



Mapping out the vulnerabilities of migrant women in the informal sector: A qualitative investigation in Dhaka city

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ARTICLE INFO

Keywords:

Informal economy
Vulnerabilities
Women
Migrants
Difficulties
Challenges
Dhaka city
Bangladesh

ABSTRACT

The current study seeks to explore the vulnerabilities typically encountered by female migrants in the informal sector in Dhaka city. It used a qualitative research approach, purposively selecting four areas from Dhaka city. Twenty-five semi-structured in-depth interviews during eight months of participant observation were conducted to accomplish the study objective. The authors used the capability approach theory to elucidate the phenomenon of vulnerability experienced by female migrants in the informal sector. The thematic data analyses were performed using the Granheim approach and NVivo 12 software. The findings of this study suggest that migrant women who work on the street face a number of significant challenges. These challenges include sexual assault and harassment, social stigma and cultural barriers, financial obstacles, and extortion and bribery. The authors recommend that governments provide access to state credits, social security, health insurance, and other forms of social protection for informal sector workers. The finding revealed that informal workers are often excluded from these essential benefits, making it difficult for such workers to expand their businesses or have a safety net in case of illness, unemployment, or other shocks.

1. Introduction

The informal sector, often called the underground economy, informal business, shadow economy, or unregistered economy, has emerged as a significant concern in numerous development discourses on account of its significant effects on the economic and social development of emerging and less developed countries [1–4]. In contrast to the formal economy, the informal sector consists of all financial activities, including small and medium-sized businesses, that operate outside the scope of legal arrangements, such as government regulation or taxation [5–7]. The informal sector has emerged as an important source of subsistence for a large number of people in both developing and less developed countries [8]. It is an effective countermeasure to cumbersome rules, helping spur innovation, productivity, and investment in the economy and the emergence of a new generation of business leaders [9,10]. Therefore,

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<https://doi.org/10.1016/j.heliyon.2023.e20950>

Received 16 February 2023; Received in revised form 10 October 2023; Accepted 11 October 2023

Available online 12 October 2023

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this sector enables two billion (62 %) of the world's working population to earn a living, with 90 % of these people residing in low-income countries, 67 % in middle-income countries, and 18 % in high-income countries [11].

Regardless of its size or significance, the informal economy contributes immensely to a nation's GDP (gross domestic product). In the United States, the most industrialized, developed, and economically robust country in the world, the informal economy is expected to account for 7.3 % of the total economy or US\$ 1532 billion at GDP purchasing power parity (PPP) levels. Additionally, the informal economy contributes to 11.2 % of the GDP of Canada Mexico (29.2 %), Brazil (33.2 %), Haiti (55.0 %), Georgia (46.2 %), Russia (36.5 %), Germany (11.2 %), the United Kingdom (10.3 %), Switzerland (7.5 %) and China (12.7 %) [12]. Therefore, according to the International Monetary Fund, sub-Saharan Africa's (SSA) informal employment and sector contribute anywhere from 20 % (South Africa, Lesotho, Namibia) and 60 % (Nigeria, Tanzania, Benin) of each country's national GDP [13,14] and South Asian countries (Afghanistan: 72.0 %, India: 52.4 %, Pakistan: 35.6 %, Nepal: 33.2 %) [15].

The case of Bangladesh, an underdeveloped country in South Asia, is no different as the informal sector creates an ample number of employment opportunities and adds 30.2 % to the country's GDP. Indeed, the informal sector is very crucial for the socioeconomic development of Bangladesh because this sector economy employs 89 % of Bangladesh's workforce [16], and accounts for 49 %–64 % of the country's GDP [17]. Besides, the informal economy helps to attain the Sustainable Development Goals (SDGs) due to its significant contribution to eradicating poverty. Mainly 89.50 % of women are working in the informal sector, which contributes significantly to the economy, but often such contribution by women remains under-represented and not well acknowledged. However, the entire labor force is involved in the informal economy, with most of this labor force migrating from rural to urban areas and working in the informal sector [18]. Job booms in the informal sector in urban areas, rural poverty, and environmental hazards trigger the migration of informal workers from rural to urban areas like Dhaka [17,19]. Every day in 2000 and annually, around 47,000 poor people migrate to the capital city known as Dhaka in Bangladesh [20]. Back in 2013, 75.2 % of the urban population was working in the informal economy, which is growing as rural dwellers migrate to Dhaka at an accelerating pace. Despite the acceleration, migrant women who work in the informal sector face numerous hurdles and obstacles, as it is a profession with the lowest social and job security, causing migrant women to experience constant anxiety and tension, such as fear of eviction, harassment, verbal abuse, unsold goods, and intense workplace competition, among others. In addition, these women face several health risks due to unsanitary working conditions that expose them to several health dangers. Moreover, common concerns such as excessive work hours, the seasonal nature of the business, societal bias, and gender stereotypes impair their physical and mental health. In addition, the COVID-19 epidemic of 2020 has resulted in substandard living conditions, a lack of structural support, wage theft, economic hardship, and physical and sexual abuse, further aggravating their problems and circumstances [21,22]. Thus, migrant women are regarded as one of the most vulnerable groups in Bangladesh. Therefore, this study seeks to understand, investigate, and assess the challenges and obstacles that female migrants face in the informal sector. The main objective of the present study is to map out the vulnerabilities of migrant women in the informal sector in Dhaka city.

Notably, this study makes several novel contributions. To our knowledge, in the literature so far, no other study has considered or explored the workplace issues of informal migrants in the informal sector. Therefore, this research fills a gap by creating knowledge and providing new insights and empirical evidence. Thereafter, the study highlights the need to understand the vulnerabilities of women migrants, who represent a substantial portion of informal economies. Next, the study helps move the needle on gender parity and women's emancipation. In addition, it provides insight into the post-pandemic specific challenges and difficulties that emerged due to the epidemic, as the study was carried out in the post-pandemic era. Finally, this study plays a crucial role in designing an effective solution to combat the adverse scenario caused by the challenges and difficulties faced by informal sector migrants and to improve their living conditions in emerging economies such as Bangladesh.

