The Digital Hawker Economy in Dalian from the Perspective of Alienation of Labor: Logic, Connotation, and Pathways

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Abstract

Analysis of the digital hawker economy in Dalian, within the context of global capital expansion and labor alienation, helps understand the dialectical relationship between the formal and informal economies. The study adopts a desktop research approach, utilizing existing data from Dalian Statistics Bureau to demonstrate the interactive nature of the labor process among peddlers, means of production, and labor products, revealing the phenomenon of alienation within this process. By analyzing data provided by ByteDance officials, it becomes evident that the digital peddler economy in Dalian suffers from structural deviations. The pathway for the digital peddler economy lies in establishing digital platforms while avoiding the ideology of consumerism associated with digital goods. To achieve a more visual understanding of the dialectical relationship between formal and informal economies, this study uses R Programming for 3D modeling and regression forecasting analysis of Dalian's formal economy. Additionally, modeling the labor process of Digital Hawkers enhances the understanding of the dialectical relationship between the traditional peddler economy and the digital peddler economy. The research suggests the need to optimize relevant policies for traditional peddlers, allowing Dalian's informal economy to stabilize and complement the formal economy amid global capital expansion. Only through collective efforts from the government, platforms, and society can the healthy development of the digital peddler economy in Dalian be achieved, thereby promoting urban economic prosperity and social progress.

Keywords: Alienation of labor, Neo-Marxism, Digital hawker economy, Informal economy

1. Introduction

As a coastal port city situated along the shoreline with excellent harbors, Dalian enjoys a strategic geographical location at the confluence of the Yellow Sea and the Bohai Sea. Its advantageous "ice-free" port nature has established it as the gateway to Northeast China and the East Asian international trade center. The diversified economic structure and proactive policies for opening up have enabled Dalian to play a significant role in stabilizing and promoting the regional economy of Northeast China while attracting a considerable influx of domestic and foreign investments and enterprises, owing to its high level of internationalization. However, with the upgrading of digital technology and the rise of capital power, Dalian's production relations inevitably face challenges and opportunities for digital transformation. This entails the emergence of new modes of production in cities, replacing traditional modes and becoming the dominant ones in society. Marx succinctly described this process as "the conquest of the forces of nature, the use of machinery, the application of chemistry to industry and agriculture, the sailing of ships, the passage of railways, the use of the telegraph, the clearing of whole continents for cultivation, the canalization of rivers, the whole immense superstructure." (Marx & Engels, 2009). With the expansion of the "Internet+" mindset, the operation and sales of commodities have transcended traditional offline models, with numerous peddlers leveraging platforms like TikTok for product promotion. According to the New Marxist theorist Christian Fuchs, unlike traditional forms of work that focus on material quality and quantity, digital work takes on a more diverse form, encompassing all activities that create use-value, such as knowledge or information applied to digital media technology and integrated into the content and products of digital media (Fuchs, 2020). Thus, the main focus of this study lies in comprehending the logic,

connotation, and pathways of the digital peddler economy in Dalian within the context of global capital expansion and labor alienation.

2. The Dialectical Logic of the Digital Hawker Economy in Dalian

2.1 The Dialectical Logic Between the Informal Economy and the Formal Economy in Dalian

Like many other cities, Dalian also exhibits a dual economic model comprising the formal economy and the informal economy. The relationship between these two economic forms is dialectical. The informal economy plays a role in bridging the gaps left by the formal economy by meeting market demands that the latter cannot fulfill, providing cheap labor and low-cost products. On the other hand, the development of the formal economy and changes in government policies can impact the informal economy, including tax policies and employment strategies. Figure 1 illustrates the visualization results of Dalian's formal economy from 2014 to 2022, analyzed using R programming. R is a programming language used for statistical analysis, graphical representation, and reporting. The data visualization capabilities offered by R can reveal more details about the relationships between variables. Using this visual analysis tool, this study conducts an analysis of the following two questions: the relationship between formal and informal economies in Dalian City from 2014 to 2023.

Figure 1 displays the best-fitting blue plane representing the results of the linear regression analysis between "The total regional gross domestic product (GDP) in billions" and the variables "Year" and "Per Capita Gross Domestic Product (GDP) Converted at Annual Average Exchange Rate (\$)" based on the data from Dalian for the period 2014-2023. From this analysis, we observe that the blue plane is steep but does not exhibit strong correlations. Therefore, we can infer that there is a relationship between "The total regional gross domestic product (GDP) in billions" and "Per Capita Gross Domestic Product (GDP) in billions" and "Per Capita Gross Domestic Product (GDP) in billions" and "Per Capita Gross Domestic Product (GDP) Converted at Annual Average Exchange Rate (\$)" in Dalian, but the connection is not highly significant.

