



Exploitation, Migration, and Fast Fashion: The Repercussions of the Fourth Industrial Revolution in Asia Examined through Globalization and New Growth Theory

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### **Abstract**

The paper analyses the economic importance of the fashion industry in each Industrial Revolution, including its subcategories of textiles industries, ready-made garment factories, and clothing brands. Fashion not only is similar to the Chinese society but also aided the advancement of Industry 4.0 in China. Fashion has been the common trait of every Industrial Revolution as it embodies Industrial technological advancements, the economic theory of globalization, and exhibits the New Growth Theory. Nonetheless, it also manifests the common human rights abuses and dangerous migration of any industry, as workers are often exploited for corporate gain. As China fostered the 4<sup>th</sup> Industrial Revolution through the trends of digitization and mechanization, the fashion industry became fast and expendable as seen in the cases of Alibaba and Shein. What is more, worker exploitation occurs as they are urged to work hard to increase the company's net profits and the state's GDP, therefore being exploited through the lens of the New Growth theory. In the end, a discussion about the future research surrounding sustainability discloses that Augmented Reality is the key to the 5<sup>th</sup> Industrial Revolution starting in Asia.

### **Acknowledgments**

I would like to thank the Department of Balkan, Slavic and Oriental Studies and the Department of International and European Studies that organized the Master's and therefore provided me the opportunity to write about the economic salience of fashion in every Industrial Revolution and China. I would also like to express my sincerest gratitude to Professor Adamoglou for her insightful guidance and extreme patience through the writing process of the thesis. Without her, this project would have not been attainable. Thank you.

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## Introduction

Broadberry and Gupta (2005) underline that despite the fact that during the 17<sup>th</sup> Century “India was the world's main producer of cotton textiles,” its “substantial export trade” was sent to Great Britain (p.2), which developed the textiles Industry. This import of textiles from Asia “was a key episode in the Great Divergence of living standards between Europe and Asia” as Great Britain became the center of the Industrial Revolution due to the Indian textiles, low-cost labor, and trade (Broadberry and Gupta 2005, p1). The event underlines the Industrial economic importance of the fashion industry, including of textiles, ready-made garments, and clothing. Besides, Godley (1997) signifies that fashion is the "single important industry in the economic history of the western world which has not yet yielded to a comprehensive academic investigation" due to its relation to women employment(p.3). Fashion continued being important during the era of mass production as it became the primary cause for shifting the center of the clothing industry to the United States which gradually led to the establishment of sweating industries and to the establishment of a “minimum wage legislation in Britain” (Godley 1992, p.3). Hence, the fashion industry takes its primary materials from Asia but is the overlooked cornerstone for every industrial revolution in Europe and North America.

However, the new 2016 Industrial Revolution started in Germany but thrived in China (Schwab 2016; Erboz 2017), as both had focused on economic growth through digitalization and mechanization, two factors that not only matched the driving factors of the 4<sup>th</sup> Industrial revolution but also of the Chinese economic growth (Ito 2019). As Erboz (2017) highlights that “companies should be aware of the dimensions and new business models generated by Industry 4.0” (p.762), Chinese companies like SHEIN, and Alibaba have already started applying the Industry 4.0

novelties to their clothes. Therefore the clothing industry heralds the oncoming of an Industrial Revolution because it is the field earliest to adopt any development (Godley 1997).

The paper shows through the lens of globalization that the fashion industry is the common factor of every Industrial Revolution, and through the New Growth Theory that the New Industrial Revolution happens in China thanks to the Chinese people. Fashion helps locate the new Industrial Revolution because it is the reason that it thrived in the Chinese market due to the factors of digitization and mechanization matching the issues of Chinese society. Through the economic theories of globalization and the new growth theory, the worldwide salience of the fashion industry becomes apparent as it urges people to work more in factories to achieve their dreams. However, the Chinese Fashion of the 4<sup>th</sup> Industrial Revolution results in migration and human rights abuses, which both become apparent in the cases of Shein and Alibaba. In the end, a discussion is prompted about what future research might be done to solve the lurking issues.

The structure of the thesis is similar to an economic paper. Specifically, Neugoboren et al (2022), explains that every economic paper has an abstract, a literature review, methodology, results, future discussion, and a conclusion. Therefore, the paper follows the same structure. The first chapter analyses fashion's impact in each Industrial Revolution through the lens of the economic theory of globalization, while the second chapter deals with the reasons the 4<sup>th</sup> Industrial Revolution blossomed in China, through the lens of the New Growth Theory. Following the chapters, a general conclusion ensues.

## Chapter 1

### **The Fashion of Revolutions: How the signaling characteristics of an industrial revolution are tied to the fashion industry through the Globalization Economics Theory**

#### **1. Abstract**

This chapter aims to analyze the characteristics of each Industrial Revolution, underlining their common characteristics, and showing that the fashion industry has been a common economic denominator in each one of them. Through the lens of the globalization economic theory, the study reveals how China experiences the 4<sup>th</sup> Industrial Revolution, largely due to its textile industries. Economists support that the 5<sup>th</sup> Industrial Revolution is budding in China as well, a view supported by novel clothing trends. However, the revolution caused human rights abuses and migratory issues worldwide, prompting the question of how the ongoing revolution will affect the economy.

#### **2. Introduction**

According to Godley (1997) although “[t]he ready-made clothing industry is, perhaps, the single most important industry in the economic history of the western world” (p.3) its economic importance has largely been ignored due to not being properly investigated. The lack of academic research on the impact of fashion on the industrial revolution is explained due to the difficult way of tracking the original conception of ideas or the difficulty for many to accept the “social impact of the developments in clothes manufacturing” (p.3) can trigger major economic



development (Godley 1997). In other words, scholars seem hesitant to accept that trivial garments can influence the outcome of the industry. However, it is important to underline that it is not a piece of clothing that altered the economic developments but fashion as a whole, meaning machines, textile workers, shoemakers, and garment makers. As long as humanity is interested in clothing and has means that make them “a global village” (Reyes 2001, p. 10), the textile industry will have a salient role in the identification of the industrial revolution.

The essay shows that not only the textile industry and its buyers are one of the premier signs of the Industrial Revolution, but also that the close inspection of fashion trends can exhibit the oncoming new industrial revolution, currently starting in China. The Industrial revolution common signs include industrial accidents, migration, and workers' diminished human rights. In all these cases, the textile industry has a central role as workers demand a better future based on a globalized approach. In the end, research reveals that the fifth industrial revolution started in 2021 (McDowall 2021; Spacey 2021).

The chapter follows the structure of an economic paper, as defined by Neugoboren (2022). First of all, the Research Questions are underlined, which are to be answered in the Literary Review. In the Literary Review, each Industrial Revolution is analyzed, alongside the Economic Theory of Globalization. Following the Literary Review, the analysis Results are provided, alongside the Methodology. Finally, a discussion/Future Research is given, ending with the Conclusion. The Bibliography is situated at the very end of the thesis.

### **3. Research Questions**

The first question is which the characteristics of the Industrial Revolution are.

The second is how the fashion, textile, and garment industry is connected to each Industrial Revolution.

The third is which industrial revolution is humanity currently experiencing.

The fourth is how globalization has affected the Industrial Revolution.

The fifth is whether fashion can detect the oncoming of a new Industrial Revolution.

#### **4. Literature Review- The Four Industrial Revolutions**

According to Weltz (2000), the Industrial Revolution signifies the aid of technology in people's lives, distancing them from the past hardships of the pre-industrial times. Despite the effort of differentiating the Industrial revolutions, it is important to remember that they are all connected as they build upon the previous one (Jin and Shin 2020). Nonetheless, they all have unique economic characteristics, such as a new progression offered to the world, a new type of raw material, and even a unique impact on fashion, shared in the world through the globalization theory. On the same note, industrial revolutions manifest human rights violations through work accidents, conditions that urge the workers to migrate, influenced by the stories of a better life in another place, often to find work in a textile-related industry. Through the new technology, the cultural connection allowed the workers to be informed about other parts of the world which needed human labor and therefore supplied themselves to saturate the demand (Weltz 2000) Hence, globalization urged to find better solutions, establishing the ongoing occurrence of industrial revolutions (Reyes 2001).

