

**Addressing Labor Rights Exploitation in the Global Tech Industry: A Collaborative
Platform Proposal**

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On my honor as a University Student, I have neither given nor received unauthorized aid on this
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Introduction:

The proliferation and immense growth of the global tech industry in the past few decades has resulted in rampant exploitation of workers in this industry. Especially in regions like China and India, the shadows of labor exploitation loom large. The “996” work culture in China has been referred to as a form of “modern slavery” (Wang, 2020) while in India, unchecked outsourcing has been a problem.

This paper employs Actor Network Theory (ANT) to dissect these dynamics within the tech industry and argue that web-based platforms possess the potential as not only vehicles of labor commodification but also as catalysts for information dissemination, empowering workers, unions, and NGOs (non-government organizations) to unveil and combat labor rights infringements and unsavory working conditions.

In China, the now infamous “996” work culture refers to the grueling 9 a.m. to 9 p.m, six days a week work schedule; a regime which is not only detrimental to the well-being of employees but also challenges the global standards of ethical labor practices. In this system, managers use controls to exploit power/distance, high levels of insecurity, and unenforced labor rights to impose harsh working conditions. Meanwhile, in developing countries like India and Pakistan, workers are essentially paid extremely low wages while working as full-time online performers.

While the exploitative practices such as the "996" work culture in China and outsourcing in countries like India are well-documented, there remains a significant gap in understanding the deeper socio-cultural and economic underpinnings that enable and perpetuate these conditions. The global tech industry's rapid evolution, coupled with the diverse socio-political landscapes of

the various countries involved, creates a complex web of factors contributing to labor exploitation. The nuances of how cultural values, local economic pressures, and global market demands intersect and influence these exploitative practices have not been deeply explored. Additionally, the long-term implications of such practices on the global tech industry's sustainability, innovation, and competitiveness also remain unanalysed. Addressing these gaps is crucial to devising effective solutions in combating labor rights exploitation for tech workers.

This situation has significant negative consequences, with workers subjected to this "996" work culture in China having to face physical and mental health challenges, while also experiencing a significant impact on their work-life balance. Furthermore, while outsourcing can lead to significant productivity gains, it also has negative impacts such as domestic unemployment and underemployment, privacy and security risks, and language-related communication difficulties.

The research in this paper will draw from existing literature and utilize the lens of Actor Network Theory (ANT) to analyze the power dynamics within the tech industry. Drawing from the results of the ANT analysis, this paper will identify the key problems at hand and explore potential solutions, with an emphasis on the potential use of digital platforms to facilitate information sharing and mobilize workers.

Problem Definition:

The global tech industry has experienced unprecedented growth in recent decades, transforming societies and economies. However, this expansion has been accompanied by a concerning trend of worker exploitation, particularly notable in two distinct contexts: China's "996" work culture and global outsourcing practices. When it comes to China's "996" work culture, the tech industry's rapid development has given rise to exploitative labor practices,

posing significant challenges to workers' rights and well-being. (Wang, 2020; Tan, 2022). Under this "996" work culture, employees are essentially expected to work from 9 am to 9 pm, six days a week, leading to severe burnout, health issues, and work-related stress. (Barrett, 2019). This toxic work culture has been equated to "modern slavery", where managers use controls to exploit power/distance, high levels of insecurity, and unenforced labor rights to impose harsh working conditions. (Wang, 2020).

A possible explanation for such a rigorous work culture is that China's tech industry, which was growing very rapidly in the past decade, is now feeling the stress of the economy slowing down. (Barrett, 2019). To make matters worse, the Chinese government's censorship of online labor activism and inconsistent court decisions have made it difficult for tech workers to organize and protect their labor rights. By blocking Wi-Fi and 4G connections in bathrooms to discourage employees from lingering on their phones, the tech industry shows an overall lack of concern for employee well-being. (Tan, 2022).

