in the same industry undertaking similar actions. This, in fact, does not translate into private profit as consumers in the act of choosing a product do not really care if recycling rates have been increased thanks to the company's efforts, what they really care about are other features of the good itself such as product convenience, quality and price. Think Nordic, instead, is positioned in Zone B, as its corporate environmentalism has a different nature: it is more competitive, in fact, the

strategy was based on the pursuit of economic returns that, however, now and then did not arrive, creating not a few troubles. The strategy was competitive also because Think vehicles did not just compete with the niche of electric cars but also with traditional vehicles with similar features such as size, range, speed, etc.

At this point, now that we have seen the examples of two companies both undertaking green strategies in their operations, though with different outcomes, we should ask what does a company need to do to fit in the cone-shaped area seen in the graphs above? Many studies have been conducted in order to find an answer to this question. Apparently, the chance to profit from eco-investments not only depends on the firm itself, but also on favorable/adverse conditions such as the context within which the company operates and the internal capabilities and resources that the business owns⁸⁸. If these conditions are favorable, then the eco-investments will transform themselves into sources of competitive advantage. The framework 2.13 presents four quadrants that are different types of environmental strategies that a company may adopt. So how to choose between them? The choice depends on many factors, for example the structure and the size of the industry within which the firm works in, the position it covers in that industry, the capabilities the company has and the types of markets that it serves. More than that, the firm has to understand if it is a business that is more capable of acquiring resources or setting up innovative strategies (organizational processes or products/services) and which can be the potential source of competitive advantage (cost or differentiation).⁸⁹

Regarding the organizational processes and product/services, these strategies are not dependent one to another which means that even if a company decides to adopt the beyond compliance leadership strategy for its organizational processes, it can still go on without producing products that have green features, such as eco-labels. On the other hand, following the same logic, a company can produce sustainable products, without greening its activities. Moreover, a firm can decide whether to implement a sustainability strategy

⁸⁸ Orsato, R. J. (2009b). *Sustainability Strategies: When Does it Pay to be Green?* (INSEAD Business Press) . Palgrave Macmillan. P. 29.

⁸⁹ Ivi, p.30.

on its whole manufacturing system or just to some selected projects or certain group of products.

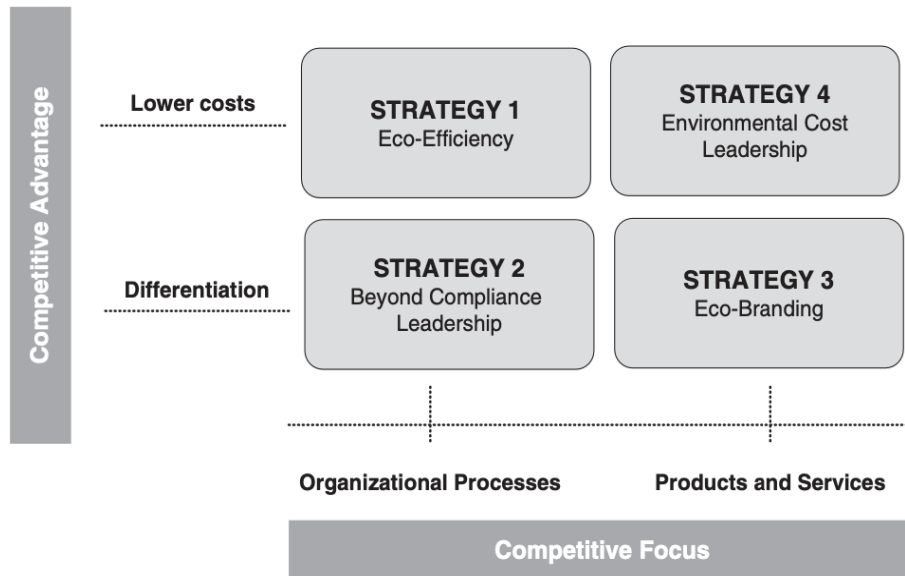


Figure 2.13 - Competitive Environmental strategies, from Sustainability Strategies: When Does it Pay to be Green? (2009).

2.3.1 Eco-efficiency (Strategy 1)⁹⁰

Eco-efficiency is a corporate environmental strategy that focuses on cutting all the unnecessary costs within its processes. It is also referred to as resource productivity since it aims at optimizing the usage of resources and decreasing the consumption and waste of energy and by-products. Generally, this type of strategy is adopted by companies operating in industrial markets, such as the automobile industry. Deploying this strategy implies that the company uses the Lean Thinking approach within its operations, which means that it puts ingent efforts into the elimination of any source of inefficiency to gain extra revenues and make it a source of competitive advantage. In other terms, it targets the origin of unproductivity that generates high costs and tries to find opportunities to convert them into profits, eventually this behavior should lead to lessen emissions of CO2

⁹⁰ Ivi, p.45.

in the air, generating benefits not only to the shareholders in terms of financial stability but also to the general public in terms of environmental impact. On a broader perspective, big firms that want to control eco-efficiency even beyond the borders of the single firm, may focus on Industrial Symbiosis. Generally, a manufacturing process does not occur in just one place, on the contrary it is part of a bigger system encompassing several operative centers or subsidiaries. For this reason, the various firms should collaborate in order to lower the costs of materials and energy, as the by-products of a company may become the raw materials for another one. Generally, the Eco-efficiency strategy matches positively with firms operating in the B2B market, in particular firms working in the agribusiness and the food and beverage industries, especially because the client company often is not inclined to pay extra costs related to environmental protection. In conclusion, Eco-efficiency is an optimal strategy to lower costs in the organizational processes of a firm but being able to find opportunities to profit from it is not so easy as it requires important competences from its managers and also specific conditions.

2.3.2 Beyond Compliance Leadership (Strategy 2)⁹¹

Beyond Compliance Leadership is the second type of strategy shown in Figure 2.13. Like the Eco-efficiency strategy, it focuses on the organizational processes of a firm, however its aim is not to lower the costs but to differentiate its operations. In this case, companies pay very much attention to their corporate reputation which is the perception/image stakeholders associate to a specific firm and its output. The opinion consumers have about the company can be positive/negative according to the benefits they perceived when they bought products and services from the firm itself, but also through the communication and the message conveyed and whether the promises made were kept or not. Furthermore, reputation is developed also according to the actions undertaken by the company in relation to its stakeholders, for example in the case it starts actions to help a local community solving problems, or even in relation to its shareholders in terms of financial performance and business success. For this reason, knowing the huge risk that may arise from bad reputation, big corporations spend important sums of money to participate in environmental initiatives, to cooperate with green clubs, and to certify that their

⁹¹ Ivi, p.65.

operational system is in line with the International Organization for Standardization (ISO) 14001. This type of strategy is often adopted by those corporations that are quite vulnerable in terms of critiques that may be moved by eco-activists or local stakeholders which eventually might result in bad public opinion. It is the case of industries that carry out a heavy usage of resources, such as corporations operating in the oil industry which are strongly exposed to reputational risk. This is why all the previously mentioned efforts led by the company go beyond what is required by law, it is exactly to show stakeholders that the company is acting like a good citizen, and in this way it is creating a reputational value.

2.3.3 Eco-branding (Strategy 3)⁹²

Eco-branding is a strategy used by companies that are willing to differentiate the products/services they offer, investing in the production of more sustainable solutions. In this case, however, the costs are not lowered, but they are raised. Thickening the price margins lets the company invest in the research and development sector, but this is possible only if a good number of consumers are willing to pay a premium on the new green products, and this is not something that everyone can afford. Moreover, eco-labeled products are quite widespread, so differentiating is becoming quite challenging and expensive for companies. Not to mention that the success of a firm when trying to create value in its products/services is not defined by its efforts, but rather by the value perceived by the consumers (which impacts their willingness to pay). Green products have to be environmentally sustainable, but they still have to maintain a certain quality, convenience and aesthetics. What is different from the traditional differentiation is that communication about it is very important. Information presenting the product itself must be perceived as credible and trustworthy, only in this way eco-branding will pay off the company's efforts and investments. To sum up, Eco-branding strategies potentially create competitive advantage when the three following conditions are fulfilled: when clear and reliable information about the product's green performance is conveyed to the consumer, when its uniqueness is difficult to be copied by competitors, and when consumers present

⁹² Ivi, p.96.

willingness to pay extra money for the costs of environmental differentiation. Unfortunately, this is still not so easy because even if people state that between a sustainable product and a non-sustainable one they will choose the green one, being able to pay the premium is still a privilege not owned by everyone, for this reason eco-differentiation generally remains limited to small market niches.

2.3.4 Environmental Cost Leadership (Strategy 4)⁹³

Companies embracing Environmental Cost Leadership strategies aim at offering green products and services with reduced costs. Though this represents a strong competitive advantage for the firm, it is quite challenging to achieve, so the businesses that can reach this stage are a minority. Generally speaking, all companies try to offer a unique product or service with specific features to attract consumers that value these particular characteristics, however differentiation tends to generate high costs forcing the firm to deploy price premiums. Once again, price premiums are the only way to offset the eco-investments, but this is restricted only to relatively small market niches. For this reason, it does not matter whether the product is sustainable or not, when a company is competing in a price-sensitive market, low prices are the key. E-cost Leadership pays when corporations are able to re-invent the design of a product, use new materials and set up innovative marketing activities, by doing so they will certainly be repaid in terms of financial turnover. Moreover, being the product competitive in price and environmental performance, companies are able to be leaders in existing traditional markets (cost-sensitive markets) and even entering new markets that are sensitive to green attributes in products. In this way, companies are able both to find solutions to the growing rigorous requirements from institutions and regulators, but also from demanding consumers that are more and more concerned with the environmental impact of the manufacturing processes. This type of strategy can be adopted in almost every sector because generally in most markets it is possible to try to lower costs. However, companies present in industrial markets (B2B) are more likely to benefit from E-cost Leadership methods rather than those operating in consumer markets (B2C). This is because the former are more exposed to institutional regulations in terms of environmental protection and also,

⁹³ Ivi, p.121.

being the markets they work in more vulnerable to price changes, differentiation is difficult to put into practice.

To sum up, the four Competitive Environmental Strategies above mentioned are all strategies that managers decide to adopt when companies are “swimming in red oceans” (referring to the metaphor of the Blue Ocean Strategy), which means that they are operating in well-established industrial markets brimming with competitors. Within this context, firms fight in order to achieve a competitive advantage over their opponents, with the ultimate goal of conquering more market share. Organizations that are characterized by a certain degree of innovation, though, can avoid rivalry following the Blue Ocean Strategy. All of this is possible through the concept of Sustainable Value Innovation (SVI).

2.3.5 Blue Ocean Strategy - Sustainable Value Innovation (Strategy 5)⁹⁴

Alternatively to the four Competitive Environmental Strategies, which try to find solutions for creating competitive advantage in existing markets, the Sustainable Value Innovation is driven by the creation of new market spaces and eventually the acquisition of new consumers. How? Creating new value propositions to consumers, which is by reducing prices and offering differentiated products. In this case, there is no problematic correlation between differentiation and costs that characterized the Competitive Environmental Strategies. This strategy is by far the most favorable one, but at the same time it is the most difficult to deploy. The creation of value through new innovative processes allows companies to go beyond the boundaries of competition characteristic of the existing markets; on the contrary, it leads them towards “a blue ocean where the company can swim alone”.

Sustainable Value Innovation contemporarily implies providing Public Benefits in terms of reduced environmental impact and creation of value for the society as a whole; and generating Private Profits for the company itself. Generally, SVI is possible by re-thinking the production-consumption methods related to a specific product or service, this is why it is considered a systemic sustainability strategy as it is concerned with the whole process and not just with part of it. The automotive industry, being relevant in terms of

⁹⁴ Ivi, p.153.

environmental influence and working in an extremely competitive context, has been restructuring itself in the last decades and adopting the SVI strategy.

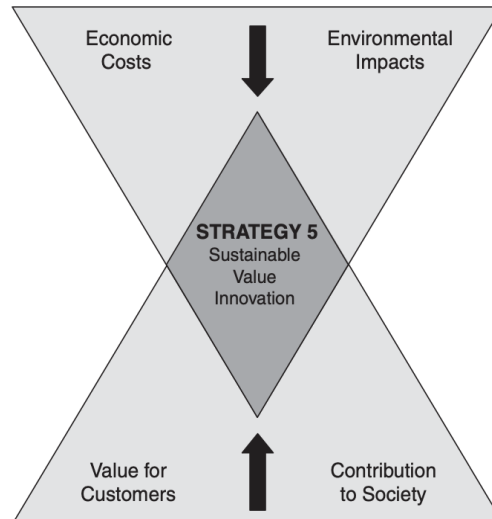


Figure 2.14 - Sustainable Value Innovation Strategy, from *Sustainability Strategies: When Does it Pay to be Green?* (2009).

2.3.6 Conclusion

In a context where societies are becoming more and more concerned with the impact of industries on the environment and in which institutional regulations are becoming more demanding, companies have to understand which sustainability strategy to pursue. The Brundtland Report⁹⁵ gave the definition of Sustainable Development: “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. From a business point of view, transforming sustainability into effective business practices is not easy, so translating the concept of sustainable development in a business-managerial perspective it would be: “the ability of firms to satisfy the economic needs of shareholders (private profits) without compromising nature

⁹⁵ Report of the World Commission on Environment and Development: “Our Common Future,” 1987. (Also known as the Brundtland report.)

and the needs of current and future generations (public benefits)”.⁹⁶ Certainly everyone would like to promote green activities and processes and make wealth from it, however this is not automatic; being green unfortunately does not directly mean being profitable. This does not mean that greening does not pay; it does, but conditions apply. Profitability remains the number one issue concerning managers and shareholders, for this reason a firm necessarily has to understand which among the sustainability strategy spectrum can be the one that best matches with the company’s situation in terms of internal resources, employees’ and managers’ competences, industry within which it works, and other favorable conditions. The environmental strategy is a choice a manager has to make in order to align social and environmental investments with the general strategy of the company. Most businesses work within a market that is full of fierce competitors, in such a situation they have to keep being competitive and try to be good citizens as well. So, they have to study which areas can be invested on that consequently may provide the major pay-off to the enterprise. Otherwise, other firms may have the audacity to act differently, relying on the innovation of their processes and methods to generate value with the goal of entering new market spaces and attracting new consumers (Sustainable Value Innovation).

⁹⁶ Orsato, R. J. (2009b). *Sustainability Strategies: When Does it Pay to be Green?* (INSEAD Business Press) . Palgrave Macmillan. P. 207.