#### **4.1 The First Industrial Revolution**

The first industrial Revolution started at the end of the 18<sup>th</sup> century and lasted up until the mid-19<sup>th</sup> century. According to the IED team (2019), the main progress achieved by the Industrial Revolution was mechanization, as people started working for the machines and not vice versa. As Pelz (2000) underlines examples are the railroad, the steam engine, and the spinning jenny, which helped the development of the textile industries, constructing a new era of production in Great Britain (Weltz 2000). Shoemakers, textile workers, and garment makers found themselves out of work as they could not compete with the speed of industrial production. What is more, they lost the sense of time and task-productivity as they suddenly started to work extreme hours under overseers, and were expected to be completely focused on their work (Weltz 2000). People who had migrated to cities from farms found themselves in a dire situation as they were tied to the machines, and being abused by overseers (Weltz 2000). Another reason for their misery was that they remembered the previous agrarian condition and longed for a better, non-industrial life, and hence, left for the colonies, which at the time included the United States where the promise of owning plantations and slaves became a fixation for many to achieve wealth (Weltz 2000). Gradually, Conniff (2021) reveals that the term Luddite came from a secret society of textile workers who all followed an elusive leader called Nedd Ludd and supposedly opposed all textile machines. A closer inspection reveals that the supposed society was not as organized as it seemed, they were not aggressive, and to the modern term's detriment, they were not opposed to machines (Conniff 2021). Luddites asked for the overseers not to handle the textile equipment in a “fraudulent and deceitful manner,” for themselves to receive apprenticeships in machines' operation, and finally, to be paid liveable wages (Conniff 2021). Even more, taxing was the employment of child

labor, as employers often sought nimble children who could easily fit among the machinery (Weltz 2000; Simkin 1997). Simkin (1997) highlights children were even more prone to accidents in textile machinery with results like graphic injuries such as dismemberment due to their being tired easily and having a short attention span. (Simkin 1997). Overall, despite cloth merchants witnessing a productivity boom, work reform and child rights were lobbied intensively by activists. In other words, ₣ the textile industry workers were demanding equal human rights.

Despite the Industrial Revolution being linked with Great Britain, it was due to Asia's resources that it truly spurred to the size known today. Broadberry and Gupta (2005) underline that through the East Indian Company, the British started importing new patterns, textiles, and designs to advance their textile industries, resulting in the onset of the industry by controlling the number of imported goods (import substitution) and exporting the products in a plethora (export substitution) (de Vries, 1993; Berg, 2002; Inikori 2002 cited in Broadberry and Gupta 2005). What is more, the owners of the textile factories realized that the Indian unskilled worker earned approximately one-fifth of the wage of the British one, hence, 'Low Indian wages acted as a spur to labor-saving technical progress in the British cotton textile industry' where they were taking advantage of the workers to save money (Broadberry and Gupta 2005). Gradually, new labor productivity methods were devised, setting Great Britain in the dominant market while India's progress became stunted (Broadberry and Gupta 2005). This happened as Great Britain was importing cotton from India and then the United States, leaving the remaining market share in India uninvested and small (Broadberry and Gupta 2005). Hence, the first Industrial revolution was detrimental to the country's economy, as it never recovered.

## **4.2 The Second Industrial Revolution.**

The second Industrial revolution started in the 1870s and lasted until the early 20th century. The economic development brought about by the second industrial revolution was based on the energy sources of oil, electricity, and gas (IED 2019; Tan & Shang-Su 2017). Salient inventions were the combustion engine, which triggered major developments in transportation through the automobile, planes, and even the spaceship, the communications, the telegraph, and the telephone, and chemical synthesis which caused an advantage to the textile industry (IED 2019). What is more, the mass production introduced by the inventions ensured that the technological accomplishments would be more easily accessible; therefore guaranteeing the globalized aspect of the economy (Rifkin 2016). The second Industrial Revolution is the most important one, as it laid the foundations for modern living (IED 2019). In the second industrial Revolution, the development reached Russia and Japan and lasted until the outbreak of the first world war (Rifkin 2016; 'Mastering').

The most widely known human rights violation was linked to sweatshops, a practice that started during the first industrial revolution and persisted for years well into the second one. According to von Drehle (2004), a safe workplace was a socialist concept, meaning that they compromised the worker's health and lives for capitalism. Workers were often in unsafe environments, overworked, and overcrowded, as employers and overseers were trying to sweat work out of the migrant employees who had come to the United States for a better opportunity (von Drehle 2004). The textile industry workers were facing particular hardships due to the underpaid conditions. Characteristically, the Triangle Shirtwaist Fire in Greenwich Village, which resulted in the deaths of approximately 150 women and young girls as well as the death of 20 men, highlights the dangers of the capitalist work environment. The high death toll

was a result of crowded staircases, unfit exits, and a lack of water supply for fire.

Therefore, it became apparent that a unionized change had to happen to avert similar situations.

### **4.3 The Third Industrial Revolution.**

The Third Industrial Revolution is shrouded in debate as to the exact date it started, with some scholars claiming it started in the 1980s (Tan and Shang-Su 2017; Schwab 2016) while the Strategic Foresight Initiative Atlantic Council (2013) and Rifkin (2016 ‘sustainability’;2020) being adamant that it started the advent of the internet and becoming part of the public life in the early twentieth-first century, even writing several books, and articles in the process. In the research, it is shown that the third industrial revolution started in the 1980s. Otherwise, the nuclear energy and the overall thriving production of mechanics would have been largely ignored. All in all, researchers agree that it lasted up until 2016 (Schwab 2016).

In general, according to Djebani et al. (2014), the Third Industrial Revolution is also called the Digital one, as the process from the analog to the digital age started in the 1980s. The change also signifies the start of the age of Information while central to this revolution is the mass production and widespread use of digital logic circuits, and its derived technologies, including the computer, digital cellular phone, and fax machine’ with robots, 3D printing and even 4D printing where products change functions after their production (Djebani et al. 2014; US Envisioning Team 2013). All the information Technology aspects were aided by the world wars and culminated in nuclear energy (IED, 2019). Hence, one might claim that the Third Industrial Revolution started as early as 1945. Rifkin (2016 sustainability, ‘Third Industrial Revolution’) says that the Third Industrial Revolution provides the

opportunity to seek a new major energy source as to globalization reaching “a global peak oil per capita” with one of the major ramifications being the crisis of 2008 (p.22-24). What is more, the Industrial Revolution saw the steep economic rise of many previously thought underdeveloped nations in Asia, as in the early 2000s alone “India grew at a rate of 9.6 percent and China at 14.2 percent” (Rifkin 2011, p. 24). The equalizing factor was that the new industrial revolution required highly skilled workers to fight the technological change, Hence, workers often send causal investments to their families, instigating the financial advantage (Bresnahan et al 2002).

Total articles:	68
Articles Used	49
Articles mentioning the Third Industrial Revolution as starting in the 20 <sup>th</sup> century:	5 (4 of which were written by the same author).
In total, only 9 percent of the articles mentioned the third industrial revolution as a 20 <sup>th</sup> -century phenomenon, with the rest 91% agreeing that it started in the 1980s.	

#### 4.4 The Fourth Industrial Revolution

As Bonivel (2022) underlines the Fourth Industrial Revolution started in 2016 and it is a blend of the physical and digital world, as the new technology mixes the “physical, digital, and biological spheres” to provide the best experience (p.1).

