Psychology of Consumerism and Its Impact on Environmental Damage

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ABSTRACT

Carbon emission, a leading cause of climate change, is arguably the most important problem that humanity faces today. While global solutions have primarily centered around reducing the consumption of fossil fuels, an aspect of human behavior that plays a critical role in generating carbon emissions and causing severe environmental damage is often overlooked: consumer behavior. The increased accessibility of products has contributed greatly to our convenience; however, the growth in manufacturing has not only amplified the carbon footprint of human activities but has also engendered a wide range of other environmental challenges, including growing landfill waste and overproduction of goods. In this review article, I investigate the underlying psychology behind the desire for new products and examine how consumer culture encourages and fuels such desires. Moreover, I provide a comprehensive review of the extent of the environmental impact produced by returned goods and fast fashion garments. This review highlights the broader consequences of our seemingly harmless purchasing decisions by demonstrating different types of waste produced during the lifecycle of goods from production to disposal. Finally, I propose potential solutions that can shift society towards more sustainable consumption. Such solutions, including promotion of used marketplaces, can lead to drastic changes without the need to significantly alter our ways of life.

Introduction

The most pressing environmental issue in the present day is climate change, caused by the increasing levels of greenhouse gases. Among these gases, carbon dioxide (CO_2) shows the largest emissions, as it results from the majority of modern human activities (EPA). The primary solution discussed for reducing carbon emission is to decrease our heavy reliance on fossil fuels as an energy source, demonstrated by the massive interest in electric cars and renewable energy sources. However, there is another aspect of our lives that contributes to not only a substantial amount of CO_2 emission but also to air and land pollution, which has garnered relatively less attention, possibly because the solution to it is less attractive and inconvenient. That is the environmental impact of our consumption patterns.

Every Christmas season, over 2 billion Christmas cards are mailed, and more than 38,000 miles of ribbon are thrown into trash bins in America. During this festive period, 9 billion tons of paper waste are produced, and 100 pounds of food are wasted per person in the United States (Cho, 2020). Human consumption patterns significantly accelerate climate change, responsible for roughly 60 % of global greenhouse emissions from the production and use of household goods (Ivanova et al., 2015). Unfortunately, this type of consumer behavior is encouraged and exploited as it is linked to economic growth and corporate profits. Companies focus on fostering consumer desire to sell more and more products rather than implementing sustainable practices. As a result, the lifespans of products are continually shortened, with only 1 % of goods remaining in use six months after their purchases (Cho, 2020). This trend is further worsened as companies continue to develop business models that are centered around overproduction and overconsumption.

In this review, I discuss two major consumer trends that pose a wide range of detrimental effects to the environment: the lenient return policy in the online marketplace and the fast-paced fashion trends led by the fast fashion industry. I examine the environmental damage ranging from carbon emission to wastewater production quantitatively to highlight the negative effects of the current consumer culture. Then, I discuss potential solutions to the problems that require shifts in the culture and government regulations by providing examples of sustainable practices that are currently in place.

Psychology of Consumerism

To understand the fundamental basis of the consumer culture that defines the world today, we must consider the following question: "Why do people continually seek new things?" At its core, the desire for new items arises from our inherent nature as human beings. Our curiosity and desire for exploration, as well as new experiences, are instinctive; therefore, novelty-seeking behavior is entirely innate ("The 'Why' Behind Asking Why," 2017). However, the reasons behind the current consumerism run deeper than mere innate curiosity. In today's society, products are often used as tools for expressing social identity and lifestyle choices. Thus, as trends change and evolve quickly, owning the latest and trendiest items can signal one's social status, as demonstrated by the lines formed by people to purchase the latest iPhone on its release date and queues outside luxury stores at malls (Woolnough, 2022). Furthermore, with the unprecedented global changes caused by Covid-19, people experienced sudden alterations to their lives and a sense of formlessness. This event led to a surge in retail shopping (DeAngelis, 2004). People turned to online shopping to find momentary gratification and thrill in the act of clicking "check out" (Park et al., 2022). Consumption became a means of breaking up the monotony of daily routine. During this period, online commerce underwent rapid development, becoming even more convenient and integrated into people's daily lives.

Companies actively exploit this psychology behind consumerism to compel customers to purchase their latest items in the market. As companies are motivated by profit, this trend inevitably leads to the production of goods that represent minor changes from their predecessors and are thus unnecessary. Such strong motivation for profit often drives companies to downgrade their previous products to promote their latest version as demonstrated by Apple's program to intentionally slow down older iPhones (Allyn, 2020). Wiedmann et al. (2020) warn that this very culture of consumption and the growth-focused market system as a whole are accelerating the destruction of the environment.

Environmental Damage of the Current Consumer Culture

The modern consumer culture has given rise to unprecedented levels of production and consumption, characterized by convenience and comfort. In this section, I discuss two major trends observed in today's consumer markets: the generous return policy offered, especially in online commerce, and the rapid cycles of trends adopted by the fast fashion industry.