Furthermore, the "total regional gross domestic product (GDP) in billions" decreases with an increase in the year, indicating that the current state of Dalian's formal economy is not favorable. This decline aligns with the non-aberrant values between 2017 and 2022 when there were disputes and controversies between the two major economies, China and the United States, over trade policies, intellectual property protection, and market access. This observation highlights Dalian's significant susceptibility to global economic influences as a city reliant on foreign investment.

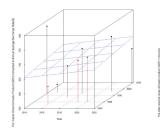


Figure 1. Dalian's National Economic and Social Development

Source: Dalian Municipal Bureau of Statistics.

2.2 The Dialectical Logic Between the Traditional Hawker Economy and the Digital Hawker Economy in Dalian

As two well-known foreign companies in Dalian, the global layoffs carried out by "International Consulting Company I" and" International Consulting Company A" in 2023 have forced their local branches in Dalian to implement pay cuts and staff reductions. Consequently, a significant number of workers have shifted from the formal economy to the informal economy.

The statistical measurement of unemployment defines employment as working for one hour per week, even if the person earns only \$20. Additionally, the unemployment rate is not a measure of people who are entirely without work, but rather those actively seeking work and capable of immediately taking up employment. Therefore, the unemployment rate only reflects a portion of the jobless individuals in society, specifically those currently seeking work but unable to find it.

In China, when investigating urban unemployment, rural residents with non-urban household registration are also included in the statistics. However, due to the tendency of migrant workers to return to their hometowns after losing jobs, it becomes challenging to survey this group during urban investigations. Additionally, there is a significant number of unregistered self-employed individuals who contribute to the informal economy. For instance, the 2020 Annual Report of Dalian's Housing Provident Fund revealed that out of 132.54 thousand actual contributors, 104.8 thousand were employed in non-private urban units, and the remaining were self-employed in urban private units or unregistered flexible employment individuals. This indicates that Dalian's informal economy employs a substantial number of people.

In the public areas of Dalian, the influx of labor due to the wave of unemployment has driven many individuals to join the ranks of street hawkers. These emerging hawkers have become increasingly adept at leveraging digital technology to expand their market presence. Through various live-streaming platforms, they showcase their products and skills to a wider audience, thus achieving successful product sales.

In the past, street hawkers relied mainly on foot traffic and traditional advertising methods to promote their goods. However, with the increasing prevalence of smartphones, live streaming has allowed hawkers to directly interact with potential customers, showcasing the unique features and advantages of their products. Such interactive and experiential approaches are more likely to lead to successful transactions. Additionally, their live-streaming content spreads rapidly through social media, attracting more attention and potential customers.

However, the acquisition of digital identity has also made digital hawkers vulnerable to exploitation by live-streaming platforms. Marx provided a clear definition of "traditional" labor as "an activity creating a form." (Marx, 2018). This implies that hawker labor is not only a productive activity but also a process of creating and transforming new value. The outcome of hawker labor, i.e., the labor product, often becomes independent of the laborer's control and assumes a separate existence. In the dialectical relationship between the relations of production and the productive forces, the means of production consist of the objects of labor (raw materials) and labor tools (technology), while labor products. (Fuchs, 2014). This indicates that the labor process of digital hawkers is an interactive one, with hawkers, means of production, and labor products all bearing an intrinsic dialectical relationship within this process. Karl Marx presented the theory of alienated labor in his "Economic and Philosophic Manuscripts of 1844." Alienated labor, or labor alienation and estrangement, refers to the idea that a person's labor exists independently of them, as something different from them and external to them, becoming a separate and opposing force. It implies that the life they impart to objects is in opposition to them and is something hostile and distinct from them (Marx, 2009).

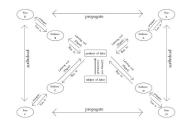


Figure 2. The labor process of Digital Hawkers

As shown in Figure 2, street hawkers conventional labor objects (raw materials) into labor products using traditional labor tools. Leveraging digital labor tools such as live streaming platforms, they package and present these products to online audiences or offline individuals, enticing online viewers to make purchases or intriguing offline individuals to buy out of curiosity. Once online Audiences become aware of the products, they unconsciously engage in forwarding and dissemination, forming a loyal fan base. By offering discounts through live streaming sessions, the fan base evolves into a stable audience that eventually purchases the labor products. This entire industry chain creates a closed loop, with the live-streaming platform directly collecting platform fees in the process. As the digital online identity of hawkers weakens their offline connections with individuals, they are forced into the digital network and become objects exploited by live-streaming platforms. Thus, both online and offline, street hawkers fall under the exploitation of capital. This process of alienation can be understood as a state of "defensive measure against new cognition," as referred to by Marx as "the outcome of human estrangement from their labor product, their life activity, and their class essence - the alienation of humans from themselves."