Exploitation of workers through outsourcing manifests such that large tech companies leverage lower labor costs, resulting in low wages, inadequate working conditions, and job insecurity for workers. These practices are often in violation of labor laws and have serious consequences for the well-being of workers. Workers in developing countries such as Pakistan and India are paid extremely low wages while essentially working as full-time online performers. The phenomenon of "Clickwork" is quite a problem, which refers to the basic yet labor-intensive work conducted by people who are often separated from other workers and is defined by low wages, long hours, and poor working conditions. (Kersley, 2022). Outsourcing can also cause domestic unemployment, underemployment, privacy and security risks, and communication difficulties. (Weinstein, 2004).

While there have been many positive consequences due to outsourcing in India such as boosting its economy, providing more job opportunities and also increasing opportunities for women, there are also several problems associated such as high attrition rates, poor infrastructure, lack of familiarity with networks and systems, employee relationships, potential morale problems, lack of overall control, and differing priority given to given to different outsourced companies depending upon purely revenue generated. (Jordan, 2014). Additionally, workers in outsourced jobs from lesser developed countries are paid significantly less while performing the same amount of work (and in some cases more work) as workers from more developed countries.

Online platforms have the potential for workers, unions, and NGOs to organize and share information, data, and insights about ongoing labor violations and exploitation in the tech industry in order to raise awareness and bring about change. An example is the social coding platform GitHub, which serves as an enclaved public sphere for Chinese developers to organize and express dissenting opinions about the overwork culture in the tech industry. It highlights the importance of digital technologies in facilitating collective action and mobilizing against companies for more rights, while also offering anonymity to participants. (Zhen, 2021). The ICU 996 movement in China was started with a Github post which stated “if you work 996, you’ll be in the ICU sick.” (Barrett, 2019).

Despite the extensive literature on the exploitation in the tech industry, a holistic understanding of the influence of cultural nuances and perspectives is noticeably absent. How do local cultural values shape the perception, acceptance, or dissent of these exploitative practices, especially in the face of globalization? Addressing this gap is essential, given the global nature of the tech industry, to craft effective and empathetic interventions.

While studies discuss the exploitative practices in various countries, there's limited examination of how cultural dynamics may influence or exacerbate such practices. For instance, it is important to explore whether certain cultures internalize and accept these practices as norms more readily than others. The existing literature often positions exploitation in terms of economic incentives and corporate interests, overlooking how local cultural narratives might support or contest such exploitation. The acceptance of sacrificing personal well-being for the collective good in collectivist countries like China needs further examination in the context of global tech exploitation. Furthermore, the efficacy and trustworthiness of online platforms in labor rights advocacy vary across cultures. While platforms like GitHub have shown potential in places like China, it remains unexplored how different cultural backgrounds may influence the perception and utilization of such platforms. For instance, in societies with low trust in digital platforms due to surveillance or misinformation concerns, the effectiveness of an online collaborative platform for labor rights might be compromised.

Though the potential of digital platforms for collective action and mobilization is widely acknowledged, there's limited understanding about their effectiveness across different socio-political landscapes, especially when faced with varying levels of state control, digital literacy, and infrastructure readiness. Digital literacy and access remain a challenge in many regions. While online platforms have shown promise in certain areas like China, their success in regions with lower digital literacy and accessibility remains unknown. For a digital collaborative platform to combat exploitation to be truly global, these barriers need to be addressed.

Additionally, different nations have varying levels of state control over digital platforms. While platforms might be effective in regions with open internet policies, their efficiency in nations with strict online regulations or heavy censorship remains a question.