Examples of its advancements are “Access to low-cost, low-power sensors, standards for accessing the Internet, cloud-computing platforms, machine learning (ML), and artificial intelligence (AI), . . . The Internet of Things (IoT).” (Bonivel 2022, p.2). Jin and Shin (2022) are adamant that the new signs of progress affect the way of work

and modern life and especially in the fashion industry, where hyper-personalization of clothes, leads to the hyperproduction of goods, which in turn demands over productivity from the workers, while also leading to detrimental effects of the environment. Gradually, the fourth industrial revolution shifts to the online modus as it tries to find a new business model of keeping high production with low effect on the environment (Jin and Shin 2022). It is therefore no surprise that the fourth industrial revolution started in China with clothing, as MacDowell (2021) claims companies started using personalized data to lure consumers with individualized supply so they can increase their demand (Jin and Shin 2022). This happened as the 4<sup>th</sup> Industrial Revolution had everyone use a smartphone, and China's large population immediately provided a large pool for brands to harvest data (Schwab 2016).

As the new era primarily happens online, it is even expected that the new raw material and energy source is the data provided by consumers online (Bonivel 2022). Bonivel (2022, p.2) continues that “big data differ from the data in the Third Industrial Revolution in their volume, speed of creation, and dissemination,” as their plethora creates major opportunities for the faster appearance of new aspects of technology. The new systems gather information from the entire supply chain establishing quality and irresistible products for consumers (Jin and Shin 2022). In a twisted manner, some believe that data is an equalizing factor as everyone possesses the same available information, implying that data can help advance all industries in a unifying manner (Bonivel 2022). In reality, business plans, industrial equipment, and infrastructure are also needed to advance the business model through “complex optimization decisions” (Jin and Shin 2022). Asia and specifically, China, Japan, and South Korea have already applied the Fourth Industrial Revolution's inventions to their production with the Hyonsoung Korean Textile company using 3D printing for

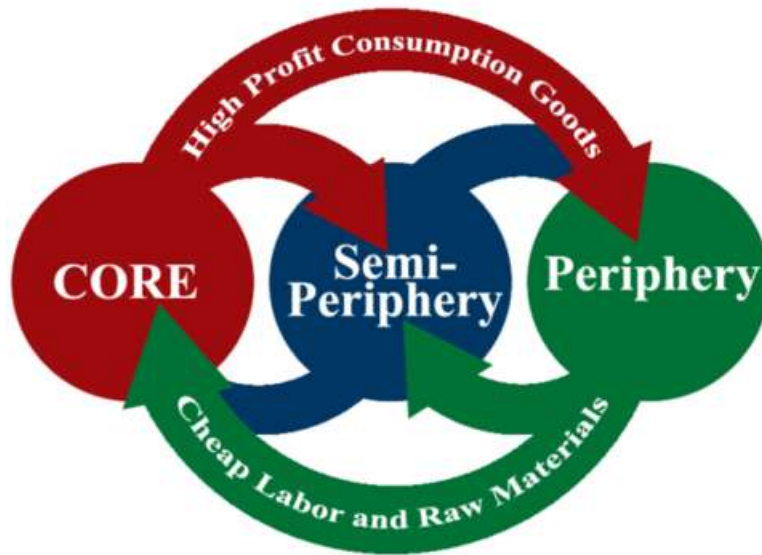


spandex, while The Alibaba corporation, which is the primary shareholder for applications, online banks, and retail shopping experiences in China, having provided its business plan regarding its locus in the digitized world (Jin and Shin 2022; Tan 2018). In other words, China has been the trendsetter in the new revolution

#### **4.5 What is Globalization**

According to Reyes (2001), “The theory of globalization emerges from the global mechanisms of greater integration with particular emphasis on the sphere of economic transactions (p.10). Globalization emphasizes the ways cultural links influence the economic, financial, and political ties of states and their citizens through the aid of ever-progressing technology (Kaplan cited in Reyes 2001; Gough cited in Reyes 2001). Even though Globalization is tied to integration, elites have still power while minorities and poorer nations are still being exploited. In this case, globalization presents ties to Immanuel Wellerstein's world systems theory where core states take advantage of the poor by taking their cheap labor and first materials and selling it back to them as high-profit consumption goods (Reyes 2001). The practice is reflected in outsourcing as corporations transport their factories in less developed countries for products promising-a gradual transition to a global economy through the world economy (Bhardwaj & Fairhurst 2010; Reyes 2001). Since fashion becomes obsolete quickly, the end of the Breton woods system in March 1973 helped corporations as they could move fashion merchandise quickly, minimizing the wait time, and establishing the fast fashion empires (Reyes 2001). The Breton Woods’s adoption of a free-floating currency system which in turn provided more flexibility in exchange rate control amidst the major “world financial centers, international banks, and stock markets” (Reyes 2001, p.12; Deutsche Bundesbank Magazine 2013). Fast fashion becomes a new fashion pattern promising major-retailers significant gains, on

the condition that products will be provided at the right time (Bhardwaj & Fairhurst 2010). Hence, the globalization aspect is actively seen in the fashion industry as the global economy urged the retailers and textile industries to rethink and change their practices to attract consumers continuously (Bhardwaj & Fairhurst 2010).

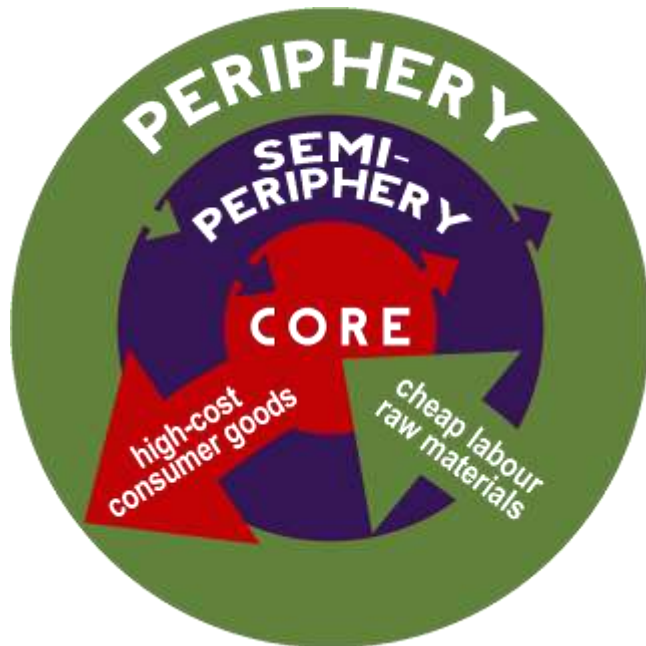


**Wallerstein's World System Theory Model**

Chart 1<sup>1</sup>

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<sup>1</sup> Moyer, Kendall. (2016) 'Periphery in the World Systems Theory' Medium, Available at <https://medium.com/@kendallgrace15/periphery-role-in-the-world-systems-theory-fa5d291cac55>. Accessed on 15 January 2023.

Chart 2<sup>2</sup>

## 5. Methodology

Since this paper combines applied economics and historic elements, the proper methodology reports had to be chosen. According to Kabir (2016), the methodology is divided into Qualitative and Quantitative. Kabir (2016, p.202) underlines that the Qualitative ones “are mostly non-numerical and usually descriptive . . . in nature” which means that they are mostly written analyses. On the other hand, “Quantitative data is numerical in nature and can be mathematically computed” (p.203). Often (not always), such data includes measurements, scales, and survey results (Kabir 2016). There is also the Mixed Methods approach which combines both the Qualitative and the Quantitative (Kabir 2016).

What is more, Kabir (2016) explains that data are also categorized based on their method of retrieval to Primary and secondary. Regarding the former, it is information that was collected first-handily and is unpublished (Kabir 2016).

<sup>2</sup> Wikimedia Commons, Last Update 3 January 2023.  
[https://commons.wikimedia.org/wiki/File:Wallerstein%27s\\_Core-periphery\\_model.png](https://commons.wikimedia.org/wiki/File:Wallerstein%27s_Core-periphery_model.png). Accessed on 17 January 2023.