CHAPTER 3 – FASHION INDUSTRY VS SUSTAINABILITY (WITH A FOCUS ON TWO CHINESE APPAREL COMPANIES)

3.1 Fashion industry on climate

The fashion industry is by far one of the most polluting industries in the world. According to a research conducted by McKinsey & Company, in 2018 the clothing sector was responsible for producing 4% of the global CO₂ which is equal to 2.1 billion tonnes of greenhouse gas emissions. This data is incredible, considering that this represents the quantity of GHG emissions generated by France, Germany, and the UK combined. In particular, over 70% of the emissions produced were sourced from upstream operations including energy-exhaustive production of raw materials, preparation and processing. While 30% of GHG emissions were caused by downstream processes related to transportation, packaging, retail, usage, and end-of-use.⁹⁷ If no actions are taken to tackle the problem, emissions are expected to rise to around 2.7 billion tonnes in 2030, impacting global warming. According to the Paris Climate Change Agreement (2015), governments pledged to limit the increase of the global average temperature to 1.5 degrees. This is why the fashion industry, as a conspicuous contributor to climate warming, has the imperative need to find a solution now to reduce its emissions. Abatement actions have already been deployed by manufacturers, which include decarbonized production and operations efficiency enhancements involving more dry processing rather than wet one, more electric energy and less coal usage, and intensifying the use of renewable resources in the value chain. Moreover, other important elements impacting the change are the reduction of material waste, limiting overproduction, and trying to push towards circular business models, not to mention the importance of sustainable consumer behaviors. Only following this logic of restraint further emissions will be contained during the development of the industry up to 2030, nevertheless these actions may not be enough. In order to stick to the 1.5 degrees goal, the industry must intensify its efforts and adopt more effective approaches. The key to surpass the risk of not fulfilling the 1.5 pathway is accelerated abatement which is possible through the same methods that are already being used by

⁹⁷ Berg, A., Granskog, A., Lee, L., & Magnus, K. H. (2020, August). *Fashion on climate: How the fashion industry can urgently act to reduce its greenhouse-gas emissions*. McKinsey&Company. P. 5-7. <https://www.mckinsey.com/industries/retail/our-insights/fashion-on-climate>

companies to lower emissions, but on a broader level or with a more significant adoption. The major actors that affect accelerated abatement are brands and retailers because they can change their organizational processes and encourage players in the value chain to adopt decarbonization actions and push consumers to embrace sustainable consumption behaviors. By doing so, the industry will witness an incredible reduction in its emissions that constitutes half of the current levels in the next decade.

3.2 New emerging trends

In 2018 some important changes were already emerging in the global fashion industry scenario in terms of consumer behaviors. According to a survey conducted by McKinsey, executives described 2018 with the terms “changing”, “digital” and “fast”.⁹⁸ These were important signals of a shift that was enhanced later on with the outbreak of Covid-19. In the survey, companies also stated to view consumer shifts enabled by technology as the most relevant trends; they comprehended “mobile obsessed”, “platforms first” and “start-up thinking”. For this reason, corporations put many efforts in creating omnichannel platforms and investing on social media. In addition, the “Sustainability credibility” was perceived as a developing trend to keep a watchful eye on. Sustainability and transparency were elements gaining traction in the population concerned with the environmental impact but also the social and ethical effect. For the first time executives started to perceive these factors as more significant and for these reasons they thought about starting to incorporate them as real drivers for transformation in their business models and not deal with them just as secondary issues. Fashion companies understood the importance of circular business models which comprehend re-commerce, fashion rentals, second-hand, repair and refurbishment; all these activities could reduce around 143 million tonnes of GHG emissions in 2030.⁹⁹ This reflects the importance of consumers’ actions which are fundamental in the circular economy process, both in terms of washing and drying but also in terms of garment recycling; however at the moment “less than 1% of used products

⁹⁸ Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölkens, F. (2019, January). *The State of Fashion 2019*. McKinsey&Company. P.12. <https://www.mckinsey.com/industries/retail/our-insights/caution-ahead-global-growth-and-the-fashion-industry#>

⁹⁹ Berg, A., Granskog, A., Lee, L., & Magnus, K. H. (2020, August). *Fashion on climate: How the fashion industry can urgently act to reduce its greenhouse-gas emissions*. McKinsey&Company. P. 14. <https://www.mckinsey.com/industries/retail/our-insights/fashion-on-climate>

are recycled back into the fashion industry's value chain".¹⁰⁰ This is why corporations should promote circular business models and conscious consumption; if the goal is to reduce washing loads, brands and retailers should provide better care instructions and better sustainable material choices. In the same way follows the recycling matter: companies have to push for advancements in technologies able to sort and blend textiles for their recycling. "By 2030, we need to live in a world in which 1 in 5 garments are traded through circular business models"¹⁰¹; only by doing so, with every actor doing one's part, societies will be able to align with the 1.5-degree objective.

3.3 Covid-19 impact on fashion

The global pandemic blown at the beginning of 2020 contributed to a massive change in people's lives and this clearly had an impact on consumers' behaviors as well. Covid restrictions that characterized 2020 and 2021 led companies to face a harsh time and quite challenging conditions. Therefore, the fashion industry was one of the victims of the global economy's backlash, but now it is beginning to rebound. Nevertheless, the exceptional period left behind many casualties in terms of brands and also marked important changes in the mindset of consumers that now perceive the shopping experience in a different way. Not to mention supply chain pressures, limitations on travel, rise of domestic luxury spend and persisting evolution of digital platforms; these are all factors that will impact the performance of the businesses in 2022. While the global fashion market is beginning to find its feet again and is forecasted to grow overall, it actually depends on the geographic area and on the resilience of the brands to recover from the economic traumas. On the other hand, the situation appears different in China: the fashion industry sales are already equal to pre-Covid levels, and this is both for luxury and non-luxury segments.¹⁰²

¹⁰⁰ *Ibidem.*

¹⁰¹ *Ibidem.*

¹⁰² Amed, I., Balchandani, A., Berg, A., Hedrich, S., Jensen, J. E., le Merle, L., & Rölkens, F. (2021, December). State of Fashion 2022: An uneven recovery and new frontiers. McKinsey&Company. P. 14. <https://www.mckinsey.com/industries/retail/our-insights/state-of-fashion>

3.4 The evolution of the “Made in China” label

While Western consumers may think that the “Made in China” label tucked in their garments is just a synonym of low-cost clothing and low-quality materials, they are now in the wrong because this supposition is simply outdated. The role covered by China in the global apparel trade is now transforming into a more valuable production characterized by modernized employees’ capabilities, better technology, and more innovation. Also, wages are increasing creating a broader middle class capable of spending more than the previous generations. China underwent incredible changes just in the last decades, from being the factory of the world (due to its low labor costs) to being the world’s fastest-growing consumer market, as it accounts for over 18% of the global final goods consumed. Consumerism has exploded in China, suffice it to know the Chinese “Singles Day”, a one-day e-commerce strategy that every year accounts for billions of sales all over the country. Unlike in the past, the majority of what is manufactured in China is sold in China, rather than being exported abroad. With time the amount of exported apparel goods decreased gradually: from 71 percent in 2005 to 47 percent in 2017.¹⁰³ This also reflects Chinese consumers’ new preferences in terms of brands: according to a McKinsey & Company survey conducted in 2017, three quarters of Chinese consumers prefer local brands of clothing and footwear over foreign brands.¹⁰⁴ This is the reason why China is efficiently developing its own domestic supply chains to satisfy the increasing domestic customer’s demand. This is facilitated by the fact that at a national level, China already owns all the infrastructures, capabilities, and capacity to carry out every single step of textile production, from raising raw materials to weaving the fabric, dyeing it, and eventually sewing the final product. Moreover, in recent years incomes have risen in China’s more developed areas and consequently people are beginning to spend more, especially in fashion, as a form of status and as a means to express their tastes. New generations, unlike their parents, are less inclined to work in

¹⁰³ Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölken, F. (2019, January). *The State of Fashion 2019*. McKinsey&Company. P.36. <https://www.mckinsey.com/industries/retail/our-insights/caution-ahead-global-growth-and-the-fashion-industry#>

¹⁰⁴ Baan, W., Luan, L., Poh, F., & Zipser, D. (2017, November). *Double-clicking on the Chinese consumer. The new health craze, the rise of the post-90s generation, and other trends worth watching*. McKinsey&Company. P.18. Retrieved May 2, 2022, from: <https://www.mckinsey.com/featured-insights/china/double-clicking-on-the-chinese-consumer>

clothing factories, so textile production has gradually shifted towards provinces where labor costs are lower. The fact is that even in inland areas wages are increasing, resulting in less competitive manufacturing. It can be said that China's exports have already reached their maximum point, and are very likely to be outclassed by other emerging nations such as Bangladesh, Vietnam and Ethiopia; also Turkey represents an important clothing exporter especially to Europe.

3.5 Global changes affect consumer behaviors and preferences

In the last few years, the worsening of the environment and the advent of Covid-19 contributed to generate changes in the mindset of people, starting from consumer attitudes; this is a transformation that touched virtually every business sector and consequently, every type of product/service. The fashion industry, affected by all these transformations, once again has to adapt to the new market demands and has to be ready for new evolutions. An important change recorded in recent years is related to the fact that new generations are more concerned with social and environmental causes and their beliefs are correlated to their purchasing habits. While Millennials were more focused on the green side of sustainability, Generation Z now also includes social issues. Nine in ten Gen Zers think that companies are responsible to deal with environmental and social matters, hence, young consumers tend to favor brands that are in line with the values they embrace and avoid companies that do not share the same view as them.¹⁰⁵ Nonetheless, this situation can represent an insidious way for companies that eventually may result in an opportunity or even a risk, especially regarding causes that are particularly divisive. More than that if firms do not show consistency in their actions with the message they convey, they may be perceived as hypocritical, as for example in the case of *greenwashing*. Apart from the risks, there are also benefits for companies that take a clear stance on certain matters as the outcome of their expressed opinion may create more affectionate consumers compared to those companies that do not take any position at all. So generally, corporations take into account that while on one hand the exposure gained may discourage

¹⁰⁵ Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölken, F. (2019, January). *The State of Fashion 2019*. McKinsey&Company. P. 45-47. <https://www.mckinsey.com/industries/retail/our-insights/caution-ahead-global-growth-and-the-fashion-industry#>

some customers, on the other hand it will benefit the company itself in terms of consumer loyalty.

Another consumer shift registered recently is related to the end of the traditional ownership. Generally consumers buy a garment, wear it many or few times and then when they consider it “old”, they just throw it in the bin. This kind of ownership model is linked to the traditional linear economy where the plan followed is the “take-make-use-dispose”, so no recycling activities are included in the process. Fortunately, times are changing, and this method is gradually shifting towards new behaviors that include new ownership models. “The lifespan of fashion products is being stretched as pre-owned, refurbished, repaired and rental business models continue to evolve”.¹⁰⁶ In many product/service categories consumers are keener on renting rather than owning: it is the case of Spotify which replaced the ownership of CDs, but also Netflix taking over video stores, this is a phenomenon affecting every sector. Regarding the fashion category, global consumers are getting aware of the industry’s wasteful practices; besides being attracted by the new fashion trends, they are also getting “woke” to all the problems it causes: from overconsumption to overproduction, water and material waste, climate change, labor ethics, et cetera. Fashion has got to the point that the issues are so dramatic that it needs to stop its current practices and adapt to the situation we are living in, especially because consumers are the first to expect it to adapt. The new practices of reclamation of old clothing are becoming quite popular especially thanks to the success of digital means such as websites and mobile apps. It can seem quite surprising, but fashion resale is not something new, it is just that through app usage it is much more gamified. The population segment that seems to enjoy it the most are young people as they are able to adapt quicker to new things without being trapped to past consuming habits like older generations. Moreover, Millennials and Gen Zers are eager for variety, sustainability, and affordability, this is why second-hand is perfect for their demands. The resale market is expected to grow in the future to the point that it may outdo fast fashion within ten years.¹⁰⁷ This data is reassuring considering that at present time the average person purchases 60 percent

¹⁰⁶ Ivi, p. 39.

¹⁰⁷ ThredUP 2018 resale report (2018), https://cf-assets-tup.thredup.com/resale_report/2018/2018-resaleReport.pdf

more garments than they did 15 years ago but keeps apparel items for half the time they used to do in the past.¹⁰⁸

Covid-19 had an important role in the development of a common consciousness about the importance of sustainable behaviors in fashion. People have been closed at home due to lockdown restrictions and were left with plenty of time to fill with alternative activities. Many decided to open their wardrobe and declutter it from old things. In that period people were under pressure both under the health aspect, but many were also dealing with financial issues. In that occasion, a lot of them realized that fashion is an asset, if used and treated cautiously, it can be preserved in optimal conditions, hence, it can be monetized and sold. People understood that after the initial purchase there is still a life and what they consider as trash, others might value it as a treasure. More than that, prior to a purchase people often think that either they choose between benefiting themselves with products they like but that harm the environment, or they have to choose doing good for the planet; but the fact is that through circular models and second-hand people can obtain both.

If it is to compare the sustainability advancements in fashion in terms of conscious shopping in the West, to the situation in China, it can be said that the latter is lagging back. Before sustainability became a key issue among the common public, Western Gen Zers and Millennials were already thrifting in second-hand shops and flea markets. However, when millennials were still teenagers, buying second-hand apparel was primarily to find hidden treasures and cool pieces, rather than to create a sustainable closet. Regarding Gen Z, according to Deloitte, they love buying pre-owned clothing as they were subjected to the Great Recession more than ten years ago.¹⁰⁹ The financial issues that their families have faced at the time affected their shopping habits, resulting in having to save money, and second-hand came into rescue as it represented the only solution to their problems. Unlike the Western counterpart though, Chinese Gen Zers grew up in an extremely different context where the economy was flourishing, and the hardships faced

¹⁰⁸ Amed, I., Balchandani, A., Beltrami, M., Berg, A., Hedrich, S., & Rölken, F. *op.cit.*, P. 39.

¹⁰⁹ Deloitte. (2019, August 30). *Understanding Generation Z in the workplace*. Deloitte United States. Retrieved May 18, 2022, from <https://www2.deloitte.com/us/en/pages/consumer-business/articles/understanding-generation-z-in-the-workplace.html>

by older generations were disappearing from the new modern scenario. When they reached the adult stage, they were recognized as the “moonlight clan” for their capacity to spend their whole monthly salary in just thirty days. Currently, China still represents a new market for resale as it registered only 5 percent of the total luxury market, while in the United States it accounts for 31 percent.¹¹⁰ There are some reasons that explain why China has not embraced resale yet, one of them is linked to the idea of social status gained by the purchasing of new goods; another reason is related to the cultural superstition that wearing other people’s clothes is unlucky, especially if those garments have been worn by people who have died. According to the traditional customs those pieces must be burnt so that they can reach their owners in the afterlife. More than that, the major fear hovering over the second-hand concept is associated with counterfeiting. In 2016 Isheyipai, which is an online platform providing authentication service of luxury goods, discovered that 40 percent of the items checked were counterfeited goods. Actually, this is not surprising data considering the ability of Chinese manufacturers in producing fake luxury products. According to Austin Zhu, co-founder of the Chinese resale platform Zhi Er (Only Two) which can be considered like the Chinese counterpart of the American The RealReal, only by trusting the authenticity and the quality of luxury goods, Chinese people will accept the idea of embracing second-hand shopping.¹¹¹ For now China remains an embryonal market also due to the fact that the recent modernization of the country and consequently the increase in wages allowed access to luxury products only in the last decades. Most Chinese consumers still prefer buying new luxury products and disregard the value embedded in second-hand goods. According to a research carried out by the University of International Business and Economics and by the second-hand luxury portal Isheyipai, at the moment the share of this market in the People's Republic is worth only 5% of total luxury purchases, a particularly small percentage when compared to the 28% of Japan. Liu Bo, general manager of the investment company TusStar Venture, stated: “In Japan, the penetration rate for used high fashion goods has reached the ratio of 1:1, which means that every time a new bag is bought, an old one will be resold. In China, only 3% of the

¹¹⁰ Barger, S. (2022, February 24). *What Can China Learn From the West About Secondhand Fashion?* Jing Daily. Retrieved May 18, 2022, from <https://jingdaily.com/china-learn-west-secondhand-fashion-depop/>

¹¹¹ *Ibidem*.

goods are resold. Basically, nobody buys second-hand clothes”.¹¹² In support of this behavior, the Boston Consulting Group quantified that Chinese consumers appear to be more likely to sell their second-hand luxury products, unlike their American counterparts who are biased to purchase (Figure 3.1).