In order to better define the problem, Actor Network Theory can be applied in drafting a network map of all the involved actors and their associations, as the figure below shows:

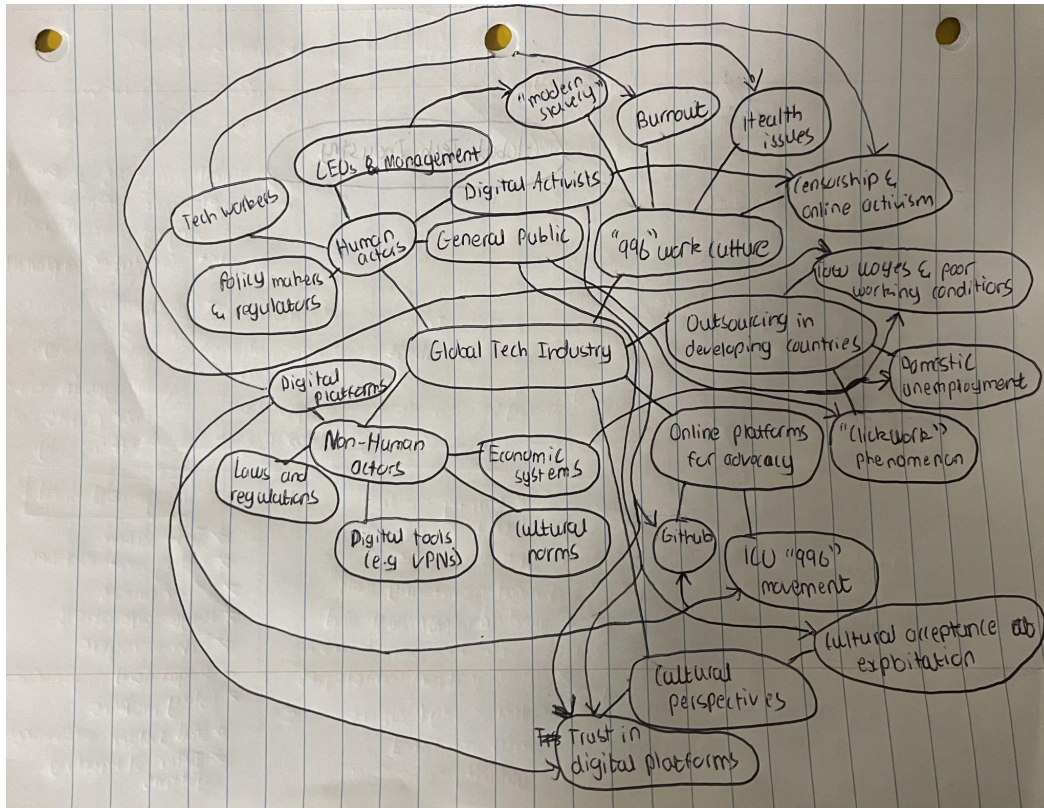


Figure 1: ANT Diagram of the Problem

Research Approach:

The research methodology chosen for this study is deeply embedded in the Actor-Network Theory (ANT). ANT offers a robust framework to dissect the intricate dynamics of labor rights exploitation within the global tech industry. This theory emphasizes that both human (e.g., workers, managers, customers, regulators) and non-human entities (e.g., technologies, policies, standards, platforms), termed "actors," are instrumental in molding networks through their sustained interactions.

In the realm of labor rights exploitation in the tech sector, human actors encompass a range of stakeholders from workers to policymakers. In contrast, non-human actors can range from technological tools to organizational policies. These actors collectively form networks, dynamic associations that undergo evolution over time. Such networks can be global, like multinational tech corporations, or localized, such as regional labor unions.

Stanforth's (2007) study on E-government serves as an instrumental model for this approach. This research underscores how ANT can be adeptly applied to fathom the complexities of e-government systems in developing nations. Drawing insights from this study, it can be better understood as to how ANT can be similarly employed to unravel the multifaceted issue of labor rights exploitation in the tech domain.

The primary evidence to support this research includes an analysis of the “996” work culture in China and outsourcing practices involving countries like India. The role of digital platforms in helping to mitigate labor rights exploitation was also examined, as were policies relating to labor rights in the tech industry. The evidence also included details about current industry regulations, policy and culture differences by region, case studies of examples of ongoing exploitation, all concerned actors and their connections and other relevant information. Finally, Stanforth’s (2007) study was analyzed to draw parallels between the application of ANT in e-government systems and its potential application in understanding labor rights exploitation in the tech sector. This study provides a detailed history of the information systems in Sri Lanka over a ten-year period from an actor-network perspective, which was used as a basis for my approach. While this paper identifies operational challenges in applying ANT, it still sees it as a promising theoretical tool for development informatics research.