Examples of Primary data are interviews, experiments, interviews, observations, surveys, or even questionnaires (Kabir 2016). Regarding secondary data, it is already published information “in any form . . . for some other purpose”( Kabir 2016, 6p.205). Kabir(2016) underlines that “the review of literature in any research is based on secondary data” (p.205). Examples of secondary data are “Books, Newspapers, statistical data, Data archives, Online articles, and among others, academic journals (Kabir 2016). Especially in cases where primary data retrieval is difficult due to their cost, the unwillingness of people or they simply don't exist (Kabir 2016). Hence, in a new, developing, and changing subject, “the secondary data is essential” (Kabir 2016, p. 205).

All in all, the literary analysis relies on qualitative, secondary data, with only some quantitative ones. The qualitative data is specifically chosen to answer the research questions, they already have a ‘pre-establish degree of reliability and validity’ (Kabir 2016, p. 205-6). In addition, despite their limited number, quantitative data still helps to “fit diverse experiences into predetermined response categories” (Kabir 2016, p.203). As a result, one understands that the literature review follows a mixed approach to evaluation (Kabir 2016). It is underlined that all the data are secondary, meaning that other researchers collected them. Although attempts to collect primary data had been made, they all went unanswered. Hence, the literary data is mixed and secondary.

## **6. Results**

The industrial revolutions are chronologically closer to each other due to the ameliorated way of life between the 1700s and the current times. The rapid technological advancements, high literacy rate, and augmenting population created a

need for an educated human labor department and for new economic trends to satisfy the fickle consumers (The Strategic Foresight Initiative Atlantic Council 2013; Bhardwaj & Fairhurst 2010). A closer inspection discloses that the first industrial revolution and the second one had 160 years difference, the second and the third 85, while the third and the fourth, 36 (Schwab 2016). Therefore, it is understandable that scholars expect the fifth industrial revolution to happen sooner. In addition, since every industrial revolution steps on the previous ones, the new revolution will use the benefits of connected space (IED 2019; McDowell 2021; Rifkin 2012, 'Sustainable'). Therefore, it is expected to be connected to the internet and its offerings.

The Augmented reality trend in clothing highlights that the new revolution will take place in the metaverse, an online reality where space is only hypothetical (Newton 2021). Aspects like Fabric simulation, augmented reality try-ons apps and personalization has all become available signifying a new era in economics, where production costs, logistics, and marketing are not important since the product technically does not exist (McDowell 2021; Rifkin 2012 'Sustainable'). Gradually, the new revolution will bring a sustainable solution to fast fashion, while augmented reality applications will also be found in other parts of life such as infrastructure, and electricity (Rifkin 2012 'Sustainable'). However, de la Garza (2021) informs that for the metaverse to be functional high voltage servers are required that produce electricity high enough to sustain a country, consequently polluting the environment via emissions. In fact, for the digital mining of the cryptocurrency 'Ethereum,' so much electricity is needed per year that could fuel the entire country of Ireland (De La Garza 2021). Hence, it is questioned whether Augmented reality is environmentally sustainable and globally beneficial.

	<b>Main progress</b>	<b>Relation to fashion</b>	<b>Globalization</b>	<b>Accident</b>	<b>Human Rights</b>	<b>Name of the age</b>
<b>1<sup>st</sup> Industrial Revolution</b>	Steam Engine, Railroads,	Textile Industry	Industry	Child Mortality and textile workers	Wage	Age of production
<b>2<sup>nd</sup> Industrial Revolution</b>	Mass production, oil, gas electricity	Mass production of clothing	Easy accessibility	Trial waistfire	Violations	Age of mass production (IED 2019)
<b>3<sup>rd</sup> Industrial Revolution</b>	Electronics, nuclear, information technology	Fast fashion	The Internet connects everyone, age of information	Dangerous Migratory Methods	Overqualified	Age of information (Debjani et al, 2014)
<b>4<sup>th</sup> Industrial Revolution</b>	Internet of things	Personalization	Lack of spatial fashion	Bangladesh	Extra hours	Age of uncertainty (Gao)
<b>5<sup>th</sup> Industrial Revolution</b>	Augmented Reality	Globalized	Everyone connected via augmented reality	Layoffs and stock market	Lack of work	Age of the future

Based on the Schwab 2016 model found in Tan and Shang-Su p.4

<b>How were the fashion, textile, and garment industry is connected to each Industrial Revolution?</b>	Their main technological advancement was tied to fashion
<b>Which Industrial Revolution is Humanity currently experiencing?</b>	The 4 <sup>th</sup> one (Schwab 2016; Erboz 2017)
<b>How Globalization has affected the Industrial Revolutions</b>	It has made the Industrial Revolutions global (Schwab 2016, Broadberry and Gupta 2005)
<b>Can fashion detect the oncoming of a new Industrial Revolution?</b>	Yes, as it is the first field that adopts the new Industrial Advancement (Godley 1997)

## **7. Discussion and Future Research**

Future research can be made on the augmented reality trend, which started emerging in China in 2016 (Fitzgerald 2016). Brands in China have started researching jobs for augmented reality, while organizations exist that 'build interactive experiences for. . . clients (Fitzgerald 2016). Despite many brands only having recently invested in digital advancements like live streaming, the rewards have been massive, with some companies witnessing an almost immediate return “to the 65% of their products.” In fact, according to Blanchard (2017), Augmented Reality could help brands procure exclusivity as customers will have access to a place that does not tangibly exist. What is more, Blanchard (2017) the brands will have the opportunity to 'rejuvenate their image' in people's minds and create new connections with their audience as they will have the opportunity to communicate with a user who is fully immersed and not distracted by external stimuli.' Finally, all these would increase sales as it creates a new relationship with retail. Characteristically Fitzgerald (2016) almost 50% of the Chinese correspondents to a survey said that they follow their impulses more easily while on AR. Hence, researchers already discuss the importance of Augmented Reality for Fashion.

## **8. Chapter Conclusion.**

Despite the Industrial Revolution being considered an artifact of the past, a closer inspection of economics reveals not only that there have been another three industrial signs of progress but also that they have certain signs all linked to fashion. The rights violations, the accidents, the ties to the globalization theory, and even the advancing mechanism introduced each time can all be linked back to the fashion industry. This fashion hypothesis works reversely as well, if one can detect all the

fashion signs, it means that another revolution is occurring. In conclusion, a future discussion matter is whether the fifth industrial revolution has been transpiring since 2021 exhibited through the Augmented Reality mechanism, and how it will impact fashion.



## **Chapter 2:**

### **The 4<sup>th</sup> Industrial Revolution is a Chinese (Economic) Trend: The New Growth Theory in the Chinese Society.**

#### **1. Abstract**

The paper shows that China laid the foundations for the 4<sup>th</sup> Industrial Revolution, due to their sharing the megatrends of Digitization and Marketization. Through the new Growth Theory, the Investors urged the workers to devote themselves to work so that the Chinese Economy can profit and become a superpower. During the same era, the fashion industry and Chinese society face the same issues of overproduction, and lack of demand but oversupply in various factors, resulting in concerns about a sustainable future. The fashion industry also uncovers the human rights abuses and migratory problems in the Chinese corporations, accentuating that unless a change occurs, the same issues will keep reappearing.

#### **2. Introduction:**

The 4<sup>th</sup> Industrial Revolution started in Europe but economically thrived in China, prompting questions as to why the Chinese Society proved to be more beneficial than the European one. A close inspection of the 4<sup>th</sup> Industrial Revolution discloses a foundation on data that spurs digital economic products. Similarly, the Chinese economy witnessed an economic boom with digitization and marketization, supporting the 4<sup>th</sup> Industrial Revolution, and using it for profit. Fashion is one of the economic fields the Chinese society cultivates and exports as they both have many similarities, such as lack of demand, oversupply, productivity, and sustainability. All in all, the 4<sup>th</sup> Industrial Revolution caused human rights violations and migratory

issues, which became apparent in the corporations of Shein and Alibaba. In the end, future research might show that China might be the economic ground for the 5<sup>th</sup> Industrial Revolution.

