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RESILIENCY OF URBAN INFORMAL ECONOMIC ACTIVITIES IN KUCHING CITY

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Abstract

The unprecedented outbreak of the Covid-19 pandemic since the year 2020 has witnessed an economic downturn which has caused negative impacts towards the global economy. The impacts of this crisis have greatly affected the informal economy, in which this vulnerable sector is not safeguarded by any regulations or policies during this difficult time. Informal sectors are no exception to restrictions of business operations imposed by the Malaysian Government during the Covid-19 pandemic. This study aims to explore the approaches and challenges faced by the operators of informal economic activities in Kuching city, Sarawak, towards sustaining their businesses. The findings have shown that the informal business operators in Kuching city have a moderate resilience index based on the data collected on both threats and resilience strategies. The study found that three major threats are highly associated with these informal businesses, namely disruption of access to goods and products, Covid-19 pandemic and disruption of internet and telecommunication services. Additionally, the business operators have adopted few strategies towards ensuring the resiliency of their businesses, namely the use of E-commerce and conducting their businesses in flexible and accessible locations. Immediate responses, strategies and policy interventions are necessary towards rectifying the current challenges faced by these operators as well as providing future opportunities for the informal sector.

Keywords: Informal Economy, Resilience, Sustainable Development, Covid-19 Pandemic

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INTRODUCTION

The distinctive income discrepancy between the rich and the poor despite the same cost of living has urged the poor to penetrate the informal sector in order to survive (Naik, 2009). A large portion of the population in developing countries are dependent on the informal economy for their livelihood (Blades, Ferreira, & Lugo, 2011). As of today, in developing countries with emerging economies, the informal economy constitutes between one third to half of the total economy (World Bank, 2014). Informal economy exists in three categories, namely (1) fixed activity, (2) semi-fixed activity; and (3) mobile activity (Khan & Idid, 2016).

The term urban economic resilience was introduced; in which it is seen as the capacity to solve local economic problems in a way that generates long term success. Local economic problems include recession, competitors' unexpected closure and technological change (Simmie & Martin, 2010). Additionally, Drobnik (2012) stated that urban economic resilience recognises the idea that a city is able to accept whether it is vulnerable or facing positive change. As cities are known to be complex adaptive systems, the ability to be flexible is important towards achieving economic resilience in developing cities.

In this pandemic era of Covid-19, the concept of informal economy is currently being witnessed in which the people have opted for informality due to loss of jobs and income security. Despite the growth of informal economic activities in cities, particularly Kuching city, the idea of economic resilience has not been properly defined. In addition, the resiliency of economic activities due to informal economy is rarely discussed in literature or policies, with hardly any information available on the economic sustainability of the economy towards the development of the country (Spangenberg, 2005).

RESEARCH BACKGROUND

As the higher levels of government concentrate on the economy as a measure of progress, successful cities place more attention towards the quality of life of the people. The aftermath of over urbanisation in cities has witnessed deteriorating socio-economic conditions among the society, which includes unsustainable adverse impacts such as income inequalities, social disparities and increasing unemployment rates. These crucial issues due to rapid urbanisation faced in major cities require policy makers, scholars and field professionals to acknowledge and deliberate the emerging trends of entrepreneurial activities among the locals (Muñoz & Cohen, 2016). Informal economy has come into sight, in which it acts as an alternative for one to participate in business by avoiding unnecessary requirements for licensing and regulations (Vuletin, 2008; Igudia et al., 2016).

The recent global Covid-19 outbreak has led to sudden closure of businesses, which in turn has caused an economic downturn on a global scale, ranging from large to small businesses. Loss of employment and income have

affected the livelihood of the community, where 86% of workers in South Asia are workers from the informal sector. Considering the recent pandemic, this study aims to develop a resilience index and resilience scores of current informal economic activities in Kuching and analyse the relationship between the ERI components. This study is vital for policy makers, as well as informal economic operators in enabling them to intervene and rectify the current challenges and provide opportunities for the informal sector.