Drawing inspiration from Stanforth’s use of ANT, after creating the actor-network map

and analyzing it, this research aims to highlight several obligatory passage points (OPPs) that are pivotal to the function and maintenance of the system of exploitation. These OPPs represent the critical junctures within the network that perpetuate the problematic status quo and are thus focal points in understanding the exploitation dynamics. Here is a table outlining the obligatory points of passage that were identified:

Obligatory Points of Passage	Description
“996” Work Culture	A cultural and managerial practice mandating long work hours, which reflects and reinforces the cultural acceptance of overwork in the tech industry in China.
Outsourcing Practices	The global economic strategy where tech companies outsource labor to countries with cheaper workforces, often resulting in exploitative labor conditions.
Digital Advocacy vs. Online Censorship	The tension between the use of digital platforms to advocate for labor rights and the efforts to suppress this advocacy through censorship.
Trust in Digital Platforms	The varying degrees of trust that users place in digital platforms, which can affect their effectiveness as tools for labor rights advocacy.
Economic Systems Favoring Exploitation	The economic incentives and systems that prioritize cost-cutting and profit over fair labor practices, creating an environment where exploitation is financially rewarded.
Policy and Regulation	The legal framework that either enables or combats labor exploitation, including the enforcement or lack thereof of labor laws and regulations.
Digital Literacy and Accessibility	The degree to which workers have access to and can effectively use digital tools, which can affect their ability to advocate

	for their rights.
Investor Pressure and Ethical Investment	The influence of shareholders and ethical investors who can push for corporate responsibility in labor practices.
International Labor Standards	The role of international bodies and agreements in setting and enforcing labor standards that transcend national boundaries.

Table 1: Obligatory Points of Passage

Under ANT, actors are both human (e.g. workers, managers, customers, regulators) and nonhuman (e.g. technologies, policies, standards, platforms) entities that participate in the networks and shape them through their actions and interactions. Some relevant actors in the aforementioned exploitation of tech workers include policy makers, tech workers themselves, tech managers and their management practices, stakeholders, and internal reporting systems. Networks, on the other hand, are the connections and associations among the actors that are formed, stabilized, and reformed over time. They can be both global (such as large tech corporations, regulatory organizations) as well as local (labor unions, local policy-making institutions and government for example). Translation is the mechanism by which the networks progressively take form, resulting in a situation where certain entities control others and act as their spokespersons.

Exploring how ANT has been used to analyze E-government in the context of my source (Stanforth, 2007) and drawing parallels to how it may be used to similarly dissect the topic of exploitation in the tech industry will help to understand the power dynamics among the actors and the obligatory points of passage.

The research approach I followed was inspired by the approach used by Stanforth (2007) in her paper. Stanforth starts by introducing ANT through storytelling, focusing on the implementation process of e-government in developing countries. She sets the context of good governance and the role of e-government programs, before using ANT to analyze the case study of e-government in Sri Lanka. Afterwards, she discusses the findings from the application of ANT and draws conclusions, while also discussing the operational challenges in applying ANT. I follow a similar approach to Stanforth, with some minor differences (I do not use storytelling or discuss the drawbacks of ANT).

Here is a diagram depicting the steps in my approach of applying ANT:



Figure 2: Steps in Applying ANT

Actor-Network Theory (ANT) is chosen as the analytical framework because it offers a nuanced understanding of the complex interplay between the various human and non-human actors in a network. The global tech industry, characterized by its intricate blend of human interactions and technological advancements, demands an analytical approach that can capture these complexities. ANT's unique perspective ensures that non-human entities, such as digital platforms and technologies, are not marginalized but are central to the analysis. This is particularly important given the tech industry's evolving nature, where technological platforms and human decisions are deeply intertwined.