2. Literature review

According to socioeconomic research conducted by Kaium Hossain & Siddique, (2015) the majority of informal business operations in Dhaka city rely on personal savings. This results in a capital deficit for these businesses [23]. The majority of workers also make less than BDT 15,000 per month. Nevertheless, even though many people believe their current operations to be competitive enough, practically all of them are committed to expanding them. Husain et al. (2015) employed clustered sampling to demonstrate that personal savings are a significant source of money for the vending business [24]. Street vendors might borrow money from co-operatives and sell their assets without obtaining any formal credit. This study highlights the value of social capital in street selling, excessive hours of vendors, and the unavailability of alternatives to their full-time work, even in times of political unrest, natural disaster, or financial catastrophe. According to a recent ILO estimate, 2 billion people labor informally, the majority of them in emerging and developing nations. Most people lack access to social protection, workplace rights, and acceptable working circumstances [25]. The characteristics of informal employment include the absence of social benefits such as pensions, health insurance, and the like, as well as the requirement of overtime and additional shifts, termination without pay or notice, unsafe working conditions, and lack of security for employees in the event of nonpayment of wages. Depending on the employment and business conditions, informal sector activity in Bangladesh comes under subsistence farming, which is also occasionally combined with other temporary, unpaid, and casual jobs.

Morshed et al. (2021) reported that new communities or semi-urban settings presented difficulties for migrant women, mainly internal migrants. The most frequent problems include inability to take advantage of income opportunities (53.1 %), trouble moving around freely in markets and streets (36.3 %), lack of suitable employment opportunities (25.3 %), worry about losing skills (21.6 %), issues with sanitation (14.7 %), difficulties assimilating into the local culture (13.9 %), difficulties encountered in raising children and ensuring their education (12.4 %), etc [26]. A migrant woman hailing from Bagura's Shariakandi, a district in the northern part of

Bangladesh in the Rajshahi Division said: We often hear, ‘Why does the woman walk into the Bazar (Market) area rather than her husband?’ To explore women’s entrepreneurship in Bangladesh’s informal sector, Mukit et al. (2020) modified a mixed methods technique and observed that difficulty in getting loans, high-interest rates, dearth of suitable life skills programs, a lack of property rights and financial freedom for women, the paradox of entrepreneurship, a lack of collateral, the negligence of financial institutions, the mismanagement of loans, a lack of interactions with local successful entrepreneurs, and the shortage of funds are the main barriers to accessing financial institutions in Bangladesh [27].

Sohel et al. (2022) in a qualitative study reported that the loss of income and work caused by forced lockdown had a significant impact on informal sector migrants. The informal migrants obtained government assistance, sold their assets and land, curtailed spending, reduced consumption, and availed loans [28]. They were able to cope with their crises through these efforts, but their lifestyle was jeopardized. Sohel et al. (2021) focused on the issue of food security for informal migrants during the COVID-19 epidemic and concluded that migrants’ way of living was more fragile and vulnerable because they couldn’t afford to maintain a basic standard of living for their families and necessities [22]. Currently, Bangladesh’s economy comprises primarily of unorganized sectors, contributing to most of its unemployment. Yeasin (2021) stated that the informal economy, which employs between 35 % and 88 % of Bangladesh’s labor force, contributes between 49 % and 64 % of the nation’s GDP [29]. Bangladesh’s primary informal industry is agriculture, which is the country’s main economic driver. Rahaman (2022) carried out a case study about street food entrepreneurship in Dhaka and analyzed entrepreneurial behavior in the informal market, revealing that the company owners frequently behave irrationally; this study also shows how various circumstances beyond the control of street food vendors affect the way these vendors behave in the unregulated food sector [30].

Reza & Bromfield (2019) investigated the effects of violations of human rights committed against street children in the informal sector in Bangladesh. They studied the associated hazards, mistreatment, and exploitation of street children and their experiences with human rights abuses while working in the unregulated sector. Findings revealed that “3-D” (dirty, dangerous, and demanding) jobs were the ones that were most readily available to street children as income-generating activities (IGAs), putting them at greater risk of exploitation and abuse, including sexual abuse [31]. Additionally, the pitiable conditions these children were subjected to daily in these IGAs violated their human rights. Sultana and Fatima (2017) used a panel data approach and documented that skills improvement is a fundamental necessity for unskilled migrants. Typically, women relocate to find work as domestic assistants [32]. Mondal (2017) conducted in-depth interviews of informal sector people and found that people working with informal entrepreneurs constantly face some challenges, making it more challenging to capitalize on this market to the fullest extent feasible [33]. To promote this sector and gain the maximum benefit from it, it is crucial to implement macroeconomic policies that are friendly to the informal economy. However, a thorough review of the extant literature revealed only a few studies available on female informal workers but no direct study explored workplace problems of the informal sector. Therefore, this study tries to understand, investigate, and explore the vulnerabilities that female migrants, particularly in Dhaka city, frequently confront in the informal sector.

3. Theoretical foundation

In social sciences, the Capability Approach theory has proven useful in clarifying various phenomena. Some scholars have used the Capability Approach in different contexts. For instance, Kimhur, (2020) adopted this theory for housing policy in the Netherlands [34].

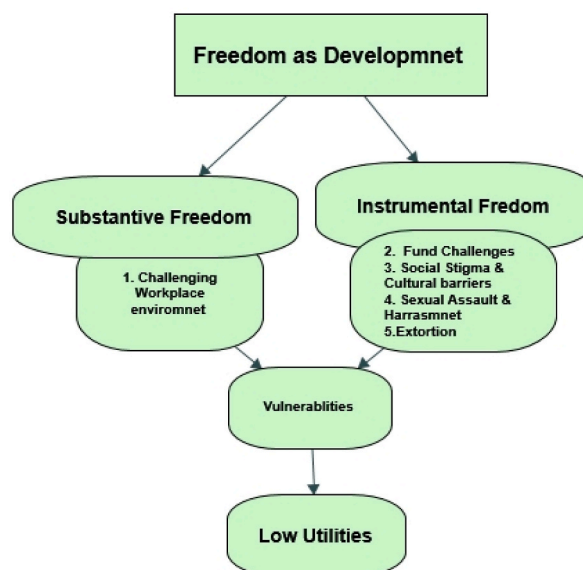


Fig. 1. Theoretical Framework

Fig. 1 indicates the informal migrant women’s difficulties and challenges through aspects of Amartya Sen’s capability theory approach (Sen, 1999).