The paper shows that the 4<sup>th</sup> Industrial Revolution thrived in the Chinese economy, as data showed the common ground of digitization and marketization, which became apparent with analysis through the New Growth Economic theory lens. A close inspection of the fashion industry and Chinese society during the 4<sup>th</sup> Industrial Revolution reveals the many similarities that eventually made the textile factories indispensable parts of the economy. In the end, digital companies still caused human rights abuses and migratory issues for workers, raising the question of whether a new revolution might solve their problems or if history would repeat itself.

The chapter follows the structure of an economic paper, as defined by Neugoboren et al. (2022). More specifically, the outline contains an introduction, the research questions, a literary review, followed by the “Results,” the Methodology, and finally, the Future Research, alongside the Chapter Conclusion. Therefore, the chapter “rel[ies] . . . on economic facts and analyses” highlights the importance of fashion in a country's economic development, concluding that the 5<sup>th</sup> Industrial Revolution has already started.

### **3. Research Questions:**

Why was China the economic center of the 4<sup>th</sup> industrial revolution?

How did the Chinese Economy take advantage of the New Growth Theory?

How is the 4th Industrial Revolution related to problems in China and the Fashion Industry?

#### **4. Literature Review**

##### **a) The analysis of the 4<sup>th</sup> Industrial Revolution.**

The 4<sup>th</sup> Industrial Revolution is a recent and fast-growing economic phenomenon. It was first mentioned during the Hannover Fair in Germany in 2011, a convention for Industrial Development, as a means of revitalizing ‘the organization of global value chains (Hannover Messe 2023, Schwab 2016). It is quite different from the previous revolutions mainly for three reasons. First, the 4<sup>th</sup> Industrial Revolution’s businesses don’t require much starting capital, fundamentally changing the balance between entrepreneurship and funding (Schwab 2016). Second, it spread very quickly across the world. While the 1<sup>ST</sup> Industrial Revolution took more than a century to reach the world, the internet has spread in approximately ten years to a worldwide scale, therefore making the 4<sup>th</sup> Industrial revolution an up-surgng trend (Schwab 2016). Third, all the previous industrial revolutions had novelties, which often did not interrelate with other faculties, (Schwab 2016). Simply put, departments like architecture and textiles did not communicate. However, this is not the case with the 4<sup>th</sup> Industrial Revolution as it is the mixing of two megatrends, “digitization, . . . and information technology (IT)” (Schwab 2016, p. 19-23). Digitization and IT manifest into physical, digital, and even biological advancements, with clear economic advancements (Schwab 2016). For example, economic and biological advancement is the “Synthetic Human Genome Project” as scientists can now sequence DNA (Schwab 2016, p.23-26). Hence, the 4<sup>th</sup> Industrial Revolution created modern devices which intertwine the Internet and everyday life, affecting the global economy.

Overall, the 1<sup>st</sup> Industrial Revolution had steam, the 2<sup>nd</sup> mass production, and the 3<sup>rd</sup> electronics, but the 4<sup>th</sup> Industrial Revolution has data (Schwab 2016). Data is used to create specific-for-customers physical, biological, and digital products, therefore, ensuring the maximum economic results (Schwab 2016). Data is harvested via algorithms used on the internet to specifically target users with data. Scandals like Cambridge Analytica (Cadwalladr and Graham-Harrison 2018), show that companies gather information as a product for sale to a third company. Data slowly became the biggest energy source and currency. According to Smith (2019), data is the world's new natural resource, unleashed by the maturation of artificial intelligence, and holds the potential to generate economic wealth, health, and social well-being, “as any natural resource.” However, it is dangerous as it often creates privacy issues (Cadwalladr and Graham-Harrison 2018). Indeed, Data led to the creation of Amazon's assistant ‘Siri’ (Schwab 2016, p. 115), Google Images Scan (see: lens google), and smartwatches, but the now defunct google glass generated controversy about data breaches (Schwab 2016; Weidner 2022). It becomes evident that the 4<sup>th</sup> Industrial Revolution produced wearable internet things to gather as much data as possible. Therefore, fashion became a data-gathering scheme.

The 4 <sup>th</sup> Industrial Revolution according to Schwab (2016)	
Advancements	Inventions
1)Omnipresent Internet	Mobile Internet
2)Wearable Internet	Google glasses, smartwatches
3)Storage	Cloud
4)Internet of Things	Sensors
5)Connected Home	Connected Home Appliances

6)Smart cities	Drones as a means to help agriculture.
7)Big Data for Decisions	Agriculture using Data for decisions (software alliance) <sup>3</sup>
8)Artificial Intelligence	Siri
9) Robotics	Wearable exoskeletons as part of warfare (p.81)
10)Implantable Technologies	Neuroprosthetics (Schwab 2016,p.83)

Figure 1 See Schwab (2016) "The Fourth Industrial Revolution" (109-172).



Figure 2. See Geissbauer et al (2016) Industry 4.0: Building the digital enterprise.

<https://www.pwc.com/gx/en/industries/industry-4.0.html>, p. 6

<sup>3</sup> "What's the Big Deal with Data", BSA | Software Alliance, <http://data.bsa.org/>

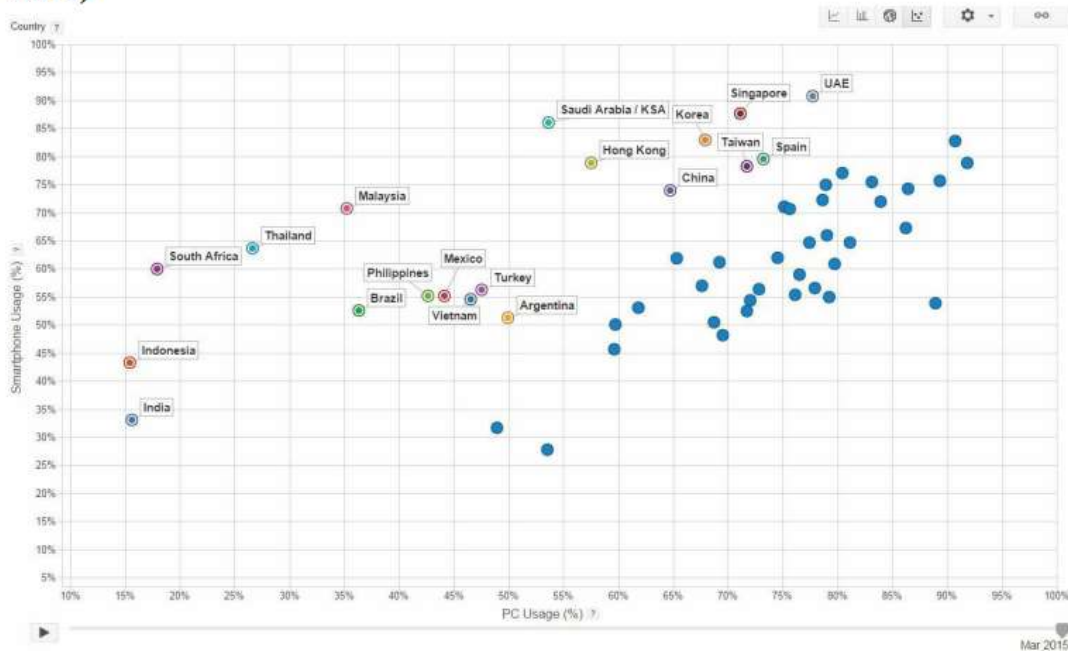
### **b.China harbors the 4<sup>th</sup> Industrial Revolution as it exemplifies the New Growth Theory of Economic Development.**

As the 4<sup>th</sup> Industrial Revolution occurs due to a combination of digitization and Information Technology, Ito (2019) explains that the 4<sup>th</sup> industrial revolution is happening in China, due to “the combination of two megatrends— China’s economic rise and digitization” (p.50). According to Xiao and Cooke (2012), digitization and the “economy’s marketization,” led to the private sector's rapid growth, “and a trend of work intensification across occupational groups” (p.7). Work intensification in particular was a part of the belief that the more one works, the more success one will have, with the work-life balance being viewed as a foreign “western” concept, neither by workers nor managers (Xiao and Cooke 2012, p.7). The Chinese ideology enforced by the work environment “(mis)perception: ‘grow first, clean up later’ and ‘get rich first, enjoy life later” (Xiao and Cooke, 2012 p.7).