Labor rights exploitation in the tech industry is not solely a technical or social issue but a combination of both. ANT's socio-technical perspective is well-suited for examining the interactions between human and non-human actors, shedding light on the socio-technical networks contributing to exploitation. The evidence presented in Stanforth's (2007) study on E-government in developing countries serves as a testament to the applicability and depth of ANT in analyzing complex systems. The challenges and intricacies of implementing e-government systems as detailed in the study, mirror the complexities faced in the tech industry concerning labor rights exploitation. By understanding how ANT was applied to analyze the e-government systems, valuable parallels can be drawn and insights gained pertaining to how ANT may be used in analyzing labor rights exploitation. By delving deep into the networks of actors and their interactions, ANT can help in the identification of the root causes of exploitation, as well as possible solutions.

Results:

Initially, the exploration of labor exploitation in the global tech industry appeared as merely manifestations of aggressive corporate practices. However, a deeper analysis revealed a vast, intricate network of socio-technical systems operating beneath the surface.

What became evident is that these labor dynamics are not merely the result of isolated corporate decisions. Instead, they emerge from a confluence of factors - cultural expectations, socio-technical networks, economic pressures, and political frameworks. For instance, the "996" work culture, while seeming like a stringent work schedule, actually encapsulates a cultural acceptance of overwork tied to notions of prosperity and diligence. Likewise, outsourcing is not just about cost-cutting but also about leveraging global socio-technical networks to optimize resource distribution.

Through the lens of Actor Network Theory (ANT), it was discerned that both individuals and technological platforms play pivotal roles in amplifying, sustaining, or challenging these labor dynamics. Web-based platforms, initially perceived as mere communication tools, have the latent potential to be significant agents of change, enabling workers, unions, and NGOs to expose the often-hidden facets of exploitation.

The revelation that is paramount to this research is understanding that addressing labor exploitation isn't just about implementing top-down policies or corporate shifts. It's about recognizing and navigating the complexities of these socio-technical networks. The results of this research would offer valuable insights that can inform a multi-faceted decision making process aimed at addressing labor exploitation in the tech industry. Decision-makers, including policymakers, corporate leaders, labor unions, and NGOs, can utilize this research to develop more comprehensive strategies.

For policymakers, the emphasis shouldn't be on isolated policies targeting work hours or outsourcing alone but on a comprehensive approach addressing the intricate socio-technical tapestry influencing labor dynamics. For corporate leaders, understanding these networks can pave the way for designing fair employment practices that do not merely appease global standards but resonate with local cultural and socio-technical nuances. As for labor unions and NGOs, their strategies can be amplified by leveraging web platforms to expose exploitative practices, grounded in a keen understanding of the socio-technical dynamics at play. Meanwhile, advocacy groups can use this research to craft more efficient and better targeted campaigns.

From the ANT analysis, it is clear that there are a plethora of problematic aspects in the current system which when disrupted, can lead to significant positive changes. There are several ways that this system of tech labor exploitation can be disrupted. For one, equipping digital

activists with skills, tools, and resources to effectively navigate the web and combat online censorship would be beneficial. This could include tools to sidestep firewalls, encrypted communication channels, and training on digital rights. Through online collaboration platforms, an environment for digital activists to collaborate, share knowledge, and coordinate the efforts can be fostered which can be a powerful force against exploitation.

Implementing secure whistleblower programs within tech companies that allow employees to safely report exploitative practices can also be helpful, as well as introducing mandatory ethical leadership programs for senior management, emphasizing the long-term benefits of ethical labor practices both in terms of company reputation as well as employee productivity and health. Additionally, promoting the use and development of digital tools with built-in ethical standards that resist exploitative practices can also be greatly helpful (for example, tools that monitor and ensure equitable payment for freelance workers). Furthermore, introducing certifications for tech companies that adhere to ethical labor practices, similar to ‘fair trade’ labels in other industries, can incentivize companies to adopt better practices.

Here is a table of various problematic aspects and potential solutions through digital platforms:

Problematic Aspect	Potential Solution through Digital Platforms
“996” Work Culture	Create online communities to share stories, shed light on the detrimental effects of overwork, and organize and mobilize.
Outsourcing in Developing Countries	Create platforms that audit and rank companies based on their ethical outsourcing practices.