Kuklys and Robeyns (2005) explored individual economic welfare through this theory [35]. On the contrary, Sen (1999) propounded the Capability Approach according to which human freedom should be a means of development. He observes the “less freedom” that deprives millions of citizens worldwide of the right to live the life they would choose and suggests that economic indicators alone are not sufficient as a measure of development [36]. This theory has already proven helpful in the field of social science for describing a variety of occurrences. We also found the Capability Approach suitable for the current study. Therefore, we used Amartya Sen’s Capability Approach to some extent as a theoretical basis for better understanding our respondents’ vulnerabilities in the capital city of Dhaka, Bangladesh. Similarly, based on the Capability Approach, Vorhaus (2013) explores how extensive that assistance is in respect of people with multiple and profound difficulties [37]. Contrarily, Maciej Serda et al. (2008) applied the Capability Approach to understand provision for people with learning challenges [38].

Amartya Sen’s concept of freedom entails empowering individuals with the skillsets necessary to participate in society through economic and other freedoms. However, we focused on conceptualizing and describing these difficulties and challenges in the broader context, rather than using all aspects of theory. Sen argued that development depends on freedom. This freedom is of two types: substantive freedom and instrumental freedom. Substantive freedom means the life people want to live freely or the freedoms that need to be valued, whereas instrumental freedom helps increase a person’s overall capability.

We hypothesized that working in a hostile environment, such as air pollution in the city of Dhaka, has led many women in the informal sector to illnesses or symptoms like asthma, allergies, colds, sneezing, coughing, etc. Their freedom to work in a healthy environment cannot be ensured due to a lack of financial freedom. As a result, they are forced to work in a hostile environment, supported by the substantive freedom of the Capability Approach. On the other hand, instrumental freedom, such as economic facilities, supports the theme of fund challenge; social opportunities support the theme of social stigma and social barriers; and protective security supports the theme of extortion, sexual assault, and harassment. Fig. 1 shows the informal migrant women’s difficulties and challenges through aspects of Amartya Sen’s Capability Approach.

4. Materials and methods

4.1. Study area and location

Dhaka, the capital of Bangladesh, witnesses a constant influx of rurally underprivileged individuals as it draws many economically disadvantaged individuals from the countryside in search of work. Therefore, we decided to conduct the research in Dhaka, focusing on four specific neighborhoods: Jatrabari, Sadarghat, Gulistan, and Babu Bazar. These are the most densely populated areas in Dhaka, where street workers are frequently seen.

4.2. Study design and research approach

A qualitative phenomenological approach was used to explore, understand, and investigate the vulnerabilities, challenges, and obstacles faced by female migrants in the informal sector. The qualitative phenomenology research methodology is appropriate to understand phenomena from the participant’s perspective [39]. Besides, qualitative phenomenology research comprehends human experiences through participants’ descriptions [40].

4.3. Sample size

Qualitative research requires a comparatively smaller number of samples than quantitative research [41]. Over the past decade, there has been a proliferation of discussion on the standard sample size; a sample size of 10 [42], 15 [43], 20 [44], and 25 [45] respondents are appropriate. However, the standard practice of top researchers is to interview at least 20 respondents [46]. Moreover, in the case of qualitative phenomenology research, a sample size 3 to 10 respondents would suffice [47]. Therefore, 25 face-to-face in-depth interviews were conducted in the current research within eight months.

4.4. Data collection and instruments

We used the semi-structured interview to gain a deeper understanding of the challenges and obstacles faced by informal women migrants. A semi-structured interview explores the more precise facts on the study issue and can provide additional details [48]. Initially, we conducted three sample field interviews. Thereafter, we designed the questionnaire based on the pilot interview. In particular, we designed the interview guidelines and adapted the interview questions based on three sample interviews to fit the context.

Before the interview, the participants were notified that their presence was voluntary and their confidentiality would be maintained. All participants were assured privately that their identities would not be revealed. However, five potential participants cited privacy concerns as the reason for declining to participate in the interviews. The total duration of the interview was between 34 and 61 min. The interviews were recorded using a portable audio device. Some respondents were reluctant to participate in the recording procedure, so in some cases, their interviews were written down. Researchers took careful notes on the respondents’ body language, vocal tone, and surrounding work environment. Interviews recorded subsequently were meticulously transcribed and analyzed by other researchers.

4.5. Data analysis procedures, validity, and reliability

Instead of utilizing paper and pen to analyze data, we relied on NVivo 12, an intuitive and user-friendly data management and analysis software that offers superior analytical features [49]. The NVivo software is the ideal option for coding, categorizing, and theme-building tactics [50,51] as well as a superb instrument for analyzing vast amounts of text data. Using the NVivo 12 software, theme coding, categorization, and organization were performed to get more accurate and dependable results [52]. The data were thoroughly organized and summarized following the immediate return from data gathering. The collected data were coded according to each individual's occupation and stored in a separate file.

The field-level research assistant transcribed participant observations and interviews and reported the respondents' unaltered remarks verbatim. Then, the collected data were triangulated [53] depending on their nature, classification, and features to ensure their validity, accuracy, and dependability [54]. During data collection, our researchers often visited the field to look into things, but they did not talk to each other first, which is against the investigator triangulation guidelines.

4.6. Approaches to measuring and coding

Using a data-driven inductive approach [55], five primary themes were identified: 1. Workplace Environment; 2. Social Barriers and Stigma; 3. Sexual Assault and Harassment; 4. Extortion; and 5. Funding Challenges. Also, a thematic approach was employed in the Interpretive Phenomenological Approach (IPA). Regarding thematic analysis, the present study followed the five stages of data analysis outlined by Granheim and Lundman (as shown in Table 1) to ensure the good quality and accuracy of the data [56]. The themes derived from qualitative data analysis using NVivo-12 software are shown in Table 2.

4.7. Ethical approval

The current study was approved by the Institutional Ethical Review Board, Faculty of Humanities and Social Science, Daffodil International University, Dhaka –1216, Bangladesh, (Protocol No. Ethics/Khaled1/2023). The anonymity of the respondent's identity was maintained. Before each interview, participants were asked for permission, and they were provided an option to withdraw at any moment.