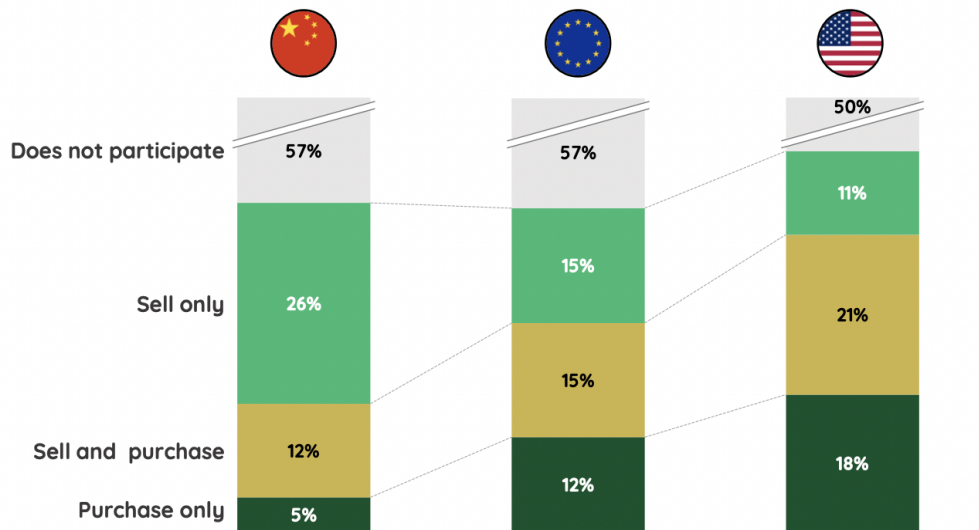


Figure 3.1 - Chinese True-Luxury consumers biased to selling 2nd-hand luxury, while US biased to purchasing; source: BCG-Altgamma True-Luxury Global Consumer Insight Survey Dec 18/Jan 19 (12K+ respondents in 10 countries).

However, motivations of change are real and thriving, suggesting a transformation that will increase in the next few years. The interest in second-hand clothing and accessories could be rising with time thanks to the right marketing strategies. Proof of this is the fact that 52% of consumers in this new fashion branch are young people under 30 and that, according to a research by the strategic consultancy firm Bain & Company, half of luxury purchases will be concentrated in the Asian country by 2025. In addition, most of those who buy these types of products use them for a period ranging from one to three years. Therefore, in China second-hand sales have to start from luxury: the suburban shop

¹¹² Teruzzi, S. (2022, January 3). *Il mercato del second-hand fashion conquista la Cina*. ilBollettino. Retrieved May 19, 2022, from <https://www.ilbollettino.eu/2022/01/01/cina-la-moda-di-seconda-mano-varra-miliardi/>

crammed with clothes piled up in bulk probably will not work, but the vintage rule will. Brands are proposing used garments as vintage, and this is becoming particularly trendy. Chinese young people, called "balinghou" and "jiulinghou" (the post-80s and -90s generations) are the major supporters of this new trend: they love dressing up in a stylish, unique way, they seek extravagance, fun and new creativity and that is why they are attracted to new models of ownership. Secondhand is about discoverability, it is fun and creates engagement for both buyers and sellers.¹¹³ More than that new generations often present a passion for nostalgic fashion pieces that now have gained an incredible economic value. It is for example the case of the Hermes Birkin Bags whose value increased by 500 percent in the last 35 years.¹¹⁴ In fact, according to the Boston Consulting Group the second-hand product category purchased most often in 2018 by global consumers is the handbag, followed by apparel goods, except for Asia-Pacific countries (China, Japan and South Korea) that are developing an interest for small leather goods and watches.

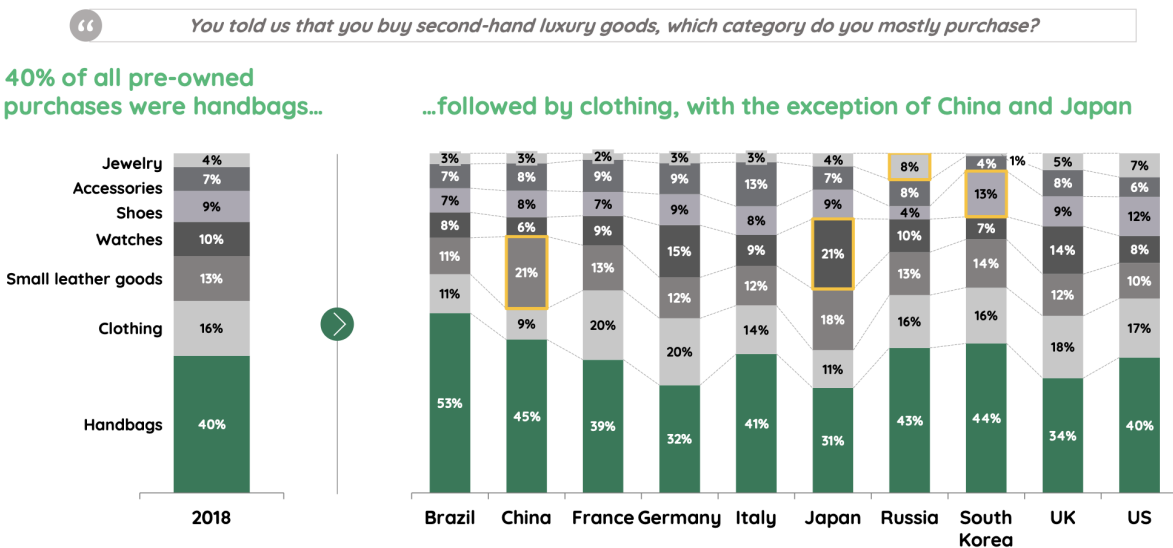


Figure 3.2 - Luxury good category purchased most often Source: BCG-Altgamma True-Luxury Global Consumer Insight Survey Dec 18/Jan 19 (12K+ respondents in 10 countries).

¹¹³ How online marketplaces are making secondhand fashion a first choice. (2021, November 19). McKinsey & Company. Retrieved May 18, 2022, from <https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/how-online-marketplaces-are-making-secondhand-fashion-a-first-choice>

¹¹⁴ Ma, A. (2021, November 16). Keys to Winning China's Luxury Resale Market. Jing Daily. Retrieved May 19, 2022, from <https://jingdaily.com/china-second-hand-luxury-market-lets-lux-now/>

In 2020 the sales of secondhand goods in China in total accounted for RMB 1 trillion (\$154 billion), data that doubled considering the situation in 2017. While the Chinese resale market of luxury goods reached RMB 17.3 billion (\$2.7 billion) in 2020, twice as much as in 2019. Chinese young people are not the “first generation” of consumers and owners of luxury products, in fact, the accessibility to global luxury stores and goods is just something they take for granted. They do not even share the same ideas of bad luck involved in wearing used clothes/accessories.

With the trend expanding, many vintage shops are opening in the Chinese big cities, if in 2019 there were around 4,200 offline second-hand shops, now they are increasing at a pace of more than 10% per year.¹¹⁵ More than that many apps and platforms are being launched to catch the new opportunity as well. Among them, in 2014 Alibaba created a resale platform called Idle Fish (Xian Yu in Chinese) which consisted in the first only-resale-focused platform of the time. Its aim was to welcome users willing to sell any type of unused (idle) product, in particular things bought on Taobao (platform owned by Alibaba itself), as this one is characterized by low-prices and for this reason it pushes toward worthless purchases that eventually become regrets. In the last years, Idle Fish grew to the point that it is now a leading player in the second-hand market, it counts over 300 million users and up to January 2021, it was holding a share of 70.7 percent of the total resale market in China. The platform is also strong with the relationships established with many influencers and celebrities who have specific sales channels to sell their unused items and PR gifts.¹¹⁶ Moreover, Idle Fish is advantaged by the fact that it benefits from Alibaba’s consolidated features for example Alibaba’s trustworthiness and quality control and the use of Alipay for online payments. On the other hand, its weakness has to do with the fact that being a platform which stimulates high-end buying and selling, in a certain way it may be left out of the luxury-side of the market. Regarding luxury resale, dedicated e-commerce platforms have been successful by buying highly desirable and limited-edition goods that are quite difficult to find elsewhere. Gen Zers are particularly attracted

¹¹⁵ Dao Insights. (2021, April 22). *Taobao’s vintage sales exceed \$1.5bn as China’s second-hand market soars*. Retrieved May 19, 2022, from <https://daoinsights.com/news/taobaos-vintage-sales-exceed-1-5bn-as-chinas-second-hand-market-soars/>

¹¹⁶ Booker, A. (2022, April 28). *Secondhand Luxury Platform Profile: Alibaba’s Idle Fish*. Jing Daily. Retrieved May 19, 2022, from <https://jingdaily.com/secondhand-luxury-platform-profile-alibabas-idle-fish/>

by this, in fact, they prefer vintage shopping because they have the desire to attain rare and unique pieces to make their wardrobes more peculiar and interesting. This is the case of Lets Lux Now (爆爆奢), an Artificial-Intelligence-driven e-commerce dedicated to the resale of expensive and authentic pieces which was able to make space to a market niche of luxury goods.¹¹⁷

Another reason for which luxury resale has grown so much in the last period is because of the appeal stimulated by livestreaming, particularly popular in Asia. Livestreams are arranged in order to connect potential buyers with livestreamers who can support the consumer by answering every possible question. The format allows to have a normal discussion like there would be in an offline shopping experience, moreover the added value is that the decision-making process is speeded up compared to other online selling methods, and this results in being more effective. The downside of these types of platforms is that authenticity is not always guaranteed, unlike Western counterparts like StockX and Etsy, the Chinese market is still lagging under this aspect. Unfortunately, this factor is too important and often consumers, not being guaranteed that the goods they are purchasing are not fake, eventually decide to not buy the product.

3.6 Fast Fashion VS Sustainability

Despite the concerns towards environmental and social causes, Gen Zers do not fully embrace sustainable behaviors when it comes to purchasing clothes and products in general. Young consumers are conscious of green values, but at the same time they keep a diverse closet, made up of second-hand garments, eco-fashion pieces, but also fast fashion clothes. If in the past fashion was dictated by couture designers who released their collections just twice a year and sold them for thousands of euros, now thanks to fast fashion apparel clothing is more affordable and accessible for everybody. Fast fashion involves low-cost apparel collections that reflect the current fashion trends or even tend to copy luxury brands' designs. In fast fashion lead time is shortened exponentially, so that the period that undergoes between the production and the distribution is incredibly shorter compared to traditional fashion. The product turnover is very quick because new

¹¹⁷ Ma, A. (2021, November 16). *Keys to Winning China's Luxury Resale Market*. Jing Daily.

items are proposed on a regular basis keeping up with the styles that are considered trendy in a certain moment. In addition, for the fact that the assortment changes frequently, either the consumer buys a product as soon as he sees it, or he might not find it any time later. This process creates a certain desire in the mind of the consumer that needs to be fulfilled with the immediate purchase. That is why retailers like Zara and H&M understood that scarcity in the supply drives higher demand.¹¹⁸ The advantages around fast fashion are so many that in the last decades it became extremely popular, especially among young consumers who present a more limited spending power compared to older demographic groups. On the other hand, the problem around fast fashion is in the fact that it is very unsustainable, its fresh designs, affordable prices and quick response have a heavy impact on the environment and on people too. In the long run all the advantages that we see today in these types of garments will not be worth it, low-quality non-durable clothes do not last for years, and in the same way also trends sooner or later run their course. What is trending today will soon become old-fashioned tomorrow, leading to disposability. Apart from product waste, there are even more issues related to the fast fashion industry. In order to produce even one garment there are many stages it has to go through, each of which deploys a great number of agents that are very pollutant and damaging for the environment. The fast fashion industry mainly uses cotton in the clothes it manufactures, the cultivation of this one extremely polluting, to the point that it is responsible for 2.6% of global water use and the pesticides and fertilizers used on a large scale pollute air, soil, and groundwater¹¹⁹. Other widely used fabrics, such as nylon and polyester derive from petrochemicals, making them not biodegradable. More than that it needs to be counted all the emissions coming from the transportation of goods to warehouses and eventually in stores, however with the increase of digitalization in the epidemic era, orders from e-commerce are delivered directly to consumers' front door, impacting air pollution even more.

¹¹⁸ Joy, A., Sherry, J. F., Venkatesh, A., Wang, J., & Chan, R. (2012). Fast Fashion, Sustainability, and the Ethical Appeal of Luxury Brands. *Fashion Theory*, 16(3), p. 282. <https://doi.org/10.2752/175174112x13340749707123>

¹¹⁹ Chavero, S. T. (2017). The unsustainability of fast fashion. *Datatèxtil*, (36), p. 61.

Given the new diverse fashion trends taking place both in China and globally, from sustainable shopping/second-hand to fast fashion, it is interesting to see two examples of Chinese companies currently operating in the fashion industry but having a contrasting vision and perspective in terms of environmental protection and ethical behavior. The first case study presents JNBY, a designer brand from Hangzhou listed in the Hong Kong stock exchange, which particularly stands out for its sustainable and ethical practices. On the other hand, the second case study illustrates Shein, a fast-fashion company which never targeted the domestic market, on the contrary, it was born as a cross-border internet-based business. Shein, besides being different to JNBY in terms of fashion category (different positioning and targeting), represents an unsustainable enterprise which continues to operate at the expense of the environment and the workers who produce the garments.

3.7 Case study 1- 江南布衣 (JNBY Group)

3.7.1 History of the company

The company was founded in Hangzhou in 1994 by Wu Jian and Li Lin. At first it was just a small business selling clothing for women at a local level and the garments were not designed internally by the company, on the contrary they were selected and purchased from wholesalers and then sold to consumers. Little by little Ms. Li grew a certain interest in fashion and soon she started to design her own clothing and send her ideas to get manufactured by a third party. She came up with the belief that everyone should feel free to be themselves and apparel should exactly fulfill this purpose, it should be designed in order to make people express their personality and taste. From that concept comes the expression and name of the brand “Just Naturally Be Yourself”, adapted from the initials of the Chinese name 江南布 (Jiang nan Bu yi) . The first retail store was opened in 1996 in Hangzhou and since Ms. Li’s designs started to gain traction, the couple decided to found their own brand: JNBY. Year after year the business grew exponentially and up to today it has become a designer fashion house, leader in China and counting more than five different brands. The JNBY brand witnessed a great development that in a twenty-

year timespan completely changed the company's structure and financial power allowing it to grow into the leading Chinese designer it currently is. The business evolution can be summarized into three major steps (Figure 3.3).¹²⁰

- Stage one (1994-2005): at first the company adopted a start-up strategy that allowed it to grow from a small business outsourcing garments and accessories from a third party to the registration of the “JNBY” trademark and the consequent birth of the brand.
- Stage two (2005-2011): the brand started to diversify its offer and adopt an internationalization strategy to develop the business outside the Chinese boundaries, reaching the international market. The first physical retail stores were opened in Japan and Russia.
- Stage three (2011- now): the brand developed an omnichannel platform that comprehends both offline retail stores and online marketing through the Wechat platform. Throughout these channels the company aims at embracing the concept of “fan economy”, which intends to attract all those potential fans and convert them into loyal fans, who recognize the brand value and who are faithful consumers. To achieve this, the company commits to create a wide range of products for different population segments to best meet their needs (which may differ from one population group to another) in terms of lifestyle and interests.