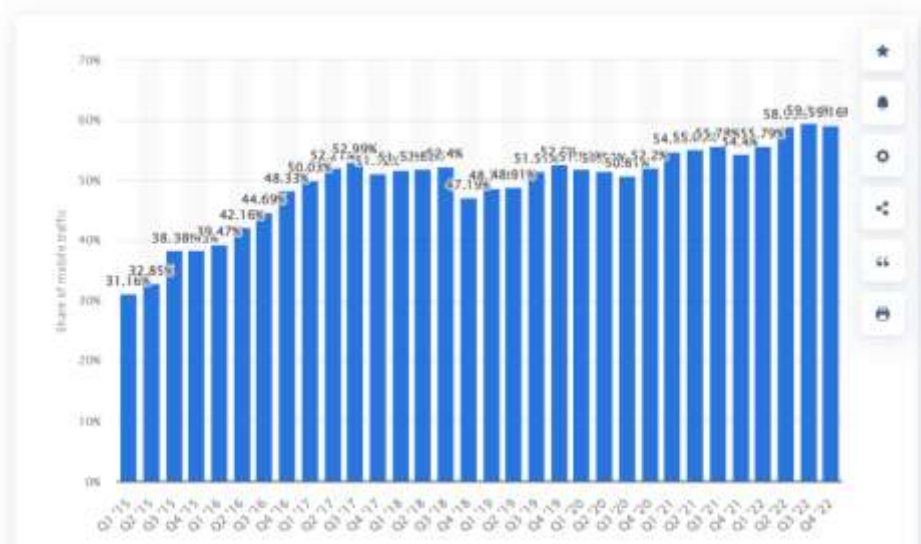
As Bonivel (2022) highlights, the Fourth Industrial Revolution offers an unprecedented opportunity not only to improve the quality of life but to close societal gaps. When the Internet first appeared many people did not have access to it, as it was expensive, there were not enough service providers, cumbersome, or simply, people did not see its benefits and had no interest bother trying to use it (Bonivel 2022, p. 2). Nonetheless, as years passed the internet became more accessible on a worldwide scale (Bonivel, 2022). Gradually, the mobile internet surpassed the PC internet (see Figure 1, Bonivel, 2022, and Figure 2, Statista 2023). One of the reasons was that the smartphone and mobile internet were simply cheaper and more accessible to developing nations than a desktop computers, and therefore, people could buy them and have instant access to the internet (Schwab 2016). Hence, China became one of the biggest mobile internet markets due to its large population, as its many a person

allowed China to secure a massive number of users within its domestic market (Schwab 2016). Gradually, China developed a network externality, which is a major factor in the development of the internet-based industry (Ito 2019). However, many claim the real importance is the capital provided by the ones with investing power, while the human capital is simply the gears of a machine; replaceable (Schwab 2016).

**Figure 3 Countries with Higher Smart Phone Usage than PC (March 2015)**



**Figure 3. Asei Ito (2019).Percentage of mobile device website traffic worldwide from 1st quarter 2015 to 4th quarter 2022**



**Figure 4. Percentage of mobile device website traffic worldwide from 1st quarter 2015 to 4th quarter 2022 (Statista, 2023)**

The 4th Industrial Revolution happened in China as the Chinese people exhibit New Growth Theory characteristics in their society via Confucianism. According to the Corporate Finance Institute Team (2023), the New Growth theory states that as people increase their income, they increase the Gross Domestic Product of their state. In a twisted sense, the Communist Chinese people are tied to the stereotypical capitalist dream; with Pearson (1970) underlining that the American Dream is that one can achieve wealth and happiness with hard work. The commodities of the New Growth Theory are Technology, Knowledge- Education, and Entrepreneurship incentives to people because they hold the promise of a better future (CFIT, 2023). For example, a new Technology becomes available, or a new method of production comes to the knowledge of people, thus urging them to work hard. Similarly, Confucianism underlines the beliefs that people should have “respect for hierarchy, a striving for harmony and expectations of filial obedience, especially for those lower in the power/distance relationship” in this case being the worker and the manager (Wang



2020,p. 4336). If they work hard, they will be able to close Societal and economic gaps (Ito 2019). The companies exploit Confucianism by controlling the workers continuously because authority should never be questioned (Wang 2020). However, decision-makers have unlimited powers, with no mechanism to ensure that these powers are not abused.

What is more, the New Growth Theory and Confucianism become apparent via the Migration with the hukou system. Confucius prescribed hierarchies in society such that menial workers and women were placed at the bottom. Such hierarchies are seen to promote harmony. As the Economist (2020) underlines people who live in the villages are often lower in society and have to travel to the cities to find work with the hukou system. Designed to keep people in the villages, it is an identity card, which is assigned at birth to each person, and is very difficult to change and forces people to stay in their prefecture (Economist 2020). If a person does not have a city hukou, they lack basic human rights such as education, healthcare, and even basic housing rights (Economist 2020). Gradually, migrant workers become desperate and work any job available. Many migrant workers work in the textile industries as part of the 996 culture, simply because they don't have another choice (Wang 2020) They even resort to “International Sub-contracting” or outsourcing business (Landberh 1979, p. 55). The jobs tend to be those which are not easily mechanized, such as sewing (Landberth 1979). Since 80% of the labor costs in clothing manufacturing are sewing costs, clothing manufacturing is often subcontracted. The conditions are often sexist, with many believing that a working woman does not make a good wife, non-existent work-life balance, working at least 60 hours a week, while having unhealthy de-stressing coping mechanisms (Xiao and Cooke 2012). Still, since the jobs are limited and this is

the modus operandi of China, the workers have no options but to work themselves to exhaustion (Xiao and Cooke 2012).

c. Chinese Society as a reflection of the Fashion Industry.

Data not only fuels the 4<sup>th</sup> Industrial Revolution but also is the driving force in the fashion industry because it dictates brands' new trends (Scwhab 2016). However, data led the fashion, textile, and garment companies to an oversupply of products, and a lack of demand, eventually raising concerns about productivity (Jin and Shin 2021). Companies produce goods based on forecasted demand and market the products to sell, therefore creating a push supply chain economy (Jin and Shin 2020 ctd in Jin and Shin 2021)<sup>4</sup>. When the clothes remained unsold, the piles generated a debate regarding sustainability (Jin and Shin 2021). Brands eventually resorted to mass-customization, where Nike provided customization of shoes while Levis provided the opportunity to select “wash, overdyed, pattern, distress, and back patch” (Jin and Shin 2021, p.2). Yet, customization was not a success because people felt that their needs went unmet. Gradually, companies understood that they had to produce and advertise personalized goods. All in all, data induced the fashion industry to have oversupply, unmet demand, and productivity issues, which all raise questions of sustainability.

Chinese society exemplifies the three basic problems of the fashion industry, which are unmatched demand, oversupply, and productivity. First of all, when the exact trends and client's needs are not reflected, a mismatch of interests ensues where “heavy markdowns and excess inventory that erode profits” (Jin and Shin 2021, p. 4). The unmatched demand also reflects in China’s relations, as the country constantly

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<sup>4</sup> Jin, B. E., & Shin, D. C. (2020). ‘Changing the game to compete: Innovations in the fashion retail industry from the disruptive business model. *Business Horizons* 63(3),301-310.

tries to expand its industrial endeavors to become a new superpower (Swanson 2019). However, Bruce-Lokhart (2017) underlines that often these efforts go unmatched due to efforts like the US China-Trade wars that limited the export rate from the country (Kai, 2019; Swanson, 2018). Hence, both the Chinese society and the Fashion Industry had unmatched demand.