5. Results

One of the most important ways to figure out a person's strength and capacity to succeed is to look at their demographic composition makeup. Table 3 shows that the respondents' age ranges from 23 to 61 years, with the majority (36 %) falling between 30 and 40 years. The remaining respondents are aged between 40 and 50 (32 %), followed by 50 and above (20 %), and between 20 and 30 (12 %), respectively. Nearly half of the respondents (48 %) are married, followed by widows (28 %) and divorced (24 %).

Eighty percent of the respondents had completed their primary schooling. The low level of education was obvious because they were in the informal labor force. The respondents were drawn from Babu Bazar (28 %), Sadarghat (28 %), Gulistan (24 %), and Jatrabari (20 %). The experience of the respondents varied with 36 % having 5–10 years of experience, 28 % having between 10 and 15 years, 16 % having >5 years, 12 % having between 15 and 20 years, and 8 % having <20 years of experience.

Notably in Bangladesh, women are disproportionately represented in informal, unstructured jobs because of their low levels of education, poor technical expertise, and lack of access to formal education [57].

In Bangladesh, most of the women work in traditional, unorganized jobs because they are illiterate, do not have any technical skills, and do not have many chances to learn to read or learn new skills [57]. On the other hand, the informal economy helps millions of people make a living and is good for Bangladesh as a whole, individuals, and to national well-being, especially in developing countries [58]. However, women are susceptible to several threats while doing their job. This study revealed five main themes, including Challenging Workplace Environment; Social Barriers and Stigma; Sexual Assault and Harassment; Funding Challenges; and Street Extortion in its response. Fig. 2 depicts the main themes.

Table 1
Thematic data analysis procedure using Granheim and Lundman approach.

Steps	Description
1. Interview transcription	The interviews were taped and read again after hearing the recordings several times to comprehend the contents.
2. Unit for the formation of meaning analysis	All interviews were analyzed as a single unit. Creating primary codes by abstracting meaning units
3. Comprehensive sorting of similar codes	The grouping of similar fundamental codes into more comprehensive categories.
4. Comparison of codes and establishment of subcategories	In contrast, all codes and data identified similarities and differences. This process resulted in the formation of categories and subcategories.
5. Comparing subcategories and establishing primary categories	The initial interviews yielded an initial set of codes, categories, and subcategories, and the emerging codes were considered the results due to the thematic analysis approach.

Table 2
Defined themes that were derived from the NVivo software using thematic qualitative analysis.

Investigation Focus	Theme	Reference Code from NVivo-12	Descriptive Coding
Challenges and Difficulties	Challenging Workplace Environment	112	"A few days ago, I was out of work for about five days in the rain. I could not earn anything during this time, even though I couldn't do business if it suddenly started raining or storming. Then either I have to go home or start again when the rain is over, but this time I can't earn more than usual."
	Social Stigma and Cultural Barriers	103	"Female people will stay at home; it is not preferable and not supportable of our religion to work outside the home. These are against our culture. After hearing these, I thought it would be better to close the business. Many like me give up their job."
	Sexual Assault and Harassment	98	"I worked as a housemaid in a rich family. Often the male members of that family tried to assault me. But once, when his wife was not at home, he came near me and threatened and forced me to make physical relations. From that incident, I leave the job."
	Fund Challenges	88	"From the beginning, when I thought to start a cosmetics business on the Street, I was in financial trouble. Banks and NGOs did not lend me a loan because I was poor. Later I started this business on a small scale by taking money from my relative on interest. But if I had more capital, I could have done business on a larger scale"
	Street Extortion	85	"I sell sugarcane juice on the roadside. That is why I must pay BDT 100 per day to the police; otherwise, the police will not allow me to do business in such a good place."

Table 3
Demographic profile of the participants.

Category	Variable	N	(%)
Age	20–30	3	12
	30–40	9	36
	40–50	8	32
	50 and above	5	20
Marital Status	Married	12	48
	Divorce	6	24
	Widow	7	28
Education	Illiterate	2	8
	Under Primary	3	12
	Primary	10	40
	High School & Above	10	40
Working Experience	Below 5 Years	4	16
	5–10 Years	9	36
	10–15 Years	7	28
	15–20 Years	3	12
	Above 20 Years	2	8
Working Location	Babu Bazar	7	28
	Gulistan	6	24
	Jatrabari	5	20
	Sadarghat	7	28

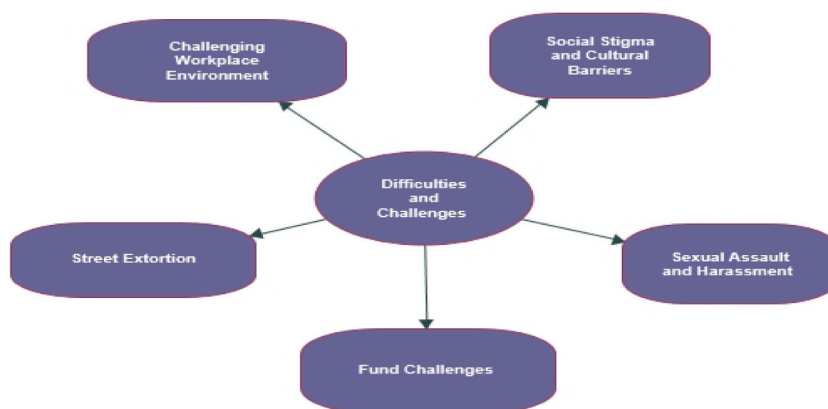


Fig. 2. Migrants' Women Vulnerabilities in the Informal Sector
Fig. 2 explores the challenging workplace environment; social barriers and stigma; sexual assault and harassment; funding challenges; and street extortion of migrant' women vulnerabilities in the informal sector.

5.1. Challenging workplace environment

This theme is related to Amartya Sen's capability approach, in which he showed that environmental disparities can cause infectious diseases in people so they cannot maximize their utility. Similarly, several respondents mentioned that they are living with poor environmental conditions. Nevertheless, informal laborers continue to operate their enterprises in open places to make a livelihood in this dangerous environment. Because most of them are poor and migrated individuals, they cannot afford to rent a place to do business. Therefore, they have to work ignoring the dust-sand and black smoke of the vehicles that respiratory and respiratory diseases increase in humans, such as colds, sneezing, coughing, etc. On the other hand, those who have asthma or allergies also increase in number. Besides, pneumonia and tuberculosis increase, and polluted air also increase a person's risk of getting cancer. In this case, our 11 respondents disclosed that working in the environment of Dhaka city has resulted in many informal women suffering from different diseases like asthma, allergies, colds, sneezing, and cough, which are either new for them or worsened when they started working in the informal sector.