	Develop online training platforms for workers in developing countries to upskill and demand better conditions.
Low Wages and Poor Working Conditions	Build transparent platforms where workers can anonymously report workplace conditions, ensuring accountability. Utilize crowdfunding or donation platforms to support underpaid workers.
Cultural Acceptance of Exploitation	Use social media and content platforms to disseminate information on the harms of exploitation, changing public perception. Create educational apps focusing on labor rights and ethical consumption
Online Censorship	Popularize VPNs and encrypted communication tools for activists Create platforms that archive and disseminate censored content to reach a broader audience
Limited Trust in Digital Platforms	Use blockchain or similar technologies for secure and transparent digital interactions.
Burnout and Health Issues among Tech Workers	Build digital wellness platforms offering resources on mental health and stress relief

Table 2: Problematic aspects of the system and potential ways to disrupt it

Ultimately, this research underscores the importance of a nuanced approach to labor exploitation - one that respects and acknowledges cultural values while challenging the systemic structures perpetuating exploitation.

Conclusion:

This paper, through the lens of Actor Network Theory (ANT), has revealed the intricate socio-technical factors contributing to labor exploitation in the global tech industry and has identified digital platforms as potential tools for reform, capable of empowering workers and challenging entrenched exploitative practices.

Key insights point to the necessity of a multi-layered approach in addressing these labor issues. While digital platforms offer new avenues for advocacy and collective action, their effectiveness is limited by factors such as digital literacy and trust. So, the solution extends beyond online mobilization to possibly include ethical corporate leadership, legal reforms, and international labor standards enforcement.

The implications of this paper are practical and far-reaching, suggesting a roadmap for stakeholders - policymakers, business leaders, and civil society - to collaborate towards more ethical labor practices in the tech sector. This synergy is essential for fostering sustainable change and ensuring that technological advancements do not come at the cost of workers' rights.

In essence, this paper underscores the need for a holistic disruption of the current socio-technical frameworks that sustain labor exploitation. At the same time, this research acknowledges the dynamic nature of the field and invites ongoing exploration and evolving strategies to keep pace with the constantly shifting digital and global economic landscape.

References:

- Barrett, E. (1 June, 2019). "China's Slowdown Explains '996'", *Fortune*, vol. 179, no. 6, p. 34 [Journal article]
- Jordan, Tiffany, et al. (1 July, 2014). "Globalization and International Outsourcing Trends in an Emerging Power: The Case of India", *Journal of Global Intelligence & Policy*. vol. 7, no. 13, pp. 87 - 103. [Journal article]
- Kersley, A. (6 Dec, 2022). "Clickwork and Labor Exploitation in the Digital Economy", *Computer Weekly*. pp. 25 - 29. [Journal article]
- Stanorth, C. (2007). "Using Actor-Network Theory to Analyze E-Government Implementation in Developing Countries", *The Massachusetts Institute of Technology Information Technologies and International Development*. Vol. 3, number 3, 35-60. [Journal article]
- Tan, J.S. (26 Mar, 2022). "Tech Workers Lie Flat", *Dissent*, University of Pennsylvania Press. <https://muse.jhu.edu/article/851263> [Journal article]
- Wang, J.J. (2020). "How Managers Use Culture and Controls to Impose a '996' Work Regime in China That Constitutes Modern Slavery", *Accounting & Finance*. vol. 60, no. 4, pp. 4331–4359. <https://doi.org/10.1111/acfi.12682>. [Journal article]
- Weinstein, L. (February 2004). "Outsourced and Out of Control", *ACM* 47, 120. <https://doi.org/10.1145/966389.966419>. [Journal article]
- Zhen, L. (1 Jan. 2021). "Social Coding Platform As Digital Enclave: A Case Study of Protesting '996' On GitHub", *International Journal of Communication (19328036)*. vol. 15, pp. 886 - 904. [Journal article]