3. The Connotation of the Digital Hawker Economy in Dalian

In the beginning, with the popularization of internet technology, some traditional hawkers in Dalian began to explore selling their labor products on online platforms. This can be seen as the initial stage of Dalian's digital hawker economy, which was relatively small in scale and had limited impact. With the advancement of 4G

technology and the widespread adoption of electronic payments, Dalian's digital hawker economy entered a rapid expansion phase. Traditional hawkers gradually extended their businesses to the internet and mobile platforms, utilizing social media such as WeChat groups and live streaming platforms to promote and trade their labor products. Dalian's digital hawker economy started to demonstrate a certain scale and social impact. In 2020, after the COVID-19 pandemic, the Dalian government issued relevant documents concerning hawker locations to stimulate the economy. This phase can be regarded as the supportive participation stage of the digital economy. In 2023, the dissemination of Zibo barbecue in the urban space turned the city into a medium of dissemination, and urban hotspots facilitated the production of social space, leading to the emergence of new urban hotspots, providing a reference for creating the city's brand effect. (Wang & Chen, 2023). Dalian has also developed its own "Dalian" model, but the results were not satisfactory. Currently, the mainstream digital hawker economy in Dalian is still in the support and development stage.

However, as analyzed above, the identity alienation of Dalian's digital hawkers has led to individual hawkers being forced into the digital network and becoming objects exploited by online platforms. This is because, in the application of online platforms, data is generated constantly, and the individual hawkers, in the process of interacting with the audience, not only consume information data but also become consumers themselves. According to ByteDance's official statement, merchants who wish to join the platform need relevant documents, and to view their audience, they need to pay a fee of 10,000 RMB after becoming a merchant. Additionally, after each live-streaming session, the platform will charge corresponding service fees (ByteDance, 2022).

This study examined the live-streaming data of three digital hawkers in Dalian. The analysis focused on gender distribution, average spending per customer, and audience engagement to understand the essence of Dalian's digital hawker economy. The data used in this study were all sourced from official data provided by the Douyin platform. (ByteDance, 2022)

One influencer with 5,239 fans, who described themselves as "Follow me to learn about the journey of a 40-year-old who quit their job to start a business as a hawker," had the following data:

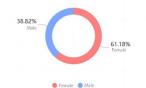


Figure 3. Gender distribution of 5,239 fans experts' live broadcasts

Source: Data of "5,239 fans" from ByteDance.



(0,25] (25,50] (50,100] (100,200] (200,500] (500,+)

Figure 4. Average customer spending level of 5,239 fan experts' live broadcasts Source: Data of "5,239 fans" from ByteDance.



Figure 5. Distribution of activity levels in the live broadcasts of 5,239 fan experts Source: Data of "5,239 fans" from ByteDance.

From Figure 3-5, it can be seen that the target audience of this digital hawker mainly consists of females with an average spending range of (100, 200) RMB and shows a tendency of sustained dissemination.

One influencer with 13,000 followers wrote in their self-introduction, "Entrepreneurship, Secret Chicken Place inside Dalian Jiaotong University Snack Street Super Night Market Food Court." Here are the data:

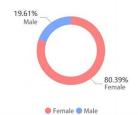


Figure 6. Gender distribution of 13,000 fans experts' live broadcasts

Source: Data of "13,000 fans" from ByteDance.



Figure 7. Average customer spending level of 13,000fan experts' live broadcasts Source: Data of "13,000 fans" from ByteDance.



Figure 8. Distribution of activity levels in the live broadcasts of 13,000 fan experts Source: Data of "13,000 fans" from ByteDance.

From Figure 6-8, it can be seen that the target audience of this digital hawker primarily consists of females with an average spending range of (50 to 100) RMB, and there is a significant dissemination tendency.

One influencer with 19,000 followers wrote in their self-introduction, "An authentic Shandong native from Rizhao, started my entrepreneurship carrying a griddle in 1986, hoping for everyone's attention." Here are the data:



Figure 9. Gender distribution of 19,000 fans experts' live broadcasts

Source: Data of "19,000 fans" from ByteDance.