"Addressing as a father, what shall I do? Can we do whatever we want? Selling cake is very easy and favorable to me as a woman. If I look at this dusty sand, I will be unable to bear my family affairs. So, do or die, I have to do this work." (R #5 said with a sigh of regret mood).

On the other hand, if it rains nonstop for 5–6 days, the business closes, and informal workers, especially street vendors, cannot earn any income. Then, the business capital has to be spent because most people who do not have a business can't save money because they depend on day-to-day earnings. Also, when there is a sudden rainstorm in Dhaka city, the pedestrian vendors pack up, which makes it more painful for them. Sometimes their belongings get wet in rainwater. Besides, such rainfall creates dirty and damp surroundings that decline customers. In this regard, one of the nine participants quoted, *"A few days ago, I was out of work for about five days in the rain. I could not earn anything during this time, even though I couldn't do business if it suddenly started raining or storming. In those cases, either I have to go home or start again when the rain is over, but this time I can't earn more than usual."* (R #9; a fruit seller stated)

In developing countries, 50 to 70 million cases of respiratory illnesses are caused by air pollution in cities [59]. Pollution poses a serious health risk to people, particularly in crowded urban spaces and settlements where the poor like informal workers live and work. Their workplaces lack the proper infrastructure to protect workers from acute and chronic exposure to environmental pollution [60]. Considering responses to our interviews, we found that informal workers were used to getting bad smells from vehicles' smoke, drains, and garbage on the streets. They also reported that they are regularly exposed to urban noise by the high vehicular traffic which creates chronically noisy work environments that may negatively affect their health and quality of life. Respondent R #9 shared his experience as under:

"In the Street where I used to sell, there was a drain, and the lid covering it was usually open ... the bad smell was always there. During the monsoon season, the drain got full, and a very bad smell spread which was intolerable. Besides, noise pollution embarrasses me a lot."

Street vendors have poor social protection, exposing them to a variety of safety and health issues and working conditions on the streets [61]. People who are involved in informal work, especially on the streets, often face problems with access to showers and washrooms. Moreover, such hot weather and nonstop work from morning to night make the body sweaty and the body needs to be fresh. But on account of the lack of toilets and washrooms, they usually become fresh in the street and have no facilities for soap or hand washing. One respondent, R #19, a cake seller stated as under:

"I can't urinate anywhere on the road like the boys. If I need to urinate or toilet, I have to turn off the business and go back to my home or a nearby public toilet, whether it is near or far. Besides during the whole day there is so much sweat, it causes bad body odor. Because there is no opportunity to take a bath, I have to compulsorily take a bath at night when I came back at home."

5.2. Social stigma and cultural barriers

Our in-depth interviews showed that informal sector women workers experience numerous social stigmas. Eleven participants reported that they are perceived as liberal and immoral on a religious basis. They also raised concerns about their personalities and claimed that they go against cultural norms. These intentions force them to feel shame, discourage, and embarrass us a lot, and many even leave their work. In this case, we linked capability theory with this theme where the theory says that a person's freedom contributes to their well-being. But due to local customs, people cannot take freedom or choice which is a very significant challenge for their well-being, more particularly for any development. They thought that a woman's most important role is to take care of the household and women are defined as wives and mothers first—rather than as professionals. One respondent (R #2; a cosmetics seller) stated, *"Females will stay at home; it is not preferable and not supportable of our culture to work outside the home. These are against our culture. After hearing these, I thought it would be better to close the business. Many like me give up their jobs."* (R #2; a cosmetics seller).

It is not easy for women to participate in any profession, either formal or informal work, in a male-dominated society [62]. However, urban women participate in various outdoor activities as well as housework and play an important role in bearing their family expenses. The findings of the current study showed that to maintain their job, urban women went out in the morning and came

back at night, which was suspicious to neighbors, relatives, and even family members because nowadays many women get engaged as part-time sex workers in Dhaka city. Moreover, if women return home late at night, accidents often occurred on the road because the incidences of theft, robbery, and rape have increased more than ever before. In this regard R #5, a boiled egg seller stated, "Now I try to return home before 9 p.m. Otherwise, the neighbors suspect that I may be a prostitute at night. Because it is sometimes late at night to finish selling the all-boiled eggs."

On the other hand, some respondents admitted that those who worked as a cooker in a mess, housemaids, domestic workers, etc., experienced sexual assault, torture, humiliation, bullying, blackmail, and mental pressure. These issues are very pathetic and challenging for this profession of informal migrant women. *Another respondent*, (R #11, a housemaid) lamented her position taking a long breath.

"For three years, I cooked, cleaned clothing, cleaned houses, and served food. However, I endured excessive work, harassment, and payment delays. When I was offered to meet a sexual physical relation, I gave up this job." (R #11, a housemaid)

5.3. Sexual assault and harassment

This idea is relevant to Amartya Sen's capability approach, in which he explored how instrument freedom, especially protective security helps to improve the general capability of a person. Lack of protective security means barriers to any kind of development. The number of job-seeking women migrants, who are mostly uneducated, poor, divorced, widowed, or needy, is increasing day by day in Dhaka city and involves numerous informal activities. Although there is a lack of women's safety outside work, women's participation is increasing in various jobs like the informal economy. But simultaneously, different challenges are faced by women in the workplace [63]. The study looked into the fact that informal migrant women are often assaulted in the workplace, especially those women who work as housemaids or domestic workers. Our respondents' statements showed that firstly, their job owners try to convince them in various ways to make physical contact. Even when they fail, they force us to have physical contact with threats, torture, or dismissal from the job. In this situation, many women quit their jobs and are forced to work below their expected level.