¹²⁰ Yidong Zhang. (2019, May). *JNBY, Better Design, Better Life - Overseas In-depth Research Report*. 兴业证券 Industrial Securities. P. 8. http://pdf.dfcfw.com/pdf/H3_AP201905131329122586_1.pdf

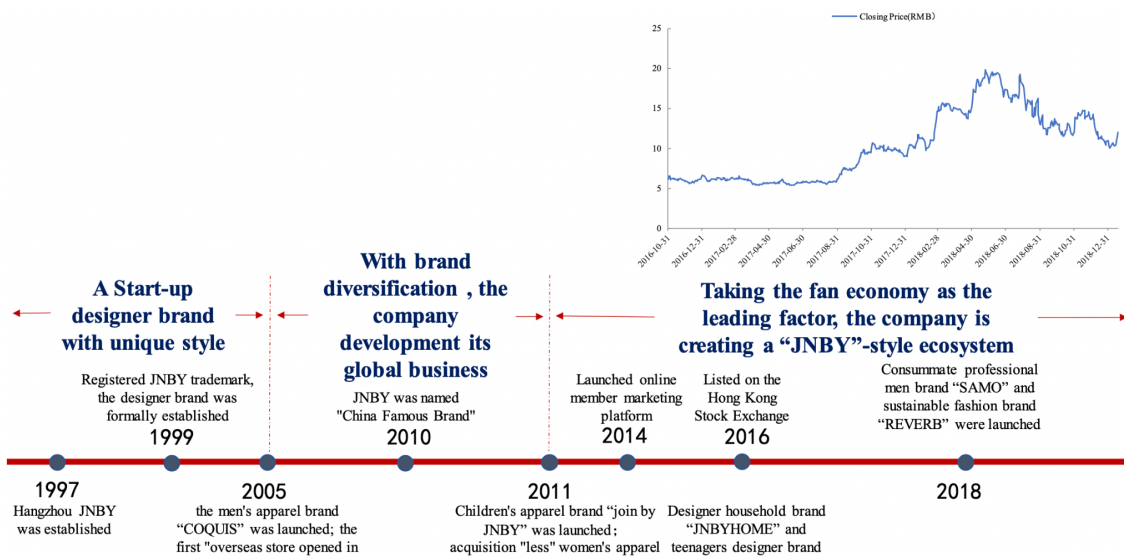


Figure 3.3 - Development History of the company, source: 兴业证券 Industrial Securities (2019).

3.7.2 Positioning of JNBY (Designer Brand)

In the last ten years the footwear and apparel industry in China has grown steadily due to the rise of wages and the appearance of the middle class. Therefore, China has become a major consumer of clothing and shoes and now it accounts for 21.0% of the total size of the global market.¹²¹ Currently the domestic fashion market comprises four different industry sub-categories: designer brands, commercial brands, fast fashion, and luxury brands. JNBY is a fashion designer brand, so it targets niche markets of small groups of consumers due to its high personalization degree in terms of color, print and accessories. In the last decade, the designer brand market has grown incredibly thanks to the fact that these types of labels are easily recognizable by people who consider them unique and particular. The growth rate achieved was so high that it even surpassed the other fashion sub-industries' development rate (Figure 3.4 and figure 3.5).

¹²¹ Ivi, p.9.

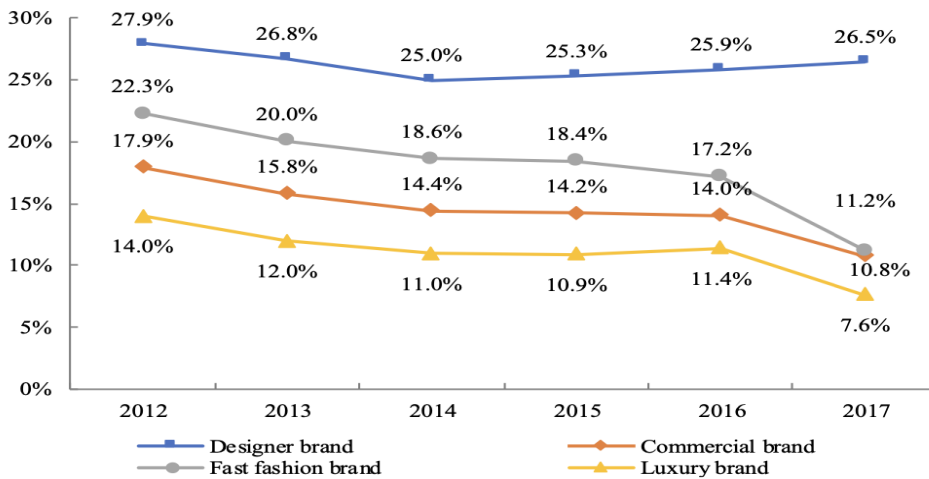


Figure 3.4 - Designer brands grow faster than various sub-industries of footwear and apparel market, source: 兴业证券 Industrial Securities (2019).

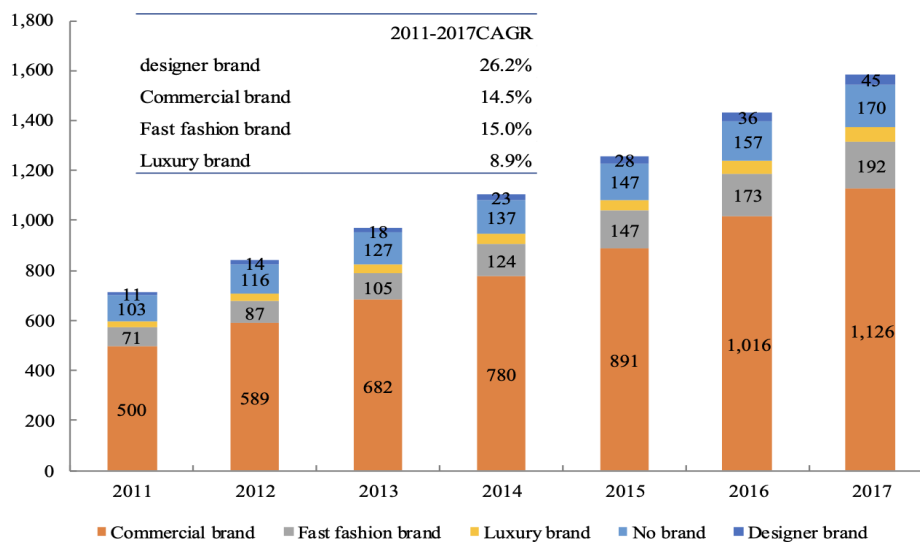


Figure 3.5 - Designer brands are increasingly popular, source: 兴业证券 Industrial Securities (2019).

Currently the designer brand market presents itself as a market characterized by scarce competition, though with harsh scale expansion opportunities. For this fashion category, it is difficult to take over and reach a broad degree of success on a global level as companies face constraints both from the upstream and downstreams channels. Due to the inner nature of designer brands, it is difficult to deal with apparel manufacturers in

the supply chain. Designer brands offer personalization in their garments and for this reason this is not translatable into mass production, hence attracting garment manufacturers is not an easy task as they lack bargaining power. So, even if the entry barriers are low, the high costs and high requirements obstruct the growth of designer brands. More than that, for these types of companies generally it takes 3 to 5 years to develop a positive financial return, so in that timespan the downstream marketing channels are quite limited.¹²² Basic promoting activities that include show methods and word of mouth marketing may not be enough to allow the business to create a strong brand image and eventually flourish. For all the above-mentioned reasons, China counts just a few influential designer brands, leaving space for improvement of the already existing fashion design companies. CHI ZHANG, Sankuanz, CHICTOPIA, EXCEPTION, and ZUCZUG are just some of the businesses that managed to scale up the market and that now represent JNBY's competitors. Despite the difficulties that designer brands might face during their process of consolidation, China is a market that still offers good opportunities of development: as people's wages increase, consumers seek clothing that let them show their taste and personality. Unlike the older generations, they do not see clothes as mere items to fulfill the functions of covering up oneself, on the contrary, they consider them as factors of individuality. There is a shift from the attempt to be part of a "mass" to the attempt to the "self", which means to a unique individual. Matching this change in the consumer demand to the fact that China's footwear and apparel industry keep growing at a quick rate, suggests that designer brand apparel will witness a relevant increase in the market size and growth rate.¹²³

¹²² *Ivi*, p.13.

¹²³ *Ibidem*.

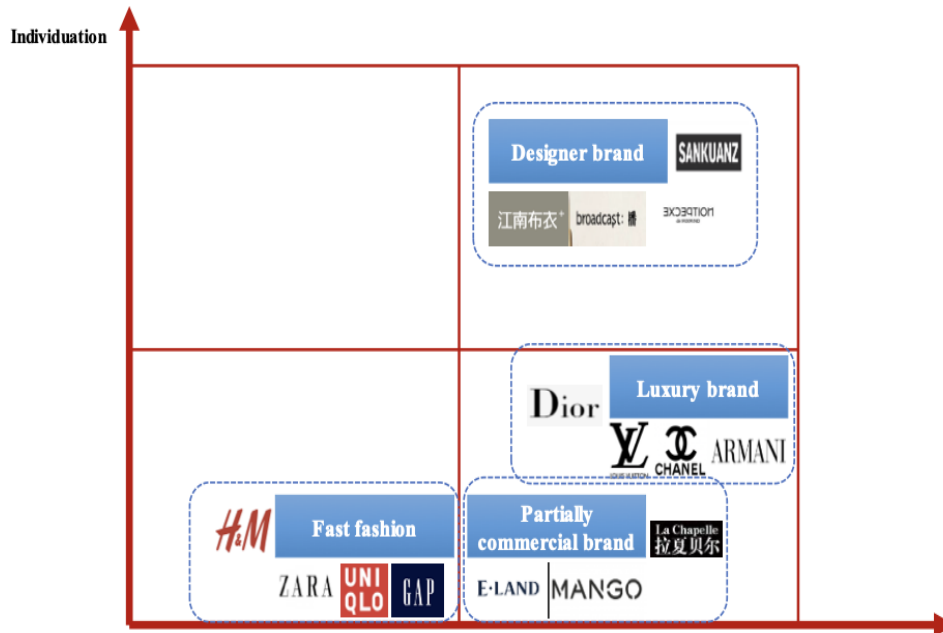


Figure 3.6 - Designer brand is highly personalized, source: 兴业证券 Industrial Securities (2019).

3.7.3 JNBY's brands

In order to reach as many people as possible and maximize profitability, JNBY made the choice to promote a multi-brand strategy, starting from the development of the original JNBY label to launching other sub-brands. From the 2010s the foundation of new brands intensified to take advantage of the thriving designer brand fashion. The products differentiate in terms of style in order to attract different population segments with different fashion tastes, but they also differ in terms of price in order to appeal both to middle- and high-level-income customers. JNBY's offer has a broad range, it covers women's wear, men's wear, children's wear, and household products, etc. Overall, the brand portfolio can be divided into three different categories: *mature brands*, *growing brand* and *emerging brands*. JNBY, as the first and original brand, is a mature brand; founded in 1999, it is now a leading designer brand in China. A survey conducted on keen customers of domestic designer brand fashion, JNBY benefits from having the highest

brand loyalty within the major ten Chinese women's apparel designer brands.¹²⁴ These results show that the image of the main brand is deeply rooted in the mind of consumers. The brand targets modern and energetic women aged between 25-40 years old; it represents the company's main source of revenue (58.1%; Figure 3.7). The growing brand category includes *CROQUIS*, *jnby by JNBY*, *Less*. *CROQUIS* is the second most relevant brand of the group (15.7% of the total revenues) and it addresses men between 25-40 years old; in 2016 it was awarded as the “Most Trendy Menswear Brand” by the China National Garment Association. After successfully operating *JNBY* women's clothing and sketching *CROQUIS* men's clothing, Hangzhou Jiangnan Clothing and Accessories Co., Ltd. officially launched a children's clothing brand in the spring of 2011. Once *jnby by JNBY* came out, it won widespread attention in the market and became one of the most prominent and recognizable children's clothing brands. Consumers affectionately call it "little *jnby*" and "little Jiangnan".

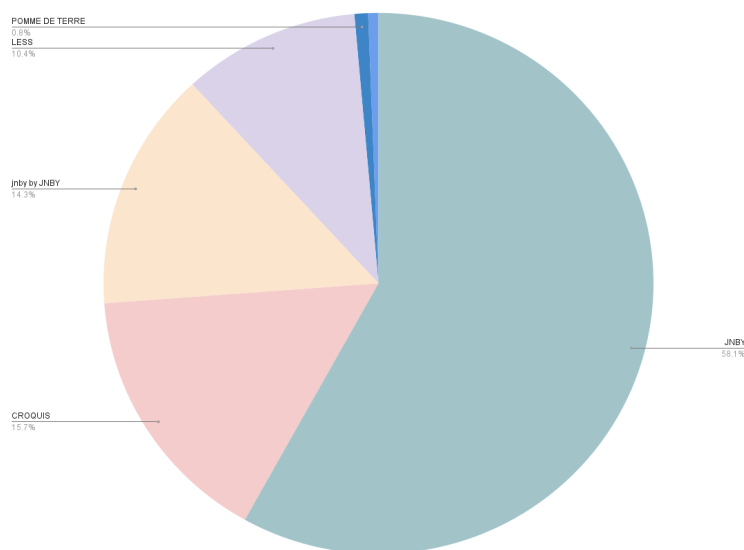


Figure 3.7 - JNBY Group Revenue by Portfolio Brand, source: Jing Daily (2022).

¹²⁴ *Ivi*, p. 25.

The third brand category is characterized by nascent brands that have been launched just recently, and for this reason are still emerging and trying to consolidate. It is the case of *POMME DE TERRE*, *JNBYHOME* (for home decor), *REVERB*, *A Personal Note* and many others. Among them, *REVERB* stands out as it was created to embody the concept of sustainability and, to implement the use of recycled fabrics in the garments and promote the circular economy.

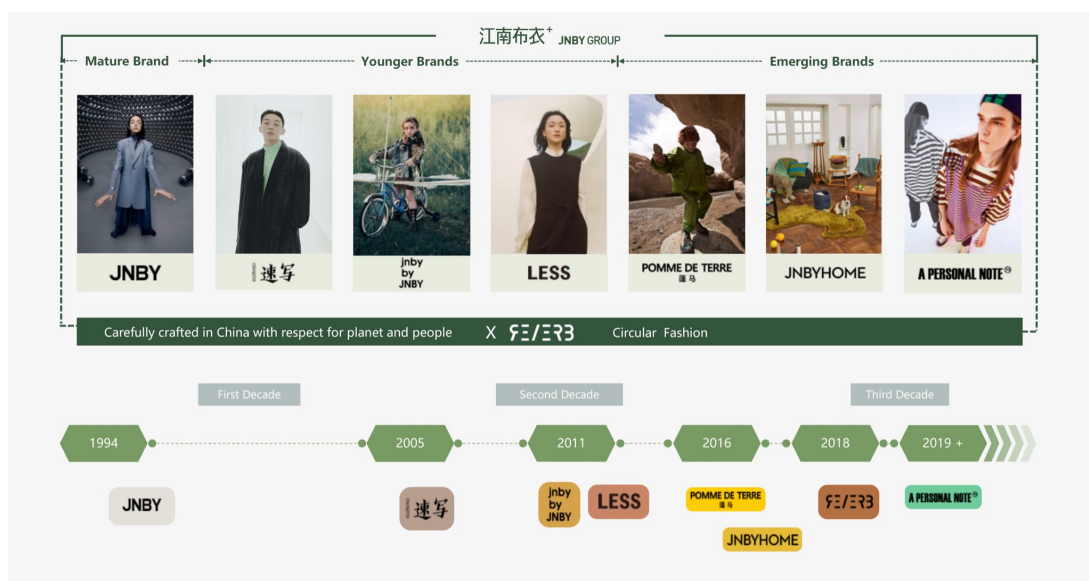


Figure 3.8 - JNBY Brand Portfolio, source: Bloomberg (2022).