The second characteristic of the fashion industry is oversupply, as the demand for clothes has plummeted leaving clothes unwanted (Jin and Shin 2021). The lack of demand can be attributed to “aging populations” who prefer quality clothes or even the mass production caused by the low-cost global outsourcing to less developed countries which creates an overabundance of products (Jin and Shin, 2021, p. 4,5). What is more, fashion consumers enter into an era of sharing goods, meaning they prefer either to share clothes with others or even rent them than buy them (Goldman et al. 2017 cited in Jin and Shin 2021). The movement arose as a reaction to the fast fashion industry which has a “make-take-waste model” as it promotes once-worn garments that are easily discarded (Guye 2021). In addition, the personalization trend also arose as companies such as Nike offered consumers the ability to modify clothing to their liking. Similarly, Chinese society has an immense labor force, emanating from its approximately 1,5 billion population (Trading Economics 2023). Despite its unemployment seeming small rating vacillating between 5 and 6%, youth unemployment is much higher counting at approximately 20% (Trading Economics 2023). Simply put 90 million people are unemployed in total while youth unemployment rages at almost 300 million people. The statistics also include part-time employment and minimum-wage, and underpaid jobs, meaning that working people do not equate a comfortable life, as Chinese citizens have no job options and no money to spend.

The third characteristic of the fashion industry is the overproduction of clothes, a trait reflected in Chinese society through the over-exhaustion of its workers. As clothes are the driving force of the fashion industry, so are the workers in the Chinese economy. Jin and Shin (2021) remind us that the term production is purely on the supply-chain field, with the goal being to "increase production volume at lower prices," matching the aspects of the New Growth Theory (p.16). The Fashion Industry tackled the lack of interest with they resorted to the Fast fashion trend, which pushes the idea that clothes are disposable thus urging hyper-consumption (Jin and Shin 2021) Similarly, Chinese society has allowed people to work in dreadful conditions in outsourcing factories, "working hours and work intensification for many employees" (Xiao and Cooke 2012, p. 7). Hence, the Fashion industry is connected with Chinese society through the exhaustion of workers.

#### **d. Human Right Abuses in Chinese Fashion and the 4<sup>th</sup> industrial revolution.: Shein and Alibaba**

As Bhardwaj & Fairhurst (2010) highlight, when the fashion industry became oversaturated with retailers, the competition led to the creation of the fast fashion business module. Fast fashion has an augmented number of seasons, constant regeneration of merchandise, and the creation of anxiety among consumers to buy clothes often so they do not become fashionably obsolete. (Bhardwaj & Fairhurst 2010). Therefore, the "throwaway" or quick or more commonly known as fast fashion arose." (Bhardwaj & Fairhurst, 2010, p. 165). To attract more consumers, retailers also tried to keep the products very low priced which led to outsourcing production to "offshore places with low labor costs . . . thereby resulting in a substantial cost advantage." (Bhardwaj & Fairhurst 2020, p.168). However, the low-cost production

led to human rights abuses, such as modern slavery, as people were taken advantage of.

The 4<sup>th</sup> Industrial Revolution is tied to the modern slavery movement called 996. According to Wang (2020), 'Modern slavery refers to a variety of situations in which a person is forcibly or subtly controlled by an individual or a group for exploitation (Mende<sup>5</sup>2019 cited in Wang 2020). On many occasions, these individuals work and are still considered slaves because they are exploited corporally, mentally, and financially. For example, they may be physically exhausted, blackmailed to work overtime by making them feel useless or that they don't measure up to their culture, and finally, they work for a wage that is not livable.

Another human rights abuse is humiliation, which is facilitated through Confucianism and the New Growth theory. The high power difference of Confucianism becomes apparent in these industries and involves high power/distance relationships between managers and workers, all of these exemplified by the garment industry workers (Wang 2020). JJ wang underlines that the garment industry workers are one of the most underpaid and undervalued in the Chinese industry. For example, managers may suggest that staff should bow to show respect for senior staff or even kneel when required (Yao 2000 ctd in Wang 2020).<sup>6</sup>

Confucian beliefs often result in slavery-like situations between the workers and the managers (Wang 2020). In fact, "lower-level workers . . . feel coerced into giving gifts to their managers and working long hours, six days a week with unpaid overtime" so that they ensure a stable work environment (Wang 2020, p. 4338). In

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<sup>5</sup> Mende, J.,(2019). The concept of modern slavery: definition, critique, and the human rights frame, *Human Rights Review* vol. 20, pp. 229–248

<sup>6</sup> Yao, X. (2000) *An Introduction to Confucianism*. Cambridge University Press, Cambridge, UK.

addition, a culture of shame, humiliation, and punishment appears in Chinese society (Wang 2020). Chen (2002) underlines not only managers can punish workers but also workers are willing to be beaten (ctd. in Wang 2020).<sup>7</sup>

### 3.4.1 SHEIN

As Fressynet (2022) underlines, Shein is a new phenomenon in the fast fashion industry as it is valued at 100 billion (Euronews). The company is a mystery as there is no information regarding the Ceo, the warehouses, or even the address. They use digital marketing techniques to promote their products by hiring influences to post the clothes on social media (Fressynet, 2022). Therefore, As Bhardwaj & Fairhurst (2010) underline since the late 20<sup>th</sup> century, the average garment production has four stages “introduction, adoption by fashion leaders;” promotion to the public, which is then followed by the public's acceptance and their wearing of the product; and finally the decline and obsolescence of fashion” (p,167). Yet, the production and the trending periods are shorter, meaning that they will have to buy eventually new clothes to be on trend (p.42). Nonetheless, as Crewe and Davenport (1991)<sup>8</sup> highlight, young people don't mind as they “would prefer a higher number of low-quality, cheap and fashionable clothes as compared to baby boomers” who like fewer but the quality item (cited in Bhardwaj & Fairhurst (2010, p.171). Hence, Shein has become a Gen-Z favorite due to its low prices and targeted ads (Fressynet 2022).

The low prices are the result of human rights abuses, as the conglomeration takes advantage of the workers to ensure cost-effective prices. Singh-Kurtz (2021) reveals that the Chinese government fined the conglomeration due to not adhering to

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<sup>7</sup> Chen, X. (2002) ‘Leader behaviors and employee turnover, in A. S. Tsui, C. M. Lau, eds., *The Management of Enterprises in the People's Republic of China*, Kluwer Academic, Boston, pp.325–46.

<sup>8</sup> Crewe, L., and Davenport E. (1991) ‘The puppet-show: Changing buyer-supplier relationships within clothing retailing,’ *Transactions of the Institute for British Geographers* 17 (2), pp.183–97.

labor laws. Some examples are that the workers received “roughly \$556 — to make 500 pieces of clothing per day” while their first wage is held from them, while others were paid 4 cents per piece (Sing-Kurtz 2021). Singh-Kurtz (2021) reveals that Shein has workers in 18-hour shifts, while their day off is only once a month. Fressynet (2022) adds that some workers even pulled three shifts a day. Eventually, the time was so limited that women had to wash their hair during lunch breaks (Singh-Kurtz 2021). In addition to the abdominal “working conditions, high levels of toxic chemicals in its clothing, copying independent designers’ items, and mishandling customer data” are some accusations that resulted in receiving scrutiny. Yet, the government has made no action.

#### **3.4.2. Ali Baba Holding Group**

In the 2010s, China witnessed the remarkable emergence of corporations with massive numbers of customers or users, often called “platform” companies such as Alibaba and Tencent in China (Ito 2019, p.50). Alibaba is considered a conglomerate giant because it contains several other companies, which are often considered Alibaba and have become uncontrollable (Bloomberg Team 2022).