"I worked as a housemaid in a rich family. Often the male members of that family tried to assault me. But once, when his wife was not at home, he came near me and threatened

and forced me to make physical relations. After that incident, I left the job." (R #16; a housemaid)

Dhaka is the capital city of Bangladesh and thousands of bachelors live in Dhaka for educational and professional purposes. They share flats and often 10 to 12 people live in a house, called a mess [64]. However, there is a huge demand for woman cooks in these bachelor's messes. In this case, most migrant women get the job of preparing three times meals in a day in this bachelor mess. But they often experienced sexual assault. In this case, our nine respondents shared that the mess members do not treat them well, and rather often face humiliation, misbehavior, and even sexual harassment. In this regard, one of the victims (R #1, a mess cooker) among eight respondents stated:

"I have been cooking in the mess for about four years. Often, I noticed mess boys staring at me. I used to go to cook very early in the morning. One morning a boy came from behind in the kitchen and hugged me. I immediately screamed. Then the other boys in the Mess woke up and rescued me." (R #1, a mess cooker)

Our findings revealed that most respondents felt embarrassed when many customers looked at their breasts, navel, or private parts with bad intentions while working. If they protest these evil intentions, society will blame them and ask why a girl does these things. Cannot she stay at home? Despite hearing these social stigmas, they continue their professions otherwise, their earning opportunities will shrink. R#13, a cigarette and betel leaf seller responded:

"When I sell cigarettes and betel leaf on the street, some customers eat them and give oblique views and even stare at my particular sensitive body parts. Then it seems that these people have come not to eat but to see my body".

5.4. Fund challenges

The study found that small and medium informal entrepreneurs often face funding challenges. This scenario is more severe, especially among the women who migrated to Dhaka city from different places. In this case, Sen's Capability Approach provides the same type of message. Its instrumental freedom like economic facilities helps to advance the general capability of a person otherwise person's utility cannot be maximum or optimum. The study revealed that on account of lack of enough funds, informal workers are forced to operate small businesses or lower types of jobs and most of them are street vendors and offer cheap, low-quality goods with limited items. As a result, the majority of their customers are unwilling to purchase it. There are fewer customers, especially only the poor class of people who show their interest in buying such poor-quality goods. However, if they had high startup capital, high-quality products, and better placement, it could attract more customers and increase their sales. Another respondent (R #15, a readymade clothes seller at Shadarghat (Launch ghat area) in Dhaka said:

"I have started my business on the street with little capital, cheap, poor-quality products, and very few items. Because of money shortage, I have to borrow money periodically to buy my business materials."

This study also showed that the majority of migrant women who work informally face financial challenges. Since they are usually impoverished and some are much worse, they lack the finances required to operate a business. Therefore, they borrow money from friends, and relatives or seek a loan with interest from banks and various NGOs. Small entrepreneurs like poor informal migrant workers have not been able to obtain enough funding from these sources; even if they get it, the quantity is insufficient to sustain their business activities as well as unfavorable interest rates. Another respondent reported, "From the beginning, when I thought to start a cosmetics business on the Street, I was in financial trouble. Banks and NGOs did not lend me a loan because I was poor. Later I started this business on a small scale by taking money from my relative on interest. But if I had more capital, I could have done business on a larger scale, and it would have been more profitable." (R#12, a cosmetics seller)

Their income, especially street vendors and small businessmen, is quite limited, and every hazard or complication costs a lot. As a result, they are unable to save money. Often the capital of the business has to be costed to get rid of these situations. It is hard to survive on what they earn when it is very challenging to ensure proper finance for business through repeated economic crises. Many entrepreneurs close their businesses because of a lack of funding and work as day laborers. To overcome any tragedy, especially in the pandemic period many informal workers in Dhaka city lost their business capital to maintain family affairs [21]. A similar view was expressed by other participants. Another respondent (R#13, a snack seller) narrated her situation as under:

"My husband has been sick for a long time, so I have to run the family expenses of five members with my single income. So sometimes, the main capital of the business is spent on family affairs. That is why I am a day laborer leaving my previous business."

5.5. Street extortion

The informal sector creates over 90 % of total employment and contributes nearly 50 % of GDP. However, informal activities like street vending are considered an illegal trade, and street vendors face constant harassment from the authorities. The vendors have to pay a sizeable part of their income as bribes to keep playing their trade. Street extortion has a similarity with Sen's Capability Approach. In his theory, he mentioned that maximum utility cannot be obtained without protective security. This study also studied 13 respondents who reported that they have to pay a fixed amount on a daily or monthly basis to the police so that they can do their business smoothly. Otherwise, the police do not allow them to set up business, sometimes they ransack the shop and vandalize the goods. Even they have to bear insults and slaps by the police sometimes. Lack of protective security is one of the difficulties and challenges of their professions.

"I sell sugarcane juice on the roadside. That is why I must pay BDT 100 per day to the police; otherwise, the police will not allow me to do business in such a good place.

Even though the police work in various shifts, I have to pay them all separately." (R #25; a juice seller)

Our investigation revealed that only those vendors paid extortion money who were associated with street vendors, not the housemaids, mess cooks, and hawkers. If they do not pay the extortion or delay in paying bribe, the police or local influential individuals take the equivalent goods as extortion. Even sometimes police, local influential persons, or political persons take goods without any payment. In such a situation, the informal migrant workers do not want to get into trouble by protesting. As a result, they lose a large part of their spare. In this regard, R #18, a fruit seller stated:

"I usually sell bedclothes on Laxmibazar Street. One day a policeman came and took a bed sheet and said he would pay later. But I am sure I will not get this money. Because I have had many such experiences before."

Another participant, #R5, a bedclothes seller shared her experience:

"Every day 8–10 glasses of juice are consumed free by the police, local leaders, or influential local people."