Use or Return: The New Mattress Buying Experience

The rise of the "try and return" policy in the consumer retail industry, especially in online marketplaces, such as Amazon, has significantly transformed the consumer shopping experience. The policy permits customers to have products shipped to their doorstep with the freedom to return them if they decide not to keep them for any reason. It has made clicking the "buy" button for customers all too convenient with the comfort of knowing they can always return the product and get their money back if they change their minds later. According to Oghazi et al. (2018), a lenient return policy not only encourages consumers to make the current purchase by

lowering the risk associated with the commitment, but also builds long-term trust that will lead to future transactions. However, the mattress industry exemplifies the environmental harm caused by this lenient "try and return" policy and its inherent unsustainable consumption model.

The mattress market in the United States is dominated by online retailers, such as Casper, Tuft and Needle, and Nectar, to name a few. These brands all offer trial periods, which is inevitable in such a competitive market, giving customers an option to receive mattresses, try them, and return if they are dissatisfied for any reason. Despite its customer-focused nature, this generous return policy has led to average return rates of 7 %, often higher than 10 %, for these online mattress brands, notably higher than that of conventional retail stores (typically 2 %) that charge a return fee and shorter return window (Perry, 2018; Kale, 2020; Selyukh, 2020).

Unfortunately, the returned mattresses mostly end up in landfills. The United States discards roughly 20 million mattresses annually (Kale, 2020), with a substantial portion having been slept on only a few times. Glew et al. (2012) estimated that approximately 40 kg of CO_2 is emitted from making a mattress. With the United States selling about 36 million mattresses a year, a conservative assumption of a 7 % return rate results in an emission of 100,000 tons of CO_2 that could have been avoided through a more careful and environmentally conscious business and consumption model. Yet, CO_2 emission is only one contributing factor to the environmental damage. If all of the returned mattresses were laid out side by side, they would cover an area of 7 km2, equivalent to 1,400 football fields. This calculation solely focuses on the waste of unused or barely used mattresses produced in the United States. The EU also sells a similar number of mattresses (35 million) annually (Glew et al., 2012), making the global impact considerably more.

The environmentally damaging impact of lenient return policies extends beyond the online mattress industry to other online retail markets. In 2016, return rates of 12 % for electronics and 17 % for fashion were observed in online purchases, again many times higher return rates than physical store purchases (Terryn & Van Gool, 2021). Terryn and Van Gool (2021) showed the returned goods are often disposed of through incineration or landfill, again shortening the lifespan of these products similar to the case of mattresses. They argued that the environmental harm done by easy returns extends beyond just production or disposal; it includes CO_2 emission from transportation, additional consumption, and further material extraction.

Rise of Fast Fashion

The fashion industry best exemplifies the consumption pattern fueled by new designs and looks that are constantly changing. Fashion industry also has been a serious contributor to global environmental damage and its negative impact has worsened by the rise of fast fashion (Niinimäki et al., 2020). This business model is based on offering consumers new products as frequently as possible at a low price. Therefore, the business model of fast fashion relies on continuous consumption and short turnaround time of products. Nowadays, clothes are bought more and worn less frequently; a 40 % increase has been seen in clothing purchases (Dahlbo et al., 2017) while garment-use time has decreased by 36 % since 2005 (EMF, 2017).

The fashion industry produces about 10 % of annual global carbon emission, which is more than all international flights and maritime shipping combined (World Bank, 2019). From raw material extraction to manufacturing, transportation, and disposal, every stage of the fashion lifecycle releases greenhouse gases. The industry's heavy reliance on fossil fuels, energy-intensive processes, and global supply chains all contribute to its carbon footprint. Besides the greenhouse gas emission, the production of clothes poses other serious environmental threats. According to the United Nations Environment Programme (UNEP, 2018), it takes 3,781 liters of water to make a pair of jeans, from the production of cotton to the delivery of the final product to the store. Therefore, the fashion industry uses 93 billion cubic meters of water annually (World Bank, 2019). This level of water consumption depletes vital water resources and causes ecological imbalances. Furthermore, textile dyeing accounts for 20 % of the wastewater produced worldwide. Lastly, due to the short life span and low

quality of clothes, the fast fashion industry contributes to landfill, showcasing again how overproduction of goods can lead to a wide range of environmental issues.

The statistics laid out in this review do not include other environmental damages, such as the use of toxic chemicals, depletion of textile resources, agricultural pollution, etc. The current trend of fast fashion is simply unsustainable.