Figure 10. Average customer spending level of 19,000fan experts' live broadcasts Source: Data of "19,000 fans" from ByteDance.



Figure 11. Distribution of activity levels in the live broadcasts of 19,000 fan experts

Source: Data of "19,000 fans" from ByteDance.

From Figure 9-11, it can be seen that the target audience of this digital hawker started her business for entrepreneurial reasons, and their primary customers are females with an average spending range of (50-100) RMB. Moreover, most of them are active fans who can continue to bring value to their labor products.

Based on the comprehensive analysis of Figure 3-11, we can discover that the digital hawker economy in Dalian is predominantly female-oriented, with an average customer spending range of (50-100) RMB, and active fans accounting for an average of 79.5%.

Structurally, the digital hawker economy in Dalian exhibits inherent deviations. The root cause of this structural deviation lies in how digital hawkers are excluded from the formal economy, forcing them to engage in informal economic activities. "Structural deviation " refers to a tendency or prejudice that exists within a system, institution, or decision-making process, with its fundamental cause being the inherent structures or rules within the system. This bias can lead to inequality or unfair outcomes because it tends to favor certain groups or interests more than others. However, these informal economic activities cannot compete with traditional ones, leading them to adopt new methods. While using live streaming platforms, they also help these platforms increase their capital. The platforms, in turn, maximize their capital interests by exploiting the labor of hawkers at lower costs than the market labor force, thus converting personal labor benefits into economic benefits and achieving the primitive accumulation of data capital.

Furthermore, we can see that these three street hawkers are all forced to engage in the street vending economy. This indicates that their labor in the informal economy is instrumental, opportunistic, and unstable. Additionally, their production relationships are relatively weak, leading to relatively lower incomes for those engaged in similar work.

Alienation arises from people knowing that they are not doing things for themselves or to gain applause and respect, but merely following orders. At the same time, while doing something they dislike, they are also forced to believe it is an exclusive privilege for themselves.

Therefore, it is evident that live streaming platforms like ByteDance not only alienate digital hawkers from their own identities but also alienate the labor tools through the creation, production, packaging, and sale of data and the control of digital currency profits. This, in turn, transforms digital hawker users into exploited digital laborers who produce surplus value and leads to a hidden form of exploitation beyond traditional exploitation, known as digital exploitation.

4. The Pathway of the Digital Hawker Economy in Dalian

Based on the analysis above, we can infer that Dalian exists within a symbiotic relationship between the formal and informal economies, with its formal economy reliant on foreign investment, while the informal economy complements it. Dalian's informal economy used to operate under an autonomous political management model before capital intervention. However, after the capital intervention, Dalian's informal economy gradually transformed into a legitimatized non-formal hawker economy, with capital as its form and political function as its content, relying on the political power of the government to maintain its capital appreciation and ruling authority. As Marx pointed out: "The degree of realization of theory in a country always depends on the extent to which theory meets the needs of that country." (Wei, 2012). The significance of neo-Marxism in the digital age lies in approaching digital reforms from the perspective of institutional development, ensuring the sustainability and scientificity of technological advancements through the rational optimization of institutions. The institutional guarantee of mitigating labor alienation in the digital hawker context aims to empower the hawkers to reassert control over digital labor under digital technology, rather than having digital labor control them through technological means, thus enabling the practical feasibility of the hawkers' free and comprehensive development under digital technology.

4.1 Strengthening the Accountability System for the Digital Hawker Economy

Marx believed that "technology, concerning labor, manifests itself as alien, hostile, and dominating power, transforming from a simple labor process to a scientific one." (Marx & Engels, 1995). Therefore, in the digital age, we should overcome the alienation of technology and make it a humanized tool. At the urban level, it is necessary to strengthen the legal regulations of the digital street hawker economy, ensuring that its applications and supervision are governed by law. Additionally, it is crucial to reinforce the regulatory framework of the digital street hawker economy in the market and establish mechanisms of responsibility. This includes clarifying the responsibilities and divisions of various departments within the supervisory system to form a systematic accountability system, thereby ensuring strict enforcement of the accountability mechanism.