Additionally, several respondents disclosed that they had not paid any extortion for their earnings despite being street vendors. But the researchers observed that extortion depends on placement. If the place is popular, crowded, and special, there have to charge extortion based on daily, weekly, or monthly frequency. On the other hand, no extra charge/bribery is paid by vendors at unpopular places, not crowded or on small lane roads, because there is very less presence of police and influential individuals. One of the respondents remarked,

"I have been selling cake on the street for almost three years but had never paid any extortion." (R #7; a cake seller)

6. Discussion

Dhaka, the capital city of Bangladesh, is recognized as one of the most heavily polluted and inhospitable urban centers worldwide, posing significant threats to human health [65,66]. According to a report by the World Health Organization [67], air pollution stands as one of the foremost environmental risks to public health. Despite its adverse conditions, Dhaka remains the primary employment hub in Bangladesh, attracting thousands of vulnerable women annually who engage in informal occupations due to the relative ease of such work in Dhaka. Nevertheless, these women encounter numerous challenges in their endeavors. Another study demonstrated a

notable escalation in respiratory ailments, including colds, sneezing, and coughing among informal migrant women laboring in inhospitable settings. Furthermore, such environments have been found to impact lung function, potentially leading to conditions like asthma, bronchitis, stroke, cardiac problems, and even mortality [[68]; [69]]. Furthermore, the study explored the consequences of sudden rainstorms on pedestrian vendors, who are compelled to pack up their goods, often resulting in damage from exposure to rainwater. In instances of continuous rainfall lasting 5–6 days, vendors are forced to halt their businesses, incurring significant losses. These findings were corroborated Kaium & Pamela (2017) who suggested a drop in daily sales during heavy downpours, with some days yielding no sales at all [70]. Most importantly the study revealed that women engaged in street vending face difficulties due to the absence of adequate shower and restroom facilities, compounded by the sweat-inducing nature of their work. This lack of access to toilets has adverse effects on women's health, with many experiencing urinary tract infections and kidney ailments [71,72] highlighted the scarcity of public toilets in Dhaka city during vending hours.

Social stigma permeates society, influencing individuals and presenting a significant barrier, particularly for women engaged in informal work [73]. Our study delved into the challenges faced by migrant women in Dhaka city, highlighting social stigmas and cultural barriers as prominent obstacles to their sustained employment. Donnelly et al. (2016) suggested that our society has not developed a positive attitude toward women [74]. Sultana et al. (2021) in a parallel report documented that the role of stigma, rumor, and superstition is limiting women's access to computing in rural Bangladesh [75]. Another research conducted in Muslim-dominated countries also sheds light on the impact of social, familial, and cultural restrictions on women's workplace participation in the Middle East and North Africa (MENA) region [76]. Besides this research disclosed women engaged in morning-to-night occupations faced suspicion from neighbors, relatives, and even family members due to the prevalence of sex work in Dhaka city. Current official statistics show 19,384 women are involved in sex work in Dhaka city which 8238 work on the streets, 8798 work in homes, and 2348 work as sex workers in hotels [77]. Additionally, the present study uncovered instances of sexual assault, torture, humiliation, bullying, blackmail, and mental pressure experienced by informal migrant women working as cooks in messes, housemaids, and domestic workers. M. T. Sultana (2018) reported that domestic women often fall victim to various forms of violence, including harassment, physical exploitation, discriminatory attitudes, sexual abuse, and even rape by their employers [78]. These women also endure mental anguish through verbal abuse, humiliation, bullying, blackmail, and threats [79,80] found that many domestic maids face excessive workloads imposed by their employers, leading to inadequate sleep, rest, food, and denial of necessary medical care.

Our study also revealed instances of sexual assault and harassment experienced by informal migrant workers, particularly among those employed as housemaids or domestic workers. Dhaka Tribune (2022) reported that young female employees in Bangladesh frequently encounter sexual harassment in the workplace [81]. Sultana (2018) documented the prevalence of violence against domestic workers, including verbal abuse, bullying, threats, sexual harassment, and even rape by their employers [75]. Another study by M. T. Sultana (2018) highlighted cases of sexual abuse and rape inflicted upon domestic women, along with mental torture through verbal abuse, humiliation, bullying, blackmail, and threats (whether economic or emotional) [78]. Furthermore, our research unveiled that migrant women felt embarrassed when customers exhibited ill intentions by directing their gaze towards their breasts, navel, or private parts during work. According to the Daily Mail in the UK, 47 % of male customers first look at

A woman's breasts [82]. Sexologists said customers, strangers, and general people looked at the sensitive body parts of informal migrant women [83]. Women in the informal economy, particularly those facing poverty, encounter numerous safety concerns, including unwanted attention and harassment directed toward their sensitive body parts [84].

The informal economy plays a vital role in the economic landscape of Bangladesh [85]. Approximately 35 %–88 % of the country's workforce is engaged in the informal economy, contributing between 49 % and 64 % of the national GDP [29]. However, our study identified funding challenges faced by small and medium-sized informal entrepreneurs, particularly women who have migrated to Dhaka city from different regions of Bangladesh. Due to their poor socio-economic status and migrant status, these women encounter difficulties in obtaining financial assistance from government institutions and non-governmental organizations. Yeasin (2021) reported that due to a lack of enough funds, informal workers are forced to operate small businesses or lower types of jobs and most of them are street vendors and offer cheap, low-quality goods with limited items [29]. In India, almost 94 % of total women workers are engaged in the informal sector, but they often experience fund crises to maintain their business [86]. Furthermore, a World Bank report highlights common characteristics of the African informal economy, including low levels of human capital, limited productivity, restricted access to essential services, lack of financial inclusion, and low earnings. These findings underline the challenges faced by informal workers across different contexts in terms of accessing adequate resources and opportunities for growth and development [87].

The informal street trading sector serves as a vital safety net for the unemployed population in Bangladesh [88]. However, it is a matter of concern that our study reveals a disheartening finding: women vendors are compelled to allocate a significant portion of their income towards extortion or bribes paid to the police, local influential individuals, or political leaders in order to sustain their businesses smoothly. Similar observations were made in New York City, where a majority of informal workers were found to make payments in cash, goods, or services as demanded by gangs [89]. A British Newspaper the Guardian, (2018) also highlighted the issue of vendors paying monthly bribes of 1500 rupees (£15) to the police and BMC officials, accounting for approximately one-third of their income [90]. Additionally, another report from India underscores that due to the lack of legal recognition and protection, informal workers often encounter demands for bribes, confiscation of goods and equipment, evictions, and other forms of harassment [91]. Moreover, we found instances where the police, local influential individuals, or political figures confiscated goods from vendors without providing any compensation. This practice significantly impacts their income. These actions create substantial financial losses for the vendors and contribute to the perpetuation of an unfair and exploitative environment [92,93].

6.1. Policy implications

In our study, we noticed that working in this harsh environment of Dhaka city has led many informal migrant women to illnesses or symptoms like asthma, allergies, colds, sneezing, coughing, etc. Our respondents encountered very unpleasant smells on the streets due to waste, drains, and smoke from moving automobiles. From a broader perspective, reducing pollution through regulation would be a beneficial strategy. Industries, Automobile companies, and other formal sectors need to pay emission tax if the pollution level exceeds the acceptable level. However, such strategies may be ineffectual in developing countries like Bangladesh. In such a circumstance, the governments should provide training with a focus on various health risks from polluted workplaces, basic hygiene and sanitation, and waste management.