Solutions

Management of returned goods, known as reverse logistics, is a significant challenge for companies with sustainability in mind. Nevertheless, a more sustainable model for reverse logistics is possible. Vembar (2022) examined the various approaches taken by different mattress brands when dealing with returned products. Avocado, among these brands, stands out for its program where returned mattresses are donated through 1,500 donation partners, achieving a donation rate of 95 %. In addition, the brand also tries to address customer dissatisfaction by providing alternative solutions or other accommodation by asking a series of questions. This approach not only reduces the likelihood of customers returning their products, but also ensures the customers are satisfied with provided solutions. This practice of asking questions during the return process introduces a level of friction. According to Trapnell (2020), achieving the right balance of return friction helps prevent returns from happening in the first place and by doing so, brands are able to offer a return process that is easy enough, but prevent opportunities for abuse and unnecessary purchases. This accounts for the large difference observed in the return rates between physical and online stores that was discussed earlier; customers naturally face a certain level of friction when they need to enter a physical store and speak with a clerk to complete the return process.

Governments have a critical responsibility to actively participate in reducing return rates. Terryn and Terryn and Van Gool (2020) have outlined potential changes to the right of withdrawal (right to return): 1) exception to the right for cases where the returned goods are impossible to resell as new, 2) limitation on rights during the return period, 3) prohibition of free returns, and 4) abolition of the mandatory nature of the right. They argue consumers would have an incentive to consider their purchase decisions if their right to return can only be exercised more carefully with costs. The adaptation of these proposed changes requires government intervention as the competitive nature of the market facilitates companies to provide more generous return policies to gain a competitive advantage. A demonstrative example of reducing production is the recent regulation proposed by the European Union (EU) on charging cables for mobile devices. The EU's regulation enforces manufacturers to use a single type of charging port (USB type-C) by the end of 2024 (Yakimova, 2022). The new rule also includes tablet devices and cameras, and will extend to laptops by 2026. With this regulation, the production volume of charging cables will be reduced as consumers can rely on a single charger to power their laptops, phones, and other electronics rather than having to buy separate types of chargers or buy a new type of charger when they purchase a new device that had previously used a different charging port. The EU expects to reduce the amount of disposed of and unused chargers that account for roughly 11,000 tons of e-waste annually in the EU (Yakimova, 2022). While this amount is relatively small compared to the 54 million tons of global e-waste created annually (Kahn, 2022), it exemplifies how governmental regulation can address the growing problem (Pouyamanesh, 2023).

In the fashion industry, Patagonia leads sustainable practices in the fashion industry best demonstrated by the founder's words, "the best jacket for our planet is one that already exists" (Batten, 2020). Patagonia has launched the "Worn Wear" program where customers can buy second-hand Patagonia items that have been repaired, if necessary, while also offering a repair option to customers. The brand's promotion has focused on repairing and celebrating what customers already own rather than advertising their new line-up of jackets or sweaters. This campaign not only has extended the life span of their garments by approximately 2 years but also reduces carbon footprint by more than 80 % (Ferrara, 2021). Patagonia's approach to sustainability is also

a win for its brand image. The culture of repairing and having garments in possession longer leads to growth in brand loyalty, attachment, and engagement which eventually translates to financial benefit for the brand (Michel et al., 2019). The practice of extending the life cycle of garments instead of producing and promoting a new style of clothes frequently can have a significant impact on reducing the footprint of the fashion industry.

Conclusion

In this review paper, I examined the psychology of consumption and the environmental impact of industries that exploit such desire of consumers. The lenient return policy, especially common in online commerce, that leads to more purchases and consumption (Janakiraman et al. 2016) causes harm to the environment in multiple aspects. The online mattress industry exemplifies such an effect in that it generates a significant amount of unnecessary landfill with the returned mattresses that have not yet served its life cycle. The fast fashion industry is also an industry that promotes a significant amount of consumption every season that inevitably requires textile materials, water usage, and CO_2 emission that is rivaled by few. These two examples demonstrate how commercial industries capitalize on the human psychology behind purchase and consumption that accelerates global environmental problems including climate change (Wiedmann et al., 2020).

The solutions to reducing the damage must be through cultural change and governmental regulations. Consumers need to shift the culture to use products longer and normalize buying used goods. The regulations have been effective, and more are needed. Current discussion of climate crisis mitigation has largely focused on reducing CO_2 emission from the use of fossil fuels as an energy source. Therefore, the regulations have focused on developing and incentivizing alternative energy sources. However, the discussion must accompany proposals that reduce consumption itself as reduction of CO_2 alone has little impact on environmental issues that arise from material depletion, landfill waste, and waste disposal, especially from production of goods that do not serve their full life cycles, often never used, as discussed in this paper. A few examples of solutions have been reviewed here. Governmental regulations are required to balance the competitive nature of markets. The degree of leniency implemented for return policies must be uniform and create a certain amount of friction to discourage returns. Additionally, resale or repair of returned goods must be encouraged. Overall, regulations must provide direction that suppresses overproduction. Recently, Life Cycle Assessment (LCA) has become a popular tool in evaluating the environmental impact associated with a product from its raw material extraction stage to disposal stage (Meinrenken et al., 2020). Furthermore, LCA can be more accurate and have a larger impact on assessment through using products to its full life cycle and avoid overproduction.

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