Traditional street vending has a long history in every city and still exhibits considerable vitality today. This suggests that this form of the informal economy has its rationale for existence, and simplistic approaches like banning or relocating hawkers indoors may not be effective solutions. (Jia & Yang, 2022). The establishment of designated vending zones faces challenges due to the limited ability to absorb mobile street hawkers, as most of them are not expected to be incorporated into policy expectations. (Huang, Xue, Xu, Yang, & Chen, 2019). While the digitalization of street hawkers can to some extent address the geographical challenges faced by traditional hawkers, it is important to recognize that online competition might affect the survival space of traditional informal street vending, thus disrupting the balance between formal and informal economies. To address this, the government needs to provide appropriate regularization and technological support, helping traditional street hawkers in designated zones to embrace digital street vending. Simultaneously, the creation of digital platforms can foster interaction and cooperation between traditional and digital street hawkers, enabling the informal economy to offer low-cost labor and products, filling the market demands that the formal economy may not fully satisfy.

4.2 Moderate Occupational Liberalization

The digital hawker economy is gradually forming as a professional consciousness, combining various forms of informal economy and labor to promote individual development and enhance life satisfaction. Currently, in Dalian society, the demand for labor and employment is becoming increasingly urgent, forcing people to find time amidst countless distractions to engage in instrumental work. To facilitate the transformation of Dalian society facing an employment crisis, it is necessary to strengthen people's right to work, and the path to achieve this is by creating convenience for individuals to engage in informal economic activities, thus ensuring equal opportunities. Furthermore, the Dalian municipal government should also recognize that no form of labor is morally or economically superior to others. This recognition is an acknowledgment of specific professional communities and a right that every citizen should enjoy.

In addition, for emerging new-tier cities, it is advisable to continue encouraging the development of the digital hawker economy to attract incoming populations, expand the urban scale, and increase the labor force. However, in areas positioned as global cities, the development of s digital hawker economy can pose challenges in management and have adverse effects on urban transformation. It should be appropriately relocated or integrated into urban planning by adding cultural consumption zones and other functional areas that reflect the city's unique character. This would help concentrate and regulate street vending on a certain scale for better management.

Furthermore, digital hawker economy products can be combined with the city's cultural features to integrate the digital hawker economy more effectively with urban development and regional cultural characteristics. One of the unique aspects of street vending is the grassroots shopping experience it offers to consumers. Therefore, effective management of digital hawker economy should emphasize moderation and regulation of operating times and locations, ensuring a certain scale for easier management. This approach can assist street vendors in developing their unique features, attracting consumers, and boosting economic growth through increased

consumption.

4.3 Dispelling the Obscurity of "Digital Commodity Fetishism"

Marx believed that commodities possess ideological features, which he referred to as the fetishism of commodities. "The commodity form presents the social attributes of individual labor through the physical attributes of labor products, thus reflecting the social relations of producers and total labor as relationships between things, existing beyond the producers themselves." (Marx & Engels, 2009). Fetishism of commodities is a crucial factor in the expansion and deepening of the bourgeoisie ideology, and the strengthening process of the fusion of economic relations and ideology is equally exacerbated under the influence of the fetishism experience and exposure. As a "historical inevitability and a manifestation of progress," fetishism of commodities in the digital age takes the form of "digital commodity fetishism," wherein the essence lies in the expansion of capital power behind imperialism's exploitation and oppression in the digital era. Developed countries, by monopolizing digital technology, reinforce the dependence of developing countries on their digital capabilities, exacerbating the digital divide and consolidating their dominant position in the global interest landscape. Therefore, we should be vigilant against the emergence of "digital commodity fetishism," prevent the exacerbation of the digital divide due to the monopoly of digital technology, and deeply recognize the ideological challenges brought about by the digital age. Through reasonable policies and institutional arrangements, we can maintain the balance and stability of urban economies.

5. Conclusion

Based on the perspective of labor alienation, the analysis of Dalian's digital street hawker economy reveals the dialectical relationship between formal and informal economies, as well as the dialectical logic between traditional and digital street hawker economies. However, there is a structural deviation in Dalian's digital street hawker economy, which conveys the hidden ideology of digital exploitation brought about by live-streaming platforms. Therefore, it is essential to optimize the relevant policies for traditional street hawkers, enabling Dalian's informal economy to stabilize the development of the formal economy amidst global capital expansion.

Furthermore, while promoting Dalian's digital street hawker economy, it is crucial to recognize that the development of the digital economy should not come at the expense of laborers' interests. It is necessary to ensure that the growth of the digital street hawker economy aligns with the welfare and rights of workers, fostering a mutually beneficial situation. Only through the joint efforts of the government, platforms, and society can we achieve the healthy development of Dalian's digital street hawker economy, thereby promoting urban economic prosperity and social progress.

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Data sharing statement

No additional data are available.

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