3.7.4 Placement and Promotion

JNBY operates mainly in China, but it is implementing a gradual strategy to become more affluent also on an international level. Currently it has more than 1900 independent physical retail stores all over the world and its sales reach over 18 countries. The company decided to adopt an omnichannel retail strategy, able to attract new consumers both online and offline and pursue all the potential fans that eventually may become loyal if their

requirements are fulfilled. The omnichannel interactive platform includes physical stores, online platforms, and WeChat as an interactive marketing service platform to promote the brand. Offline stores provide a premium experience from which consumers can enjoy and be educated about the brand's concept by store counselors. Being designer brands closely connected to the experience and the idea of uniqueness, physical stores still work well in terms of sales. More than that, they represent the places that can convey the brand's message in the best way, in terms of product display, design appearance, and counselors' style advice. From 2014 onwards, it was reported a steady expansion of offline stores, reaching a total of 2,018 units in 2019¹²⁵; however, in 2021 they decreased to 1,931.¹²⁶ With the advent of Covid-19 pandemic in early 2020, the offline stores witnessed some fluctuation in the traditional shopping flow due to the alternated lockdown periods and changes in preventive measures. Paired to the offline strategy there is the online side, JNBY collaborates with third-party e-commerce channels like Tmall (part of the Alibaba Group) and Vipshop to guarantee customers a service accessible 24 hours a day, ensuring a greater quality service. More than that, these types of platforms allow the business to gain precious information from the customer's perspective in terms of appreciation of the products. Through the rapid feedback obtained, the company is then able to be in the position to modify some elements in the style or design of the garments/accessories and improve the competitiveness of the products offered. In the pandemic period, the company saw the great potential of the online platforms and decided to strengthen their presence in the virtual space. In addition, WeChat (but also Weibo, Douyin, Bilibili, etc.) is implemented as a marketing platform which promotes consumer interactivity, and this represents a key factor to sustain brand loyalty. The usage of social media to advertise JNBY's brands allows to create a connection between the brand itself and its fans. The company mainly uses WeChat to deliver fashion news, update the latest product information, offer an online shopping experience, and provide other interactive services. In order to pursue the "fan economy strategy", JNBY implemented strategic activities to transform potential fans into loyal consumers and it did it exactly through social media:

¹²⁵ *JNBY Design Limited - Annual Report 2018/19*. (2020). JNBY Design Limited. P. 7. <https://www1.hkexnews.hk/listedco/listconews/sehk/2019/0916/ltm20190916093.pdf>

¹²⁶ *JNBY Design Limited - Annual Report 2020/21*. (2022). JNBY Design Limited. P. 11-12. <http://www.jnbygroup.com/uploads/20210917/2109171901380001.pdf>

by creating a membership account to the brand’s page, the consumer unlocks discounts. This tactic was very successful, as in FY21 (fiscal year 2021) it counted more than 4.9 million members, making JNBY a top company in digital membership strategy.¹²⁷



Figure 3.9 - JNBY’s omni-channel interactive platform, source: Bloomberg (2022).

3.7.5 JNBY’s corporate social responsibility

As it was mentioned at the beginning of the third chapter, sustainable fashion is gaining particular traction due to the increase of awareness about the harm caused by the fashion industry on the climate. With the changes in the consumer market and the surge of the Chinese clothing industry, enterprises have to deal with new demands both internally and externally. Internal requirements must be fulfilled in order to maintain the financial support of investors and shareholders, and on the other hand, external requirements from the government and other institutions to boost sustainable design and lower carbon emissions in the company’s operations have to be respected as well. The result of all these factors is that they pushed Chinese corporations to embrace sustainable practices and launch sustainable fashion brands quite rapidly. In order to expand sustainable clothing markets, the Chinese government is granting many funds in support of green development.

¹²⁷ Ivi, p. 14.

It can be said that China is playing its part in this process, in fact, it gives great importance to the fulfillment of the 2030 sustainable development agenda. The domestic textile and clothing industry is gradually aligning with the standards imposed by international organizations in terms of environmental protection and product sustainability. In addition, more and more Chinese companies are adhering to China Textile Association's industrial action called "Climate Innovation 2030" and this shows the efforts that are being done by enterprises to advocate for change. But in all of this, how is JNBY Design Limited behaving? The company is a great designer brand that is committed to pursue a sustainable development, so it aims at growing its business without leaving harsh consequences on the environment and on its workers as well. JNBY's sustainable development strategy is concentrated on three key aspects: economic responsibility, social responsibility and environmental responsibility (Figure 3.10).¹²⁸ Clearly an enterprise that seeks to protect the environment and human beings, still needs to care about the economic factor as it is the only element that allows the company to survive.

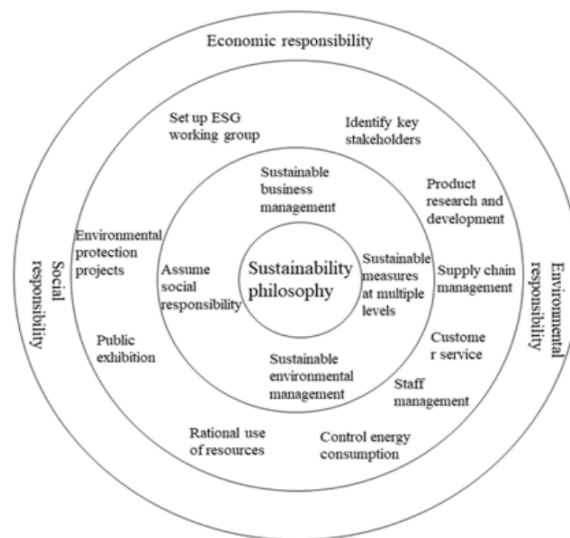


Figure 3.10 - Sustainable development strategy of JNBY, source: E3S Web of Conferences (2021).

¹²⁸ Dai, Y., Cui, Y., & Liu, X. (2021). Connotation Analysis on Sustainable Development Strategy of Garment Enterprises — Case Study on the Famous Brand JNBY. *E3S Web of Conferences*, 237, p.2. <https://doi.org/10.1051/e3sconf/202123704006>

As a leading designer brand group in the Chinese market, JNBY aims at reaching top positions also under the ESG (environmental, social and governance) management practices aspect. In its 2020/21 report, the company writes: “JNBY believes that creating a harmonious and beautiful environment is the expression of corporate social responsibility”.¹²⁹ More than that it states that the Group is driven by a “people and nature oriented” philosophy because sustainability is considered as an extension of their corporate value. In order to achieve sustainable development, the company has created a governance framework to deal with everything that concerns ESG matters (Figure 3.11). The decisions are taken on a top-down level: the sustainable development strategy is implemented starting from the top body which is the Board of Directors. The Board is then followed by the Management Representative which is responsible for developing medium and long-term ESG strategies, evaluating the objectives and the performance of the strategy itself, and reporting to the Board and CEO annually. Eventually, the ESG working group, which is made up of all the different departments of the company (from the Design Center, R&D Center to the Production Center, Retail Operation Center and many others), is in charge of executing the ESG work, which means implementing at a practical level all the measures decided in the strategy.

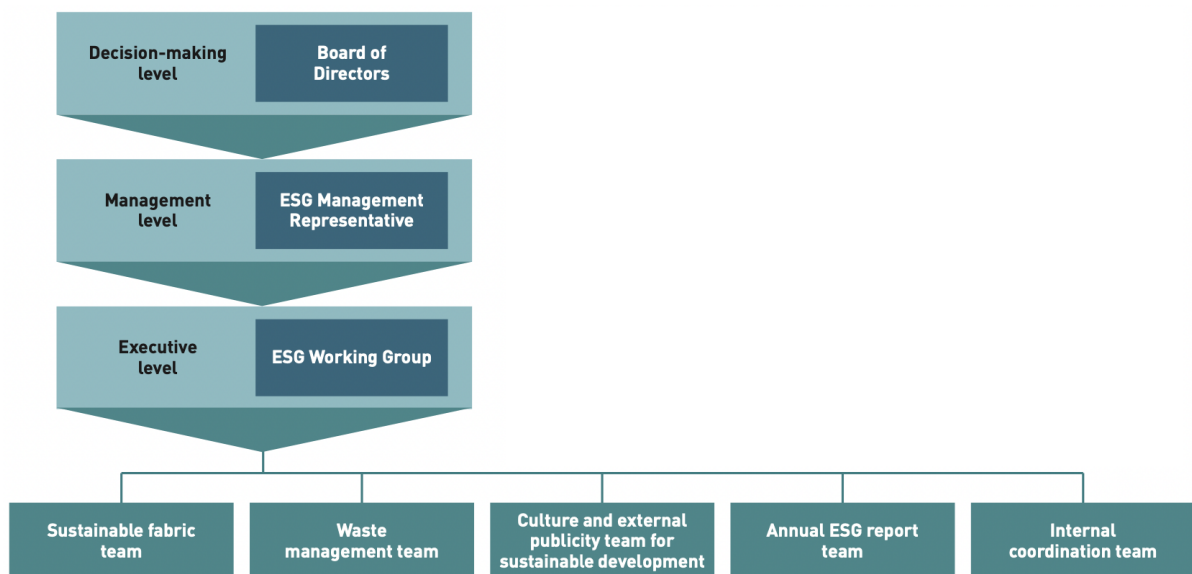


Figure 3.11 - ESG governance framework, source: JNBY Design Limited (2022).

¹²⁹ JNBY Design Limited - Annual Report 2020/21. (2022). JNBY Design Limited. P. 58. <http://www.jnbygroup.com/uploads/20210917/2109171901380001.pdf>

As a pioneer fashion designer brand, JNBY is very attentive to the quality and safety of its products, and more than that it attaches great importance to the purchase of sustainable raw materials and packaging materials. The company's high-quality materials include natural organic cotton and pure wool (both certified by important institutions) and eco-friendly raw materials as well. Among them, recycled polyester is frequently used, this material is very interesting because its yarn comes from collected plastic bottles, and this could be an effective alternative method to create clothes and reduce plastic waste at the same time; it could entirely replace the original polyester which is made from non-renewable resources. Recycled nylon is another material coming from waste, in particular, it is extracted from discarded fishing nets.¹³⁰

JNBY Group also established rigid procedures and standards for the suppliers that are willing to collaborate with the company through the implementation of the "Access and Periodic Evaluation System for Supplier" (供應商的准入與定期考評制度). All the suppliers are regularly checked and evaluated to ensure that their performances provide positive impacts both on the environment and the employment. JNBY also urges its employees to adopt conscious behaviors to pursue green office practices, by reducing material consumption and waste. The company also decided to implement recycling activities, especially after the new garbage classification requirement. The firm decided to place outside of the REVERB office some boxes to sort the different types of garbage. All these small and big actions undertaken by the company on different levels, allowed it to achieve good results: in 2019, the emissions generated by JNBY met the requirements of the national emission standards, pushing the firm to the first place in the sustainability sector of the clothing industry.

The Group embraces a *people-oriented approach* which means that it attaches great importance not only to the environmental cause, but also to the wellbeing of all the individuals that work in or collaborate with it. Generally, if a company is to pursue a sustainable development, it needs to be supported by its employees and more than that, it should imperatively be in line with the labor law requirements and protect employees'

¹³⁰ Dai, Y., Cui, Y., & Liu, X. (2021). Connotation Analysis on Sustainable Development Strategy of Garment Enterprises — Case Study on the Famous Brand JNBY. *E3S Web of Conferences*, 237, p.3. <https://doi.org/10.1051/e3sconf/202123704006>

rights. Safe and happy worker usually translates into stronger efforts and commitment towards the job. The company is firmly dedicated to the search of new talents and gives room for career development through a remuneration and promotion system; it also provides benefits and welfare to its employees, such as insurance, leaves and holidays. The Group also gives equal opportunities to everybody aside from their race, gender, skin color, religion, etc. Moreover, it focuses on the health and safety of its workers and gives them proper trainings to educate them on the potential accident risks on the job.¹³¹

3.7.6 Conclusion

JNBY Design Limited is a leader in the domestic designer fashion market. Favorable market opportunities, along with its unique designs and its omnichannel distribution strategy allowed it to grow over time. These elements were essential to increase its competitive advantage, however they were not the only ones. The Group's sensitivity towards the current environmental and social situation, pushed it to embrace a strong and organized corporate social responsibility with the objective to act on the front line, trying to inspire other domestic brands to take similar initiatives. In conclusion, the Company and the Group (the other sub-brands) appear to be a strongly committed entity to ESG practices, giving its stakeholders a positive and trustworthy feeling, and this process creates both loyal customers and satisfied investors. This is an example of a Chinese apparel company that was able to create value from sustainable actions, and that it is hoped to be just the precursor of many other clothing enterprises, with the ultimate goal of creating a sustainable fashion industry in line with the UN Sustainable Development.

¹³¹ *JNBY Design Limited - Annual Report 2020/21*. (2022). P. 69 and following.

3.8 Case study 2 - Shein

3.8.1 History of the company

Shein (initially called SheInside) was established in 2008 and nowadays represents a global leading company in the fast fashion industry. Figure 3.12 illustrates all the milestones reached by the company in the course of time.¹³²

Shein's original business model mainly involved the purchasing of wedding dresses, casual clothes, and other commodities from the domestic clothing wholesale market, and consequently they were sold to Europe and the United States through third-party e-commerce platforms. However, in early 2012, the company gave up the wedding dresses business, becoming an independent design and export business of fashionable women's clothing under the name Shein. In 2014, with the rapid development of the business, it began to build its own supply chain ecosystem, laid out mobile sales channels, and launched a mobile application APP. In the following year, with the help of social platforms such as Instagram and Twitter, Shein began to enter the markets of the United Arab Emirates, Qatar, Saudi Arabia and other Middle East countries. Through a series of acquisitions, the company managed to grow quickly, among the acquired companies was Shenzhen Kushang (an internet technology company providing technical services), this was a key action to allow Shein to complete its mobile Internet layout and to expand the emerging e-commerce market in a period in which mobile technology usage was booming. The acquisition strategy continued with ROMWE (Shein's competitor) in 2016, to make it possible to widen and obtain new product categories. Shein was now busy deploying a dual-brand operation model. In 2018, it entered the Indian market through mobile app sales channels and in that year its sales exceeded 1.8 billion US dollars, making the company a world-renowned cross-border e-commerce fashion brand, ranking 24th on the "2018 BrandZ Top 50 Chinese Brands Going Overseas" list. In 2019 and 2020, it began to diversify the offer, expanding into the field of men's clothing, children's clothing, swimwear and other categories of clothing. Since 2020, the global spread of the COVID-19 epidemic has severely impacted the offline store business and objectively promoted

¹³² Deng Yilong 邓贻龙 (2022), Xi yin dazao kuai shishang kua jing dian shang pinpai 希音打造快时尚跨境电商品牌 (Xiyin builds a fast fashion cross-border e-commerce brand). Qiye guanli 企业管理(02), p.81. DOI:CNKI:SUN:QIGL.0.2022-02-023.

the growth of online fashion consumer demand. As a matter of fact, in 2020, Shein's sales reached nearly 10 billion US dollars, a year-on-year increase of 110%, while the sales of its main competitor, Zara, one of the world's top-ranked fast fashion clothing brands, fell by 27.6% year-on-year.