RESEARCH METHODOLOGY

This study adopts a mixed methodology, in which it incorporates both quantitative and qualitative methods. According to Briguglio (2014), there are two significant characteristics of economic resilience, namely the ability to withstand shocks and the ability to recover from the effects of adverse shocks. In this study, both planned and spontaneous resilience variables are constructed and analysed by considering threats that may affect business operations and strategies undertaken by the operators to sustain their businesses. The quantitative approach involves measuring the current resilience scores of the informal economy in Kuching city, by factoring in ten threats that may affect business operations, namely electricity disruption, water disruption, telecommunication and internet disruption, weather disruption, infrastructure disruption, safety disruption, the Covid-19 pandemic, disrupted access to goods and services and disrupted access to financial services. Additionally, the qualitative approach involves observations and interviews with operators with regards to strategies towards making their businesses resilient.

The population of this study was sampled among the informal business operators; operators operating in Kuching city, namely Kuching City North and Kuching City South, in which the respondents were selected via the purposive sampling method. A total of 112 respondents were selected for the interviews, i.e. 56 operators for Kuching City North and 56 operators for Kuching City South. Based on a study conducted by Bruglio (2006), a very high economic resilience (VHER) has a score of above 3, while high economic resilience has a score between 2 to 3, moderate economic resilience has a score between 1 to 2; while weak economic resilience has a score of below 1.

In this study, the variables of the resilience components are constructed based on the four major components of the Economic Resilience Index (ERI) done by Briguglio et al. (2006); namely (i) macroeconomic stability, (ii) microeconomic market efficiency, (iii) good political governance and (iv) human development. Similarly, the ERI has been adopted in other study frameworks on city and economic planning (Hidayat et al., 2021; Ghazemi & Arabmazar, 2020; Bakhtiari, 2018; Marinescu, 2016). The dimensions and indicators of ERI are described in the table below.

Table 1: Economic Resilience Index (ERI) Components

Components	Details
Macroeconomic Stability	Fiscal deficit to GDP ratio The sum of unemployment and inflation rates The external debt to GDP ratio
Microeconomic Market Efficiency	Financial freedom Business freedom Labour freedom
Good Governance	Legal structure Security of property rights
Social Development	Education Health

Source: Adapted by Bakhtiari & Sajjadih (2018) & Briguglio et al. (2006)

As the study aims to analyse the resilience index of the current informal economy in Kuching city, the component of Macroeconomic Stability such as the contribution of informal employment rate towards GDP progress was excluded from the study. Therefore, the variables are redesigned based on the other three components, namely Macroeconomic Stability, Microeconomic Market Efficiency, Good Governance and Social Development, which are tabulated as follows.

Table 2: Items on the Survey Instrument

Element	Description	Items	ERI Component
Urban Economic Resilience	Threats that may affect business operations	1. Electricity disruption	Good governance
		2. Water disruption	Good governance
		3. Telecommunication and internet disruption	Good governance
		4. Weather disruption	Good governance
		5. Infrastructure disruption	Good governance
		6. Safety disruption	Good governance
		7. Fire disruption	Good governance
		8. Covid-19 pandemic	Social development
		9. Disrupted access to goods and services	Good governance
		10. Disrupted access to financial services	Microeconomic market efficiency
Resilience Strategies	Infrastructure	1. Flexible location	Microeconomic market efficiency
		2. Accessible location	Microeconomic market efficiency

	3. Accessible to evacuation route	Microeconomic market efficiency
	4. Use of E-commerce	Microeconomic market efficiency
	5. Energy saving	Microeconomic market efficiency
	6. Renewable energy	Microeconomic market efficiency
Security	1. Located at natural surveillance area	Microeconomic market efficiency
	2. Surveillance camera is installed	Microeconomic market efficiency
Financial	1. Financial stability	Microeconomic market efficiency
	2. Personal insurance	Microeconomic market efficiency
Management	1. Risk management plan	Microeconomic market efficiency
	2. Emergency response plan	Microeconomic market efficiency

Source: Author (2022)

The variables for measuring the resilience index of both planned and spontaneous resilience are constructed using the Max-Min formula, which was also adopted in the framework of the Human Development Index (UNDP, 2010). The formula is rescaled as follows:

$$X^R = (X_j - X_{jmin}) / X_{jmax} - X_{jmin}, j = 1,2,3,4,5,6,7,8,9,10.$$

- X^R is the resilience index,
- X_j is the total resilience score
- X_{jmax} is the highest resilience score,
- X_{jmin} is the lowest resilience score,
- i is the number of informal business operators,
- j is the scale

To determine the scores of each component of the study, the weighting scheme is employed, as adapted by Bruglio (2016). The details of the resilience components are indicated in the table below.