According to Broad (2015), the company's founder is Jack Ma who created the first corporation named alibaba.com in 1999. The website helps to connect exporters in China (and other countries) with companies in over 190 countries around the world (Broad 2015). The system allows a business in the UK to find a manufacturer in China to outsource the productions, and then ship the products back to the UK (Broad 2015). Gradually, Alibaba acquired more companies, with it now including “China’s largest shopping website” taobao.com, and the brand-selling site tmall.com. Other corporations are the paying service Alipay, the video player Youku Tudou, the





underlines that the founder of the group underlines that everyone works from 9 am to 9 pm, 6 days a week, simply put the 996 schedules. Despite employees commenting anonymously about their exploitation, the CEO urges them to work hard so “[They] will be successful” (Dennings 2019). Unsurprisingly, Dennings (2019) reveals that the work culture arose due to the Alibaba group not outperforming its competitors. The Ceo urges the workers with New Growth theory and Confucian-reminding words to overexert themselves so that the company will become rich and they will become (Dennings, 2019). In the end, despite the employees’ youth, complaints of overwork are already uttered setting the future of the corporation in uncertainty (Dennings 2019).

#### **4. Methodology**

As Kabir explains (2016), data is differentiated into categories based on their method of retrieval as well as based on their content. Regarding their retrieval, if they were collected directly from the author they are called primary, whereas if they were acquired via an already published, secondary (p.205). Kabir (2016) underlines that methods of secondary data are internet articles, books, and "research articles by other researchers" also known as journals, data archives," "databases," "biographies," and "newspapers," therefore delineating every kind of literature review (p.205-6). The following chapter uses bibliographic research, with emphasis on academic books, economic journals, and online magazines, all in all, secondary data. However, the author did attempt to collect Primary data by contacting the Chinese corporations of Alibaba and Shein about their practices. All messages went unanswered.

Kabir (2016) explains that data are highly important within a research paper and are differentiated based on their content. Data are quantitative when it includes

numerical data and mathematically reasoned results, while it is qualitative theoretical, and illustrative (Kabir 2016). Specifically, quantitative data use practices like scales, clinical trials, “management information systems,” and surveys (Kabir 2016, p.203). On the other hand, qualitative data derived from textual sources such as “unstructured interviews, participant observation, diaries, personal notes . . . or official document[s]” (Kabir 2016, p.273). Qualitative data allows for much-gathered information to explain the statistics, charts, and other quantitative data, to test hypotheses and reach a result (Kabir 2016). In conclusion, this paper uses qualitative data to compare information and reach a correct result (Kabir 2016). Few quantitative data are used in the form of charts and statistics, either gathered from other papers or the writer.

## **5. Discussion and Future Research**

China has the foundations for a new revolution that will focus on sustainable resources, corporations, and products, such as clothing. In particular, The dramatic change in the fashion apparel industry, coupled with environmental concerns giving rise to conscious consumers in terms of fair trade, the green market, and organic clothing, implies that researchers will need to broaden, redesign and align their research to match the fashion markets in the twenty-first century (Bhardwaj & Fairhurst 2010,). Gradually, the 5<sup>th</sup> revolution will arise to solve the main problem of the 4<sup>th</sup> one which is sustainability (Jin and Shin 2021). The new Industrial Revolution will evolve in an economic fashion which will be beneficial to “manufacturers, retailers, and consumers” (Jin and Shin 2021, p.6). In any case, the links to fashion should be examined.

## **6. Conclusion**

In conclusion, the 4<sup>th</sup> Industrial Revolution arose in China as the country experienced digitization, marketization, and rapid economic growth (Ito 2019). The investors urged workers to overexert themselves via the New Growth Theory, and the Confucian Ideology, simply put, by telling them to work so they can be wealthy and to listen to their managers. Moreover, Chinese society reflected the four issues of the fashion industry during the 4<sup>th</sup> Industrial Revolution, as they both manifested overproduction, lack of demand, oversupply, and sustainability issues. Finally, the chapter notes that human rights abuses are rampant in the biggest Chinese Corporations of Shein and Alibaba. In the end, a new Industrial Revolution with an emphasis on sustainability may be the future answer after all.

Research Questions	Answers
Why was China the economic center of the 4 <sup>th</sup> industrial revolution?	The 4 <sup>th</sup> Industrial Revolution and Chinese Society had the same megatrends of digitization and marketization.
How did the Chinese Economy take advantage of the New Growth Theory?	The Chinese Industry used the New Growth Theory alongside Confucian Ideology to convince the workers to strive hard and follow orders.
How is the 4th Industrial Revolution related to problems in China and the Fashion Industry?	The Chinese Society reflects the fashion industry's problems during the 4 <sup>th</sup> Industrial Revolution, which are oversupply, lack of demand, productivity concerns, and sustainability issues.

Figure 5.

## Thesis Conclusion

All in all, the Fourth Industrial revolution happens in China through the garment, textile, and fashion industries, and can be analyzed through globalization and new growth theories of economic development. Following the economic theory structure by Neugoboren (2022), the paper poses research questions while the literature review emphasizes humanity's experience of the Industrial digital revolution in China and its traces of fashion trends through the Economic Theories of Globalization and New Growth Theory. Regarding the former, Globalization is a cultural and technological connection that affects people, groups, and even states worldwide in the economic, financial, and political fields (Kaplan cited in Reyes 2001; Gough cited in Reyes 2001). Regarding the latter, the New Growth Theory of Economic Development focuses on the people, as the harder the human capital performs, the more the State's GDP augments (Corporate Finance Institute Team 2023). Nonetheless, the results show that the Industrial ramifications of human rights abuses and migration still happen. Therefore one can understand that China has become the new Industrial power through the textiles industry, without missing both the positive and the negative aspects.

Specifically, the first chapter investigates the economic theory of globalization and its influence on the three industrial revolutions, through the textile industries. Research reveals that textile industries and their surrounding technology are the reason that the 4<sup>th</sup> Industrial thrived in China. As all the Industrial Revolutions are closer to each other, it is determined that the 5<sup>th</sup> Industrial Revolution will begin soon, with some researchers claiming that it has already started in China through the Augmented Reality trend in clothing brands (Fitzgerald 2016). Therefore, the

inspection of fashion trends can help reveal the Revolution's progression and its effects on the worldwide economy.

More specifically, the second chapter explains the three reasons that the 4<sup>th</sup> Industrial Revolution happened in China. The first reason is that the 4<sup>th</sup> Industrial Revolution is characterized by "marketization and Information Technology (IR) (Schwab 2016, pp. 15-17)" which are similar to China's economic reasons for "marketization and digitization" (Ito 2019, p.5). As the two trends overlap, they both create a fertile ground for economic advancement, which manifested through the textile factories. The second reason is that the New Growth theory Of Economic Development matches the prevalent Confucianism in the Chinese culture which urges the workers to respect the upper management, follow orders and work as hard as possible, often resulting in exploitation, migration, and human rights abuses (Liberto 2021; Wang 2020). Finally, the third reason is that Chinese society ties to the fashion industry's problems as they both have a lack of demand, oversupply, and productivity issues, all leading to sustainability concerns (Jin and Shin 2021). The international company of Shein and the Alibaba holding group exhibit both the positive aspects of the Industrial revolution, i.e. economic growth, but also negative traits, such as worker oppression. Hence, China was indeed the ideal ground for the 4<sup>th</sup> Industrial Revolution, but its lack of regulation also created severe corporate issues.

Finally, the paper ends that the Chinese economy, society, and industry have been affected by the 4<sup>th</sup> Industrial Revolution's impact on fashion. And yet, more research needs to occur to solve the problems regarding human rights abuses, and migration. As economic scientists say, the new Augmented Reality trends might answer any issues rising from the 4<sup>th</sup> Industrial Revolution. In any case, more research is needed for a definite answer.

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