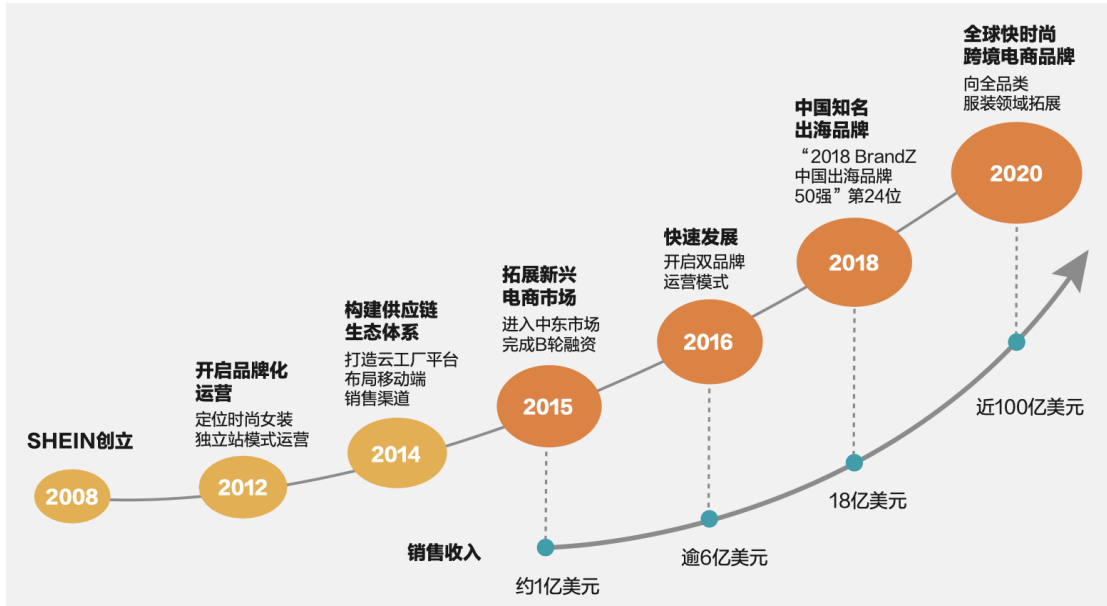


Figure 3.12 - SHEIN fazhan licheng SHEIN发展历程 (Development history of SHEIN), source: Qiye guanli 企业管理 (2022).

3.8.2 Internationalization Strategy

The internationalization expansion started in 2015, after Shein established and consolidated its own supply chain. The process can be divided into four stages and primarily comprehends three markets: it originally started in Europe, followed by America and then grew in India and the Middle East.¹³³

¹³³ Zhang, L., & Gou, Y. (2021). Value-Creation Strategy of Nanjing SHEIN. *International Journal of Frontiers in Sociology*, 3(20), p. 89. <https://doi.org/10.25236/IJFS.2021.032016>.

- Stage one: the first phase of internationalization was characterized by the acquisition of ROMWE from China and MAKEMECHIC from America. The merger of the latter contributed to increasing the company's market share in the North American area. Through the acquisition, Shein was able to introduce a customer service center in the United States and establish other locations in India, Australia and the Middle East. From that moment, Shein started to be positioned as a "Cross-border Fast Fashion Internet Company".
- Stage two: internationalization was to be achieved in a quick and aggressive way by targeting other small countries and expanding forcefully. At the end of 2017, Shein was already counting 224 countries all around the world.
- Stage three: once the expanding stage was surpassed, it was time to develop and consolidate the markets covered by the company. Being present in the global major markets and pushing on aggressive marketing activities, Shein soon became one of the leading Chinese cross-border e-commerce Apps. In fact, it even overtook Amazon in terms of number of app downloads in the United States in 2021.
- Stage four: Shein's current objective is to reach a top global position. At the moment, it benefits from being a strong brand, especially among Gen Z consumers all around the world, counting over 100 million downloads of the brand's app. With time its international influence has grown to the point that it has even reached Zara and other major fast fashion competitors

3.8.3 Shein's Value-Creation Strategies

Given the history of the company and seeing the development pace that it undertook, it is natural to wonder how the company succeeded in driving such a huge growth. How did Shein manage to have such great success overseas and challenge its Western competitors? First of all, there are several factors that are in favor of the company, and in addition to that the firm played the right strategy to create value for its consumers. The factors that Shein benefits from can be summarized into four elements:

1. Economic advantage: the product consumption is homogeneous, which means that the offer is the same everywhere and product substitution in particular countries is not necessary. This represents an important element for the enterprise's finances. Moreover, other cost-cutting factors are the fact that products themselves are sold without brand names or supportive services, allowing them to enter the industry quite easily and without facing high entrance barriers. Also, the fact that the company is characterized by a vertical management system represents an advantage in pricing.
2. Political imperative: as it was mentioned above, the platform is vertical, which means that the ultimate focus is given to the final product. This approach challenges its overseas competitors such as Zara and H&M.
3. Quality focus: Shein's mission is to allow everyone to "enjoy the beauty of fashion", which translates into putting the consumer in the first place with the goal to sense what people like, and provide a quick response in terms of innovation, integration, cooperation and other quality services.
4. Administrative coordination: Shein started as a start-up brand selling wedding dresses on a cross-border basis, and as it developed it managed to cover the global major markets. Currently, the company is present everywhere and this constitutes a great competitive advantage.

The strategies that Shein decided to adopt to create value in the international market are *low cost* and *differentiation*.¹³⁴ These two strategies allowed the company to gain a very strong competitive advantage recognized by its worldwide consumers, but also guaranteed profitability and profit growth. The implementation of Low Cost (advantaged by the assets of the Chinese manufacturing) makes it possible to integrate the business on a global level: Shein, in fact, holds a supply chain (production, distribution of goods, and other services) in more than 220 countries all over the world. At the moment, the company does not contemplate the idea of opening offline stores, remaining an online e-commerce retail platform. This has an impact on the final pricing, in fact, compared to Zara, it offers clothes at half the price of the competitor, attracting 30% customers to purchase again from the platform. This strategy represented a motive of great success especially during

¹³⁴ *Ivi*, p.91.

the first period of global pandemic, in fact, 2020 sales surpassed 5 billion dollars. Different was the situation for Zara which faced a massive backlash that forced the Spanish business to close 1200 stores.

On the other hand, Shein implemented Differentiation in order to reach as many market segments as possible and to cover consumers' preferences. To enhance the differentiation in the product proposal, the Chinese company divided its brands Shein and Romwe (offering two distinct apparel-style), launched nine small language sites and holds a unique supply chain system in each country. With a design team in every major market, it uses big data technology to collect and predict fashion trends and guide the design direction. Once precious data about cultural characteristics and preferences are picked up, the company can design and send to production the new products, creating "fast fashion 7 days faster than Zara".¹³⁵

3.8.4 Brand's target

Shein's main target is represented by young women who keep-up-to-date with the new fashion trends and constantly want to follow them by purchasing stylish but cheap clothes. In order to attract this population segment, the company adds 500 new items to their platform per day.¹³⁶ Its affectionate public, which is mainly composed of Gen Z consumers, is price-sensitive, that is why the company's products, strongly competitive in terms of price, are quite attractive for the younger generations. More than that Gen Zers, who spend a lot of time on social media, think that Shein's items are very "instagrammable" and inclusive in terms of sizes, unlike other fast fashion brands. The brand's diversity of sizes is interpreted in a positive way by the consumers, for this reason the company has committed to the theme of body positivity and self-love (important values for young customers) and provided the *Curve+ Plus* section. The platform also

¹³⁵ *Ibidem*.

¹³⁶ Team, D. (2021b, May 19). *SHEIN – China's mysterious billion dollar company*. Dao Insights. Retrieved May 31, 2022, from <https://daoinsights.com/opinions/shein-chinas-mysterious-billion-dollar-company/>

offers its consumers the possibility to leave reviews and photos of the apparel items and this allowed the brand to build a strongly-engaged community.

3.8.5 Product and Price

Shein offers a wide range of diverse products: from everyday clothing to shoes, sportswear, loungewear, and accessories. The selection in its website changes every day, making the shopping process fun and intriguing, in certain cases it even generates addiction to the consumers. Originally Shein offered only womenswear, but in the last years it added new clothing categories including menswear, childrenswear, a plus size section and seasonal collections. The price is the competitive advantage of the company. Due to the fact that the company does not have stores to fill, it can keep extremely low prices. The average price for Shein's accessories is only \$5 in the US. In order to push consumer spending, the company even provides discount codes and other benefits to people who leave reviews on the items.

3.8.6 Placement and Promotion (Digital marketing strategy)

Looking at its target customers, which are mostly overseas young people, Shein mainly carries out digital marketing combining social media, Internet celebrity promotion and recommendation algorithms. Regarding the placement, the company has its websites and app, apart from them it owns no stores, but recently it has obtained success opening a few pop-up stores (physical stores open for limited time) in big cities.

As to promotion, in order to meet the needs of market development in the digital age, Shein adjusted the front-end system, massively investing in the marketing center, and integrated multiple departments: partner management and alliance cooperation department (responsible for the development and maintenance of overseas influencers and alliance partners), advertising department (in charge of placing advertisements on overseas social media), and marketing department (dealing with the market in general, doing research and planning to produce marketing programs).

3.8.7 Social media

Shein's sales channels are mainly cross-border independent websites and mobile apps. Fan traffic is the focus of marketing, and major social media platforms are the main source of brand promotion, hence, consumer traffic.

Shein is present in overseas top social platforms such as Instagram, Facebook, Twitter, Pinterest, TikTok. The brand uses a diversified and personalized matrix method to create its accounts, which means that there is a main official account (on Instagram, it has more than 20 million followers) and many sub-accounts¹³⁷. Every sub-account is dedicated to a market among those covered in different countries and regions; or it is dedicated to different types of clothing products. The sub-accounts are channeled by the main account, and each of them is dedicated to serving a specific target customer group to achieve differentiated marketing for fan users. For example, on the Instagram and Facebook platforms, Shein not only classified and created sub-accounts such as plus-size clothing, children's clothing, men's clothing, women's clothing, etc. to serve different types of users, but also created the United States, the United Kingdom, France, Spain, Italy, the Middle East, Mexico sub-accounts. These sub-accounts use styles and contents adapted to the cultural customs of different countries and regions, and by doing so Shein can adjust its local influencer activities and create stronger relations with the consumers in that specific area.

3.8.8 From celebrity marketing to KOC influencer marketing

As Shein is an expert in social media marketing, it decided to “export” the domestic *Internet celebrity economy* (extremely successful in China) to overseas markets, still new to this promotion method. In fact, Shein has been one of the first to use influencers to promote its brand and appeal to new customers. The company first adopted this strategy in early 2011, and since then almost the total of the traffic on the site was due to the recommendation of popular influencers. At first, it was easy to partner with internet

¹³⁷ Gui Xiaoqian 桂晓千(2021). Kuai shishang pinpai SHEIN haiwai yingxiao zeng chang celüe fenxi 快时尚品牌 SHEIN 海外营销增长策略分析 (Analysis of the overseas marketing growth strategy of fast fashion brand SHEIN). Fangzhi baogao 纺织报告(07), p.28. doi:CNKI:SUN:JSFA.0.2021-07-012.

influencers at a low price, however when influencer marketing became more popular, the cost of celebrity promotion increased, so the company began to look for alternative options. At present, Shein works with different bloggers that can be divided into three levels:¹³⁸ head influencer, mid-level influencer, niche influencer and ordinary users, according to the number of fans, posts, content and likes on major social platforms. Each of them has a specific role in the management of the brand: top influencers are responsible for the maintenance and improvement of Shein brand image; the mid-level influencers are responsible for using their own influence to provide brand endorsement, show newly-introduced clothing, publicize goods, etc.; niche Internet celebrities and ordinary users help Shein gain more brand exposure through UGC (user-generated content), and Shein usually reposts the creative content of ordinary users to its official platforms. With time the company understood that KOCs (Key Opinion Consumers) were worth as much as KOLs (Key Opinion Leaders) but cost less, so they were the perfect group to focus on as they presented a smaller scale of popularity but potentially greater influence to gain broader exposure. This marketing strategy called *Micro-influencer marketing* is one of Shein's innovative ideas. Ordinary consumers are valuable because they tell their buying and dressing experiences on mainstream social media platforms, such as YouTube, Instagram, Tik Tok, and Facebook, impacting other potential customers through word of mouth and being perceived as more trustworthy (compared to big influencers who are paid to do it), creating more brand awareness and eventually attracting new consumers.

3.8.9 Live broadcast

Shein has also adopted the live broadcast model, which is popular in China, in overseas markets. Major Western brands invest almost nothing in live broadcast, so it is a very novel marketing method for overseas consumers. During the outbreak of the epidemic, the business of online live streaming in the United States has gradually grown, bringing huge traffic. In 2020, Shein held a number of live events online, exclusively available on Shein's app. Among them, the event "Shein Together" successfully attracted more than 1.8 million viewers around the world, helping the brand's app to reach a peak in traffic.

¹³⁸ Deng Yilong 邓贻龙 (2022), *Xi yin dazao kuai shishang kua jing dian shang pinpai 希音打造快时尚跨境电商品牌* (Xiyin builds a fast fashion cross-border e-commerce brand), p. 83.

By organizing live events of various themes on Instagram, YouTube and the official website, Shein attracts traffic to the App side, actively shortens the distance between brand and consumers, and obtains users' attention.

3.8.10 Corporate social responsibility

Since the boom of Shein's brand and the incredible sales number it reached worldwide in the last years, the company has been strongly criticized by the public for not so few reasons. Shein's lack of transparency and its shady business practices are just some of the factors that pushed the company in the eye of the storm. Unlike other fast fashion companies that are at least trying to make some changes to get closer to sustainability, Shein does not seem to want to take action under this aspect. Many are the controversies around the brand that left people with suspicions, from selling offensive items (such as a swastika-shaped necklace and traditional Muslim prayer rugs as decorative Greek mats) to illegally copying designs from luxury brands but also small labels. This is why in September 2021 the company published its supply chain transparency statement on its website and also created a section on the site dedicated to its Corporate social responsibility related actions.¹³⁹ However, much of the information given is not clear and concrete, making it sound as *green washing*.

The following are some of the murky issues involving Shein:

The return rate of products is high. Being Shein a company operating on a cross-border level, it is not easy to make a standardized size system for every country, adding this factor to the fact that there may be even regional ethnic differences. For this reason, returns are very frequent, and they generally end up in landfills since the costs related to making them back in circulation is higher than throwing them away as waste.

Shein declares that the factories composing its supply chain are certified with ISO certifications, however this data cannot be correct as ISO just develops international

¹³⁹ Li, J. & Euromonitor International. (2022, January 28). *How the Chinese Fast Fashion Brand Shein is Conquering the US Market*. Euromonitor. Retrieved June 1, 2022, from <https://www.euromonitor.com/article/how-the-chinese-fast-fashion-brand-shein-is-conquering-the-us-market>

standards and does not issue them. In order to certify its manufacturing sites, the company should rely on external certification bodies and not on ISO.

SheIn has recently created a page on its website dedicated to Social Responsibility, stating that the company strongly believes in employees' care, providing them above average salaries and benefits, along with a safe and healthy environment to work in. It complies with the laws against child labour in all the countries it operates, and no forced labour is deployed since the company believes in ethical working conditions for all workers.¹⁴⁰ More than that, Shein claims to regularly audit and assess its suppliers to ensure that employees' rights and labor conditions are respected, but the name and location of its suppliers/factories is unknown. So, aside from the beautiful words expressed in the company's website, there is a whole dramatic situation hidden behind. According to a report by the Swiss advocacy group *Public Eye* which investigated the shady practices of the company on site collaborating with a local organization defending workers' rights in South China, the situation in the factories is far different from the one described in the firm's platform. The two researchers leading the investigation managed to track down a total of 17 companies that supply Shein and its parent company Zoetop and were able to interview some workers. The picture they got of the working sites is totally different from "healthy working environments designed to minimize the risk of accidents, injury or illness"¹⁴¹. On the contrary, workshops are full of bags of clothes and fabrics blocking corridors and stairways, they present no emergency exits and the windows are barred, resulting in a very unsafe place, especially in case of fire.¹⁴²

Regarding the work time of employees, the situation does not get any better. Workers explained that they covered three shifts per day, for a maximum of over 75 hours per week and only one day off in the entire month. These inhuman worktimes go even against the Chinese labor law, which establishes 40 hours per week as the maximum, with at least one day off per week. The majority of workers are migrants, they come from small villages in remote Chinese provinces where wages are particularly low, so they move to

¹⁴⁰ *Corporate Social Responsibility | SHEIN UK*. (2021). Shein.Co.Uk. Retrieved June 4, 2022, from <https://www.shein.co.uk/campaign/uk-csr>

¹⁴¹ *Ibidem*.