Moreover, informal workers are bound to close their businesses whenever it rains constantly. Respondents mentioned that they do not have savings as they earn daily. Consequently, the sudden downpours in Dhaka City force the street vendors to pack up, adding to their suffering. To alleviate their suffering, the government needs to boost the social protection schemes and create a system where progress can be tracked and the social protection agenda can be advanced with the use of technologies and proper framework. In addition, we recommend making the necessary expenditures in human capital to improve their social protection systems' resiliency.

Access to showers and restrooms is a common issue for female informal workers, particularly those who work on the streets. Then, female workers also experienced health problems during their menstruation. Concerning this issue, some protective measures for the health and sanitation of female workers are needed. We would encourage the government to increase the number of public female washrooms and tighten the security of those. It is strongly suggested to distribute free sanitary pads or at least at a cheaper price that the female informal workers can afford to buy. Moreover, the government should arrange health insurance, and free routine health checks for the worker to reduce their occupational risks.

Nonetheless, migrant informal women workers are considered as liberal, and unethical on a religious ground, which raises concerns about their characteristics. The majority of family members, neighbors, and relatives consider work after evening or late-night work as disobeying social norms. According to our findings, many female informal workers quit their jobs after getting humiliation and embarrassment. In this regard, a long-term plan should be implemented that includes an extensive anti-discrimination and anti-stigma campaign aimed at schools, organizations, and the press to remove these social stereotypes.

Due to a lack of capital, informal women workers are obliged to run small enterprises. Many of them are left on the streets without a permanent place of operation. Customers are reluctant to buy it because of their low quality and less diversified products. Recently, the government of Bangladesh has made the loan process easier for people to apply for bank loans, especially women can get more advantages. In addition, it has taken steps to secure collateral-free financing for female entrepreneurs [94]. However, the government also needs to focus on providing cash through different financial schemes for the women's informal workers. Various national and international NGOs and organizations can support the government in reaching the grassroots level.

Furthermore, this study also observed that the women informal workers had to pay extortion to law enforcement officers or influential people like political leaders on a daily or monthly basis. Otherwise, the cops forbid the workers from conducting business and occasionally break into the store and abuse them physically. The government needs to be strict with the existing law and raise awareness to say no to any extortion.

The migrant women who work as domestic workers frequently experience workplace abuse, threats, or job termination from their employers for having physical contact. Many women are forced to quit their jobs in this circumstance. WHO reported that throughout women's lifetime, 1 in 3 women (approx. 736 million) experience sexual abuse at the hands of an intimate partner or the hands of a non-partner [95]. The report also highlighted that this statistic has remained unchanged over the past ten years. Regarding this problem, the spread of knowledge on gender-based and sexual violence should be the primary goal of the government. We recommend conducting sessions, and trainings on women empowerment, sexual harassment, and laws against physical or sexual violence at educational institutions, and government/ non-government organizations. Female informal workers need to be aware of their rights and the ways to get support from law enforcement officers in any emergencies.

6.2. Strengths and limitations of the study

The research conducted in this study demonstrates a commendable level of rigor and depth in its exploration of the vulnerabilities experienced by female migrants in the informal sector of Dhaka city. Employing a qualitative research approach and conducting twenty-five in-depth interviews over an eight-month period, the authors showcased their dedication to comprehensively understanding this complex issue. Moreover, the utilization of the capability approach theory provided a solid conceptual framework to analyze the vulnerability of these women. The meticulous thematic data analysis conducted using the Granheim approach and NVivo 12 software ensured that the findings were well-grounded and insightful. The study's findings shed light on the formidable challenges faced by female migrants working on the streets, encompassing issues such as sexual assault, social stigma, financial constraints, and corruption. The authors' recommendation for government intervention to extend social protection to informal sector workers highlights the policy relevance of their research. In essence, this study exemplifies research strength through its robust methodology, nuanced analysis, and impactful policy implications.

Overall, this research aimed to capture the experiences of the occupational vulnerability of migrant women in the informal sector in

Dhaka city. However, it has some limitations. The study did not cover all cities in Bangladesh, it was conducted exclusively with female informal migrant workers, and it was entirely based on qualitative data from a small sample size. Therefore, it is suggested to conduct further studies on a larger sample size that combines both male and female informal workers.

7. Conclusion

Globally, informal migrant women workers are extremely vulnerable, particularly those living in developing countries like Bangladesh. This leads to a more vulnerable life for them. It is important to understand how different factors are responsible for their vulnerabilities. To achieve our research objectives, we used a phenomenological qualitative research approach to get an in-depth understanding of the vulnerabilities of the informal migrant women workers in Dhaka city. The authors conducted thematically analyzed the interviewed data using Nvivo-12 software. This study found that informal migrant women workers in Dhaka city face several challenges that make their lives more vulnerable. These challenges include working in a hostile environment, facing social stigma, having insufficient funds, being subjected to workplace abuse, and being forced to pay extortion. This study highlights the need for greater protection for informal migrant women workers. This includes providing them with access to safety and security measures, as well as financial and legal assistance. It is also important to challenge the social stigma and cultural barriers that these women face. By taking these steps, we can help to improve the lives of informal migrant women workers and ensure that they have the opportunity to thrive.

Data availability statement

Data will be available upon request.

CRedit authorship contribution statement

Md Khaled Sifullah: Writing – original draft, Visualization, Validation, Methodology, Investigation, Conceptualization. **Md Salman Sohel:** Writing – original draft, Visualization, Validation, Supervision, Software, Methodology, Data curation, Conceptualization. **Md Fouad Hossain Sarker:** Writing – review & editing, Validation, Supervision, Resources, Investigation. **Muhaiminul Islam:** Writing – review & editing, Writing – original draft, Methodology, Conceptualization. **Maruf Ahmad:** Writing – review & editing, Writing – original draft, Resources, Project administration. **Motiur Rahman:** Writing – review & editing, Software, Investigation, Data curation.

Funding statement

No formal funding was received for this work.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e20950>.

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