Table 3: Resilience Scores Indicators

Indicator	Details
α	total score for each component (ranked from 1-10)
s	maximum score of each component (ranked from 1-10) = 1120

Hence, the resilience scores are determined as: Resilience Score = $(\alpha / s) * 100$

Furthermore, in analysing the association between operating sectors and urban resilience threats and the strategies employed to sustain these businesses, a Multiple Correspondence Analysis (MCA) was conducted. MCA is denoted as a technique that allows visualisations on relations and associations between the variables (Natarajan, Sivasankaran, & Balasubramanian, 2020) and has been adopted in other resilience studies (Kijowski, 2021; Shadbolt, 2016).

RESULTS AND FINDINGS

Towards determining the urban economic resilience of informal business in Kuching city, the maximum and minimum resilience scores are calculated. The index is calculated by $(X_j - X_{jmin}) / (X_{jmax} - X_{jmin})$, in which X_j represents the highest score for each component, which is 1120. The urban economic resilience is determined as follows:

$$X^R = (X_j - X_{jmin}) / (X_{jmax} - X_{jmin}), j = 1,2,3,4,5,6,7,8,9,10.$$

$$X^R = 1.66$$

Based on the results, the urban economic resilience index for Kuching city is indicated as 1.66; in which it is denoted as moderate economic resilience. A similar study was conducted by Zaman and Vasile (2014), where based on the results, Malaysia was among few of the emergent and developing countries with an economic resilience index of 0.94, which is denoted as a weak resilience index. To comprehensively capture the components of each of the urban economic resilience, the resilience scores are calculated. These scores are determined based on the strategies that have been adopted by the operators. The results are as follows.

Table 6: Kuching City Resilience Scores

Element	Description	Items	Resilience Scores (%)
Resilience Strategies	Infrastructure	1. Flexible location	79.7
		2. Accessible location	81.1
		3. Accessible to evacuation route	67.2 79.8
		4. Use of E-commerce	78.0
		5. Energy saving	78.3
		6. Water saving	52.3
		7. Renewable energy	

Security	1. Located at natural surveillance area	69.2
	2. Surveillance camera is installed	59.2
Financial	1. Financial stability	65.8
	2. Personal insurance	55.1
Management	1. Risk management plan	71.8
	2. Emergency response plan	68.1
Mean (μ)		69.7

Source: Author (2022)

Based on the score above, most of the operators agreed that their location is accessible and flexible in which these strategies carried a score of 81.1 and 79.7 respectively. Moreover, the use of E-commerce in business operations helps the operators strategise their businesses during the pandemic. Based on the data collected and analysed, this strategy carried a resilience score of 79.8, the second highest overall. However, a few other resilience strategies need to be adopted and strengthened within the community of informal businesses, namely in terms of infrastructure, security and finance. The use of renewable energy, installation of surveillance cameras and personal insurance are the three strategies with the lowest scores.

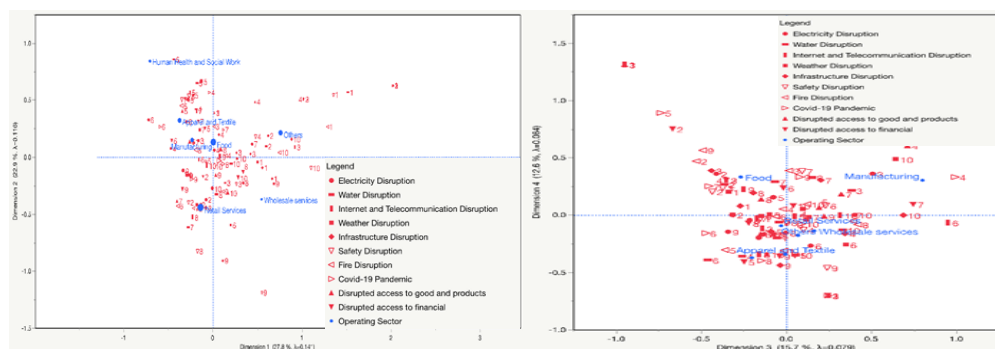
MCA was then conducted based on the two major resilience elements, namely urban economic resilience and resilience strategies. Towards analysing these variables, plots are designed and generated in order to present an overall visual representation of the association between the variables. The dimensions of the dataset were 112 x 10 for urban resilience and 112 x 12 for resilience strategies. The inertia (variance) values of these dimensions are tabulated as below.