¹⁴² Kollbrunner, T. (2021, November). *Toiling away for Shein*. Public Eye. <https://stories.publiceye.ch/en/shein/>

bigger cities for a limited time in order to earn as much as they can to go back to their families again. So, even if the working schedule is exhausting they are voluntarily willing to do it, as it is a means to support their families. The report adds that there is an incredible pressure on them, as they are paid according to how much items they produce in one day.

Shein introduces new designs on a daily basis and in order to ensure profitability it generally sends to production just small batches of hundreds of pieces at a time, only if a product gains particular success in terms of sales, it is produced on a larger scale. This results in high expectations of workers who need to produce items in a restricted time, but this also complicates the work of cutters who constantly must adapt to new cutting patterns.

Shein also declares to be environmentally conscious and to do its best choosing low-impact fabrics such as recycled polyester, but apart from this there is no evidence of these actions. Considering that the great majority of the garments produced is made of synthetic materials such as nylon and polyester (known to be carriers of microfibers) it results in contributing to the release of incredible quantities of microplastics in the air and in the oceans. So apparently the company is not taking the situation as seriously as it should be.

3.8.11 Conclusion

Shein is a top company in the global fast fashion market. Benefiting from the cheap domestic manufacturing system, it managed to gain influence on a worldwide level incredibly quickly. More than that, the low cost and differentiation strategies it adopted to create value were very successful, along with the digital marketing activities it implemented, including creating its own website and app, being present on social networks and involving influencers, but also ordinary consumers to create community engagement. The global epidemic, which represented a black hole for many apparel companies, on the contrary, served Shein as a springboard towards an even greater breakthrough. However, the exponential increase in the business of the company, responsible for selling millions of packages filled with cheap and poor-quality clothes in

only one day all around the world, made environmentalists understand the great threat that the firm represents for the environment. The already existing fast-fashion appeared surpassed compared to Shein's production pace, leading to a new form of fashion: the ultra-fast fashion. Despite the current climate situation, the company does not seem to be putting enough effort into changing its actions, which are dramatically unsustainable both for the environment and for its employees. Shein represents a bad example of a company more focused on the profits rather than on the community and on the environment, hiding its real practices behind *Green washing*.

CHAPTER 4 – RECENT EVENTS AND FUTURE IMPLICATIONS

Since the first summit on sustainable development in 1972 in Stockholm, environmental issues have crawled into the international agenda. It was then followed by the 1992 Earth Summit in Rio de Janeiro which marked an important time in history as it represented the beginning of a dialogue between industrialized and developing countries. It led to the birth of green diplomacy, and it laid the foundation for the environmental cooperation that would characterize the following fifty years. In fact, it resulted in the United Nations Framework Convention on climate change. Every year since 1995, the conference of parties to the convention, known as COP, brings together signatory states to try to fight climate change by reducing emissions. From 1972, a timeline of climate change negotiations can be drawn till today. With the first COP conventions no substantial agreements were reached since they all were non-binding and there was no explanation on how to pursue a reduction in emissions. More than that, acknowledging the responsibility for the carbon emissions was not a process faced in a conscious way by nations at the first environmental summits. Industrialized countries claimed that everyone should commit towards a sustainable development, reducing all forms of pollution; however, on the other hand developing nations accused their developed counterparts to threaten their growth, not yet fully achieved, and to not taking account of the global carbon emissions generated by wealthy nations themselves due to their aggressive industrial activities.

With time, the accusing finger was put aside, and improvements have been made. Nations cooperated to issue the first legally binding agreement universally recognized by all the signatory parties in 2015: the Paris agreement, delivered during COP21 (but became active in November 2016). To tackle the climate crisis, the parties agreed to commit to keep global warming under 2 degrees, preferably to 1.5° Celsius, compared to pre-industrial levels.¹⁴³ In order to achieve this goal, nations must make important efforts and formulate long-term strategies that will affect both on the economic and social spheres. The Paris multilateral agreement follows a 5-year cycle, which means that the parties

¹⁴³ unfccc. (n.d.). *The Paris Agreement*. Unfccc.Int. Retrieved June 9, 2022, from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

reunite every five years to discuss and assess the status of the process and illustrate to the other countries their *nationally determined contributions* (NDCs). NDCs are the initiatives that nations plan to take to reduce their domestic greenhouse gas emissions and ultimately fulfill the Paris Agreement.

4.1 The 2030 Agenda and its Sustainable Development Goals (SDGs)

In September 2015 in New York, the international community of states approved the 2030 Agenda for sustainable development. With its 17 Goals and 169 sub-goals, the Agenda offers a new global and ambitious vision of integrating the three dimensions of sustainable development (economic, social, environmental), poses new governance challenges and generates a great innovative force in permeating decision-making and political processes to all levels through the principles of universality and integration.¹⁴⁴

The 2030 Agenda is a project that seeks to support people, planet, and prosperity. It aims to enhance universal peace, and to relieve the world of hunger and extreme poverty. All individuals have the right to express their potential and live in a healthy environment where equality is at the base of every society. The agenda protects the planet, fostering a conscious use of its natural resources and initiatives that contribute to abate climate change. According to the declaration, all human beings are entitled to prosper in terms of economic, technological, and social progress, however this development must take place in a sustainable way, which means that it ensures the present needs of individuals without harming the needs of future generations to come.

The Agenda is universal and every country is responsible for its own performance, only with a serious collective action we will ensure a prosper future for humanity and our planet. The seventeen Sustainable Development Goals (SDGs), which must be reached by 2030, are quite challenging so everyone from every level of influence must commit to them. The objectives include many themes from ending poverty in all its forms to end

¹⁴⁴ Agenzia Italiana per la Cooperazione allo Sviluppo. (n.d.). *obiettivi di sviluppo sostenibile | SDGs* | aics.gov.it. Retrieved June 9, 2022, from <https://www.aics.gov.it/home-ita/settori/obiettivi-di-sviluppo-sostenibile-sdgs/>

hunger, ensure gender equality, but also sustainable consumption and production patterns; protect nature at all costs and combat climate change.¹⁴⁵

Since the publication of the SDGs in 2015, already seven years have passed. Seven years of changes in the global scenario, characterized by a worsening of the climate situation and the appearance of a world pandemic. So, what is the current status of SDGs? How are nations behaving in the pursue of sustainable development? Are they performing in a good way, achieving results or are they underperforming? According to the Sustainable Development Report 2022, “for the second year in a row, the world is no longer making progress on the SDGs”¹⁴⁶. In 2021 the average SDG Index score reported a break in the steadily increasing trend over years, it is most likely to be this way due to the recent health crisis, especially in weaker and more vulnerable countries. Since 2019 no developments occurred on a world average level, in particular SDGs 1 and 8 appear to be left behind. SDG 1, which aim is to fight poverty, and SDG 8, which pushes for decent work and economic growth, remained at the same level since before the global pandemic in low-income countries and lower-middle-income countries.

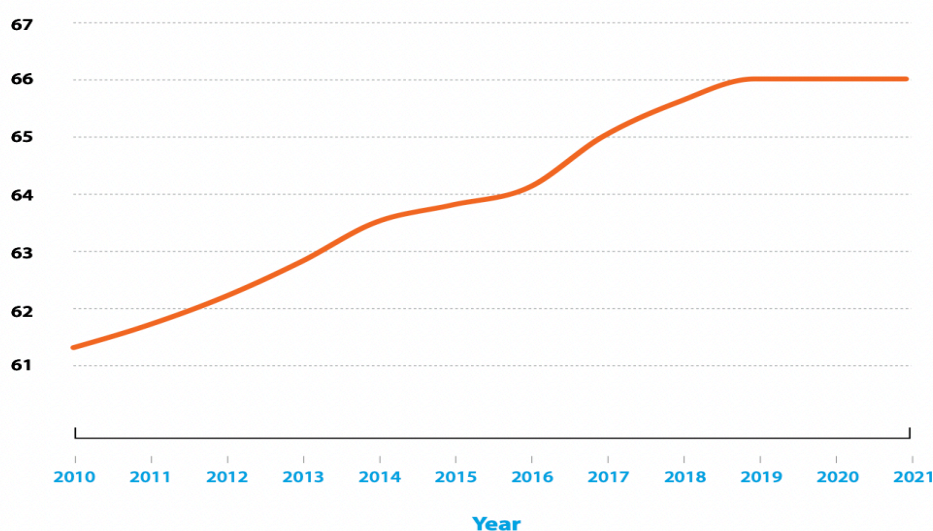


Figure 4.1 - SDG Index Score over time, world average (2010–2021), source: SUSTAINABLE DEVELOPMENT REPORT 2022.

¹⁴⁵ United Nations. (n.d.). *Transforming our world: the 2030 Agenda for Sustainable Development* | Department of Economic and Social Affairs. Sdgs.Un.Org. P. 3 and following. Retrieved June 9, 2022, from <https://sdgs.un.org/2030agenda>

¹⁴⁶ Sachs, J. D., Lafortune, G., Kroll, C., Fuller, G., & Woelm, F. (2022). *SUSTAINABLE DEVELOPMENT REPORT 2022. From Crisis to Sustainable Development: the SDGs as Roadmap to 2030 and Beyond*. Cambridge University Press. P.7. <https://doi.org/10.1017/9781009210058>

This represents a relevant complication, considering that prior to the covid-19 crisis (from 2015 to 2019), the world was advancing at a pace of 0.5 points per year (which in any case, was not enough to fulfill the 2030 deadline), and poorer and needier countries were making bigger efforts than rich nations.¹⁴⁷ Advancements on climate and biodiversity goals are still moving too slowly, especially in wealthier countries. On an annual basis, the SDSN (Sustainable Development Solutions Network) assesses the governments' will and efforts to pursue SDGs. Generally, the SDSN observes how the goals are incorporated into national plans, official discourses, and budgets; but it also measures to what extent the national objectives and investments comply with the SDGs. Now, the efforts and the dedication expressed by nations differs across countries, there is a certain degree of divergence even among G20 members. In picture 4.2, it can be seen that Nordic countries like Finland, Denmark and Sweden are in the top rank for the support given to SDGs, followed by Germany, Japan, Mexico. On the contrary, the United States, Brazil and the Russian Federation (G20 countries) do not provide great support to the 2030 agenda.

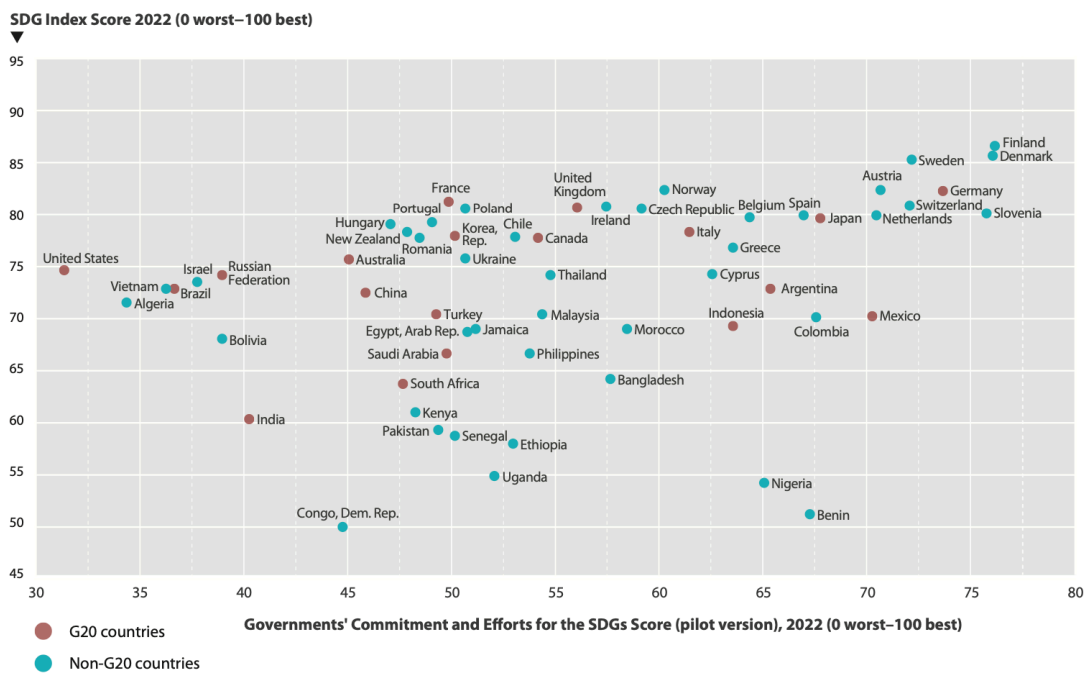


Figure 4.2 - Governments' Commitment and Efforts for the SDGs Score (pilot version) versus SDG Index Score, source: SUSTAINABLE DEVELOPMENT REPORT 2022.

¹⁴⁷ *Ibidem.*

Then, there are also countries like Benin and Nigeria that present a very strong commitment and policy effort towards the achievement of SDGs, despite having achieved a low score in the SDG Index. This dedication may bear fruit in the future and allow these countries to achieve great results. A curious fact illustrated by the report is that despite being the most advanced in terms of SDGs Index, rich countries present significant spillovers, especially due to unsustainable consumption. This is the case of European Union countries that account for the best performance in compliance with SDGs, but at the same time are responsible for the major spillover compared to all their counterparts.¹⁴⁸ This causes negative effects in the socioeconomic and environmental fields, slowing nations in the pursuit of SDGs.

In the global ranking for sustainable development in 2022, China is located at the 56th place with a score of 72.4. As seen in the previous picture (4.2), China is not in the best position in terms of government's commitment and effort for SDGs, however it counts two achieved goals: the first and the fourth (No poverty and Quality education). China eradicated poverty at the end of 2020, this is quite a remarkable event since it was achieved ten years ahead the final deadline in 2030. President Xi Jinping called it a "miracle" and added that it was a "complete victory" since it released around 100 million people by extreme poverty conditions.¹⁴⁹ Nonetheless some experts were skeptical about the measurement methods used, arguing that the threshold fixed was too low: China set the limit of \$1.69 a day (at the exchange rate of the time) to outline extreme poverty, but the World Bank's global limit was \$1.90.¹⁵⁰ In picture 4.3, we can see that the two major challenges remaining are SDG 14 and SDG 15. The former SDG, "Life below water" is particularly endangered due to rapid economic development and booming increase of population that led the coastal areas to become very active places both for human settlements and economic activities. The deterioration from pollution and waste determined natural disasters like episodes of toxic algal blooms and hypoxia, events that

¹⁴⁸ *Ivi*, p.9.

¹⁴⁹ BBC News. (2021, February 25). *China's Xi declares victory in ending extreme poverty*. Retrieved June 15, 2022, from <https://www.bbc.com/news/world-asia-china-56194622>

¹⁵⁰ *Ibidem*.

can be harmful both for human beings and river animal species.¹⁵¹ These conditions are generally natural, appearing with hot temperatures in summer, however these events are getting more and more frequent in the last years probably due to climate change. Therefore, an effective institutional arrangement is needed, to avoid any jurisdiction conflict and time waste in such an important matter.



Figure 4.3 - SDG dashboards and trends, source: sustainable development report 2022.