Table 7: Inertia Decomposition on Threats that May Affect Business Operations

Dimension	Inertia	ChiSquare	Percent	Cumulative Percent
1	0.14091	156.41	27.70	27.77
2	0.11645	129.26	22.95	50.72
2	0.07945	88.19	15.66	66.38
4	0.06378	70.79	12.57	78.94
5	0.05938	65.91	11.70	90.65
6	0.04746	52.68	9.35	100.00

Source: Author (2022)

Based on the inertia decomposition above, 78.94% of the association can be well represented in four dimensions. The dimensions are plotted based on Dimension 1 and Dimension 2, and subsequently Dimension 3 and Dimension 4, in order to examine the relationships among the variables.



Source: Author (2022)

Based on the data above, the first and second dimensions have shown that the food sector is highly associated with disrupted access to goods and products, internet and telecommunication disruption and the Covid-19 pandemic. Additionally, dimensions 3 and 4 have shown that retail services are located closer to the origin point, whereby the retail services are highly associated with the Covid-19 pandemic, internet and telecommunication disruption and electricity disruption. Additionally, the inertia (variance) decomposition was also constructed towards understanding the association of the strategies employed by the business operators and is shown below.

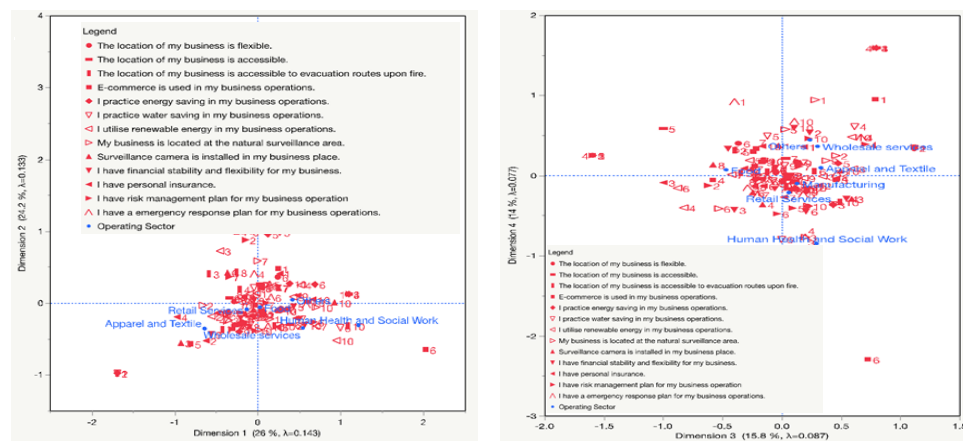
Table 8: Inertia Decomposition on the Resilience Strategies Adopted by the Operators

Dimension	Inertia	ChiSquare	Percent	Cumulative Percent
1	0.14344	206.99	26.00	26.00
2	0.13325	192.27	24.15	50.15
2	0.08715	125.75	15.80	65.95
4	0.07729	111.54	14.01	79.96
5	0.06374	91.97	11.55	91.51
6	0.04685	67.60	8.49	100.00

Source: Author (2022)

Based on the inertia decomposition on the resilience strategies, over 79.96% of the association are represented in four dimensions. The maps of

Dimension 1 with Dimension 2; and Dimension 3 with Dimension 4 are plotted below.



Source: Author (2022)

Based on Figure 2, food sector and retail services have high levels of association, where these sectors have adopted few resilience strategies such as E-commerce, and situating businesses at flexible and accessible locations. Additionally, in Dimension 3 and 4, the apparel and textile sector are highly associated with the use of E-commerce and being equipped with emergency response plans.

DISCUSSION

The association of these variables have shown that the ERI components of social development, microeconomic market efficiency and good governance play a significant role towards ensuring the resiliency of these informal economic activities. Few components of good governance such as disrupted access to goods and services and internet and telecommunication disruption, along with social development components such as the Covid-19 pandemic are highly associated with economic activities, and are threats that may affect businesses. Accordingly, based on the data collected, 83.6% of the operators acknowledged that the Covid-19 pandemic poses a threat towards their business operations. These results correspond to a study in India (Ghosh, Nundy, & Mallick, 2020) on the negative impact scenario of Covid-19 towards the economy, in which the closure of small, medium and large enterprises has created a “havoc” impact towards the Indian economy. Similarly, another study on the impact of Covid-19 towards the Turkish economy has witnessed a decline in the goods trade due to global economic disruptions (Açikgöz & Günay, 2020).

Furthermore, issues such as temporary business closures due to the pandemic has caused financial deficits and constraints among the operators to sustain their businesses. Common issues shared among the operators were the closure of businesses as the pandemic has caused them to incur loss in their businesses. In India, prolonged lockdown has caused additional economic burden, which include increased debt burden and the inability to sell products at reasonable prices (Rawal, Kumar, Verma, & Pais, 2020). In addition, based on the survey, 76.2% of the operators agreed that telecommunication and internet disruption could pose as a threat that refrains them from keeping their businesses resilient.

Digital economy has emerged as an opportunity, and digital resilience appears to be significant in addressing the adverse shocks of economy. Since the pandemic outbreak, operators have opted for digital economy as a selling platform. Most operators agreed that a paradigm shift from physical marketing transactions to E-commerce is vital towards sustaining their business operations. A study done by Raj, Sundararajan, and You (2020) has shown a positive survival rate among companies who utilise digital platforms in providing services to the consumers. Since 2018, the Sarawak Government has established the Sarawak Digital Economy Strategy 2018-2022, in which three missions are outlined. These missions include: (1) accelerate Sarawak's economic growth, (2) reduce socio-economic divide; and (3) increase youth employment. The importance of digital platform was highlighted as an opportunity in global marketing and sales in Sarawak. Additionally, the concept of sharing economy has been widely acknowledged, wherein it involves a platform that connects consumers and sellers through digital apps (Buheji, 2020). Based on the data collected, most of the respondents involved in food sector activities stated that using FoodPanda and GrabFood contributed in sustaining their businesses during the pandemic.

An additional suggestion that was raised numerous times during the interviews was that proper training with financial aids and grants are necessary. Based on the survey, a few financial aids have been channelled to these operators, which included financial grants such as *Geran Khas Prihatin* and other financial aids such as the *Bantuan Khas Sayangku Sarawak*, *Bantuan Khas Covid-19* and *Bantuan Prihatin Rakyat*. Fiscal policy measures are necessary, as temporary protection and support are significant most specifically for informal economic operators (Williams & Kayaoglu, 2020) Nevertheless, lessons and seminars are also vital, whereby these operators agreed that trainings on marketing and promotion on an online platform is deemed as important. Additionally, regulations on providing accessible places should be enhanced as this action may empower these business activities (Handoyo & Wijayanti, 2021).

CONCLUSION

The ever-growing population in cities has created a situation in which a country's population is larger than its economic development. The aftermath of overurbanisation in cities has witnessed deteriorating socio-economic conditions among the society, which includes unsustainable adverse impacts such as income inequalities, social disparities and increase in unemployment rate. The recent global Covid-19 outbreak has created an urban economic vulnerability due to its exposure to shocks. Sudden closure of businesses to contain the spread of the virus has caused an economic downturn in a global scale, ranging from big to small businesses. Loss of employment and income has affected the livelihood of the community, where 86% of workers in South Asia are comprised of workers from the informal sector. This study has shown that the economic resilience index of informal business operators in Kuching city has revealed a moderate resilience index. This moderate resilience index is mainly due to low scores of resilience strategies adopted by the operators in terms of finance and security. An ideal resilient city suggests for interdependence and interconnectivity among public and private businesses to work together towards reducing risks and uncertainties. Both the resilience index and resilient scores measured in this study could provide insight for policy makers to improve the status of the informal economy. Early interventions and implementation of actions and measures are significant steps towards avoiding potential threats that may harm or disrupt businesses from being resilient.

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