4.2 China's 14th Five-Year Plan

In March 2021, China published its 14th Five-Year Plan, illustrating the Communist Party's priorities for the next 5 years (2021-2025). Comprising 19 sections and 65 chapters, the plan focuses on five categories: economic development, innovation, people's well-being, green development, and food and energy security.¹⁵² It is the first Plan that also expresses a long-term vision which expects to build China into a modernized socialist country by 2035. Regarding environmental protection and actions

¹⁵¹ Mao, Z., Xue, X., Tian, H., & Michael, A. U. (2019). How will China realize SDG 14 by 2030?— A case study of an institutional approach to achieve proper control of coastal water pollution. *Journal of Environmental Management*, 230, p. 53. <https://doi.org/10.1016/j.jenvman.2018.09.028>

¹⁵² Asian Development Bank. (2021). Zhonghua renmin gongheguo di shisi ge wu nian gui hua —— tuijin gao zhi liang fazhan 中华人民共和国第十四个五年规划 —— 推进高质量发展. (*The 14th Five-Year Plan of the People's Republic of China—Fostering High-Quality Development*). P. 2. Retrieved June 16, 2022, from <https://www.adb.org/publications/14th-five-year-plan-high-quality-development-prc>

towards climate change, it is particularly relevant the part dedicated to the *green development* (section 11) which covers different fields like consumption, production, the industrial system, urbanization, agriculture and so on.¹⁵³ However, the targets in the Green ecology section were cut from 10 to 5, compared to the previous Five-Year Plan (13th). More than that, the rate of the energy coming from non-fossil resources is not an obligatory target, differing from the 13th FYP.

Overall, in the 11th section the Plan pledges to commit to the protection of the ecosystem, planning to control and restore nation's land and coastal areas particularly vulnerable to weather change. The plan also commits to fight pollution, improving air and water quality and speed up the green transition of the country's development model. The ecological transformation will be achieved through a more efficient resource use system, and a strengthened recycling plan with the objective of embracing circular economy. However, according to experts this is not enough for the emissions giant, in fact, Western countries had higher expectations for this plan in terms of climate change fight. China did not set a cap in its concerning rising CO₂ emissions, and on the contrary keeps relying too much on fossil energy sources generating skepticism among experts. Nevertheless, considering that China aims at reaching its peak in carbon emissions before 2030 and fulfilling Carbon neutrality by 2060, it is still not clear how the Party wants to achieve this goal.

4.3 Obstacles to Sustainable Development

One thing that we know for sure is that future is uncertain, especially after the recent events occurring. Covid-19 completely changed our lives, affecting our mindset and behaviors, but it also caused economic regression and worsened inequalities. In a certain way, it caused the downfall of years of advancements toward ending poverty and hunger. In addition to this, the Russia-Ukraine war brought many concerns toward the achievement of sustainable development. The humanitarian crisis could result in serious outcomes in three main areas: global food security and the hunger crisis; risks to progress

¹⁵³ United Nations Development Programme. (2021). *Issue Brief - China's 14th Five-Year Plan* | United Nations Development Programme. UNDP. Retrieved June 16, 2022, from <https://www.undp.org/china/publications/issue-brief-chinas-14th-five-year-plan>

on the clean energy transition; and the state of multilateralism.¹⁵⁴ The two Eastern European countries represent world major exporters of agricultural products; in fact, they hold 30% of share of global wheat and barley exports.¹⁵⁵ An interruption in the food supply chain by both countries could generate rising prices causing harsh consequences at a global level. More than that, the conflict showed us the precariousness of energy security coming from oil and gas, as it is dependent on exporting countries. As soon as a serious issue appears in these nations, we are left out in the cold. Many countries are already adopting coal burning as a short-term solution, but it will not work in the long run as it will fail the objectives of the Paris Agreement. So, this suggests the importance of developing a renewable energy supply system and speeding up the green transition. The European Commission has already prepared a plan to cut European countries' dependence on Russian energy ahead of 2030. Clearly, all these challenges must be faced through multilateralism, a strong global cooperation able to defeat humanitarian and climatic threats and to prevent future crisis from happening.

4.4 Five possible future scenarios

In a situation of uncertainty like the one we are living in, characterized by a global pandemic and the Ukraine-Russian war changing geopolitical equilibriums, it is hard to tell how future will develop. Climate change has already impacted societies bringing harsh consequences to our ecosystem, especially in geographic areas that are poorer and more vulnerable to natural catastrophes.

A report on the state of climate from the United Nations warns that the future could be characterized by serious natural calamities. The hotter the atmosphere gets, the bigger are the risks we are exposed to and if we pass a certain temperature threshold, consequences will be irreversible and will touch every corner of our planet. Global warming provokes alterations in glaciers, oceans, land, and atmosphere; the melt down of icy reserves causes ocean water rise, invading coastal lands, generating a chain reaction that could be

¹⁵⁴ Florizone, R. (2022, March 25). *What the Invasion of Ukraine Means for Sustainable Development*. International Institute for Sustainable Development. Retrieved June 19, 2022, from <https://www.iisd.org/articles/insight/invasion-ukraine-sustainable-development>

¹⁵⁵ *Ibidem*.

unstoppable.¹⁵⁶ Climate change will continue to alter the environment and the way humans experience it, right now the future is in our hands and only if we take action, the deterioration of our planet will be headed off.¹⁵⁷ Future is not something fixed, it could change at any time depending on a series of variables involving economic trends, geopolitical developments, technological advancements and most importantly, to what extent greenhouse gas emissions are reduced.¹⁵⁸ The Intergovernmental Panel on Climate Change (IPCC) released its Sixth Assessment Report in 2021, which delineates five different climate scenarios that vary depending on the amount of warming projected and the adaptation capability of individuals to the new climatic transformations. According to the socio-economic development that follows, there will be a different carbon emissions pathway that determines different outcomes.¹⁵⁹ The illustrative scenarios are identified as SSP1-1.9, SSP1-2.6, SSP2-4.5, SSP3-7.0, and SSP5-8.5.¹⁶⁰ Among them, some show a future characterized by high levels of greenhouse gas and air pollutants and no climate change mitigation actions, others show a middle-way situation similar to the current one until the half of the century, and other more positive alternatives in which society adopts low-CO₂ emissions pathways.¹⁶¹ The time span studied projects the climatic situation in 2100 and beyond.

SSP1-1.9 and SSP1-2.6, are both relatively optimistic scenarios, they comply with the Paris Agreement according to which nations must commit to keep global warming under 2° degrees. These two outlines are characterized by active and fast actions taken by the global community to remedy the damages done during the years. Nations reduce their

¹⁵⁶ Borunda, A. (2021, August 10). *Some catastrophic changes to the climate can still be headed off*. National Geographic. Retrieved June 15, 2022, from <https://www.nationalgeographic.com/environment/article/some-irreversible-changes-to-the-climate-can-still-be-headed-off-report-says>

¹⁵⁷ *Ibidem*.

¹⁵⁸ Stone, M. (2021, August 18). *5 possible climate futures—from the optimistic to the strange*. National Geographic. Retrieved June 15, 2022, from <https://www.nationalgeographic.com/environment/article/5-possible-climate-futures-from-the-optimistic-to-the-strange>

¹⁵⁹ *Ibidem*.

¹⁶⁰ Arias, P.A., N. Bellouin, et. Al. (2021): Technical Summary. In *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 54. doi:10.1017/9781009157896.002.

¹⁶¹ *Ibidem*.

dependence on fossil fuels and global emissions reach the net-zero goal between the middle and the end of 21 century. At that point humans will be able to capture carbon dioxide from the air with a technology that is yet to be used on a high degree. The temperatures reached at the end of 2000s will measure 1.4°C in SSP1-1.9 scenario and 1.8°C in SSP1-2.6 scenario. The difference between the two assumptions is due to the pace through which emissions are reduced and the degree through which the carbon capture technology is deployed. Both these two scenarios are positive also in terms of consistency with the Agenda 2030 SDGs as global prosperity is possible thanks to investments in the healthcare system and in education, at the end of the century the world appears more equal and with higher living standards for everyone. International cooperation is the key word in this case, as competences, skills and resources are shared, helping societies to adapt to new climate situations.

The following scenario (SSP2-4.5) is less positive than the previous ones, but still not the most negative one. It represents an intermediate level, quite realistic and similar to the current historic situation we are living in. Carbon dioxide emissions continue to reach high levels up to 2050, followed by a decrease in the successive years. At the completion of 2100 temperatures reach 2.7°C, suggesting that this hypothetical situation, bumpily consistent with the Paris Agreement, could be the real situation we will face if we do not succeed to take immediate and proper initiatives to tackle emissions. The world will appear split between wealthier nations and poorer nations collapsing under weather impacts. Demographic rate will also increase (especially in developing countries) to the point that the world population will reach 9.5 billion at the end of the century.

SSP3-7.0 is the apocalyptic scenario, where international collaboration fails, and nationalism prevails. Population continues to rise in poorer areas of the world, peaking a global rate of 12 billion by the end of the century. Socio-economic development struggles to advance and carbon emissions keep rising provoking the extreme temperatures, global warming reaches 3.6°C causing natural catastrophes. Droughts and floods become more frequent and icy parts in the Artic Sea disappear.

The last scenario (SSP5-8.5) pictures a very odd reality in which societies keep spending energy in a very aggressive way and extracting fossil fuels even doubling the current

numbers. The coal use reaches the highest point in world history, leading temperature to surpass any other previous record. At this point fossil fuels are spread everywhere so that inequalities disappear, and every country can benefit from them for their own prosperity. Temperatures are crazy hot (+4.4°C), but societies are now richer and technologically advanced, hence, more prepared to face the climatic challenges.

The last case seems very unreal and less likely to happen, also due to the latest agreements to keep global warming under a certain threshold and to decrease coal burning in developed countries. However, there are so many variables to consider that probably none of the suggested assumptions should be directly excluded from the table. The real situation could even differ from scientists' expectations, so it is hard to tell whether one scenario is more likely to occur than another one. Only one thing is sure: if we immediately commit to a change in our lifestyles, we are still on time to go down the better pathway.

Conclusion

The aim of this thesis is to understand to what extent sustainability has become a spread concept in China. Considering the fact that the country has witnessed an enormous development, yet just in the last decades, it is interesting to detect whether sustainability is considered as a major theme by the Chinese population or not. China, being the number one polluter emitter in the world, has long been pushed by the international community to change its industrial and manufacturing operation methods to reduce its greenhouse gas emissions causing global warming and climate change. The information collected show an increase in the commitment of the Chinese government towards the environmental matter. Starting from the *open-door policy* in 1978, the effects of industrialization started to become more and more evident, along with the consequences related to the incredible speed of migration towards cities and urbanization. Gradually, all the issues linked to the new transformations accumulated, making China climb the rankings of the most polluting countries on the planet right after it joined the World Trade Organization (WTO) in 2001.

Facing the new climate deterioration that had been manifesting ever since the economic surge, the Chinese central government took action to keep under control the environmental situation afflicting the country, adopting a series of policies since the 1980s. Now, being a major world power, China started to show its strong commitment also at an international level agreeing to the adoption of the Paris Agreement in 2015 and the 2030 Agenda. In terms of awareness of the Chinese population, for a long time the public followed the perspective provided by the government according to which environmental degradation and pollution were two inevitable side effects of the country's economic growth. However, from the 1990s an environmental consciousness started to develop due to a rise in the mass media coverage of environmental matters but also due to a stronger pressure carried out by the international community. Clearly, data collected in 1998 and 2007 through surveys to study the level of environmental awareness, show huge differences to current data. This suggests that nowadays people are more educated and interested in the matter. From an analysis conducted by the China Chain Store and Franchise Association (CCFA) with the Department of Environment of Renmin University of China to study consumer behavior in relation to sustainable consumption,

it appears that the level of economic development of the cities influences the awareness of sustainable consumption. More than that, age influences the level of green consciousness too, in fact, younger generations appear to be the most aware, in particular the 20–29-year-old people are the most promising green consumers, however they find more obstacles to put their intentions into practice as they have a lower income and purchasing power compared to the consumer group of 30-49 year-olds who are more advantaged in conducting green consumption behavior.¹⁶² In terms of gender, it can be seen a difference in the actual behavior between males and females: women of all age groups have the strongest preference on green products. In particular, young moms aged between 29-35 years old are the consumer segment that most contributed to increase the sales of sustainable products. This dissimilarity is due to the fact that generally women are those who take care of the household and its daily supplies for the family, the sustainable products that they prefer to buy are linked to health and food safety. Especially after the Covid-19 outbreak, people have become more conscious of health and quality resulting in making sustainable and safe purchasing choices. The type of green products that gained more success in terms of sales are (in order) household appliances, Mother and Child Care products, and Food. However, awareness and intention do not always transform into real action, this has to do with a series of variables influencing the purchasing behavior of consumers. Being price the main driver to purchase, when buying a sustainable object consumers have to considerate that the final price of the sustainable product includes also a premium, making it more expensive than a non-green option. Most of the consumers surveyed say they are willing to pay for a premium which is under 5%, but higher the premium, lesser people will want to pay for it. Overall, the awareness around the sustainability theme has increased exponentially among Chinese people in the last decades, but there are still many obstacles to the achievement of a real sustainable consumption.

¹⁶² Yan, L., Lei, Z., & Min, J. (2017, May). *Report on Consumer Awareness and Behaviour Change in Sustainable Consumption* (L. Chong & L. Shaoxing, Eds.). China Sustainable Consumption Research Program. https://www.oneplanetnetwork.org/sites/default/files/en_report_on_consumer_awareness_and_behavior_change_in_sustainable_consumption_in_china-final.pdf

The present work continues examining whether going green might represent a source of advantage or just an obstacle for businesses. In a context where societies are becoming more and more concerned about the impact of industries on the environment and in which institutional regulations are becoming more demanding, companies have to understand which sustainability strategy to pursue. Analyzing five different strategies to create value from green practices, the work implies that even if everyone would like to promote green activities and processes and make wealth from it, this is not automatic; being green unfortunately does not directly mean being profitable. For this reason, a firm necessarily must understand which among the sustainability strategy spectrum can be the one that best matches with the company's situation in terms of internal resources, employees' and managers' competences, industry within which it works, and other favorable/unfavorable conditions.

The fashion industry has a strong impact on climate, the greenhouse gas emissions and waste it produces are terrifying. The global pandemic had an impact on consumers' purchasing behavior, enhancing negative trends like online fast fashion shopping, and generating positive ones like new ownership models through recycling, renting, thrifting, and buying and selling second-hand luxury goods. This is the dilemma: while people are becoming more sensitive on the sustainable matter, they still overpurchase unsustainable low-quality clothes. This is reflected on the business side as well: while certain companies working in the fashion industry employ sustainable practices in the sake of the environment and of their employees and achieving a certain degree of success (the case of JNBY Group), there are still other companies avoiding the call for sustainability (like Shein). Despite new regulations to follow, there are still many cases of enterprises following unsustainable behaviors and hiding behind Greenwashing. Nonetheless, global warming is real and climate change is already happening under our eyes, many steps forward have already been done but the pace is still too slow. If we want to make the difference and leave a bright future to our sons and daughters, we all must collaborate to achieve it. From the lower levels, citizens must commit to adopt more sustainable behaviors, and on higher levels, governments must cooperate with other countries to tackle the climate issue. It is hard to foresee the future and tell which one of the scenarios suggested by the IPCC is more likely to become reality, especially in a situation of uncertainty like the one we are living in, characterized by a global pandemic and the

Ukraine-Russian war changing geopolitical equilibriums. Only one thing is sure: the hotter the atmosphere gets, the bigger are the risks we are exposed to; if we pass a certain temperature threshold, consequences will be irreversible and will touch every corner of our planet. If we immediately commit to change our lifestyles, we are still on time to go down the better pathway.

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