Resilience in crisis: economic coping strategies of informal sector households during the COVID-19 pandemic in Jambi City, Indonesia

Junaidi*; Nyimas Dian Maisyarah; Al Parok; Hardiani

Department of Economics, Faculty of Economics and Business, Universitas Jambi, Indonesia

**To whom correspondence should be addressed: junaidi@unja.ac.id*

DOI:	Received:	Revised:	Accepted:	Published:
10.22437/ppd.v11i3.22077	05.12.2022	09.05.2023	20.06.2023	30.08.2023

Abstract

This study aims to analyze: 1) the socio-economic characteristics of households of informal sector workers in Jambi City; 2) the coping strategies of these households in facing the impacts of the COVID-19 pandemic; 3) the influence of household socio-economic characteristics on the economic coping strategies of informal sector workers in Jambi City. The primary data used in this study were sourced from a survey of households of informal sector workers in Jambi City. The analysis utilized descriptive statistical tools and structural equation modeling (SEM). The findings of the study reveal that: 1) informal sector workers are generally of productive age, with relatively good education, and predominantly engaged in trading and daily wage labor; 2) the COVID-19 pandemic has negatively impacted the social conditions of these households, particularly in terms of income, savings, and non-food expenditures; 3) in the context of economic coping strategies, the strategy of generating additional income is more commonly employed by these households compared to cutting back expenses; 4) the characteristics of the wife and the family significantly influence the coping strategies adopted by households of informal sector workers. In contrast, the characteristics of the household head do not have a significant impact.

***Keywords**: Coping strategies, COVID-19, Informal sector*

JEL Classification: I31, J21, O17

INTRODUCTION

The world faces a severe and acute health emergency due to the COVID-19 pandemic (Sorbello et al., 2020; Walker et al., 2020). Apolone et al. (2021) indicate that SARS-CoV-2 antibodies were present in asymptomatic patients in Italy as early as September 2019, predating the identification of COVID-19 in Wuhan in December 2019.

As of March 21, 2022, COVID-19 has spread to 229 countries, with 464,809,377 confirmed cases and 6,062,536 deaths. There have been 5,967,182 positive cases in Indonesia and 153,892 deaths (covid19.go.id). The pandemic has posed threats not only to physical health but also to mental health, including severe depression and increased suicide rates, as highlighted by Xiong et al. (2020).

The rapid spread of COVID-19 and its prevention policies, such as social distancing, large-scale social restrictions, and lockdowns or regional quarantines, have impacted the economic well-being of communities and various social and psychosocial aspects. Studies by Dong et al. (2020), Zhang & Ma (2020), and Ferguson et al. (2020) have found that the rapid spread of COVID-19 has weakened immune systems, exacerbated mental health issues, decreased security and comfort, increased stress, and reduced social welfare.

In Indonesia, the COVID-19 pandemic has been the most significant shock in decades, with widespread negative impacts. Community activity restrictions have led to slowdowns in nearly all economic sectors, particularly trade, tourism, and finance (Ali et al., 2020; Metcalfe, 2020; Sorbello et al., 2020; World Bank, 2020).

In 2020, Indonesia's economic growth fell by 2.07%, with the most significant decline in the transportation, warehousing, accommodation, and food sectors (BPS, 2021a). Unemployment increased by 2.36 million from August 2019 to August 2020 (BPS, 2020a), and the number of people living in poverty rose by 2.76 million from September 2019 to September 2020 (BPS, 2021a).

Although there was an economic growth of 3.69% in 2021 (BPS, 2022), this figure is still below the average pre-pandemic five-year economic growth rate (2015 – 2019), which was above 5% per annum (BPS, 2020b). The open unemployment rate in 2021 remained high at 6.49% (9.10 million) (BPS, 2021b), higher than the pre-pandemic rate in 2019, which was 5.28% (7.05 million) (BPS, 2019a). The poverty rate also increased to 9.71% (26.50 million) in 2021 (BPS, 2021a), higher than the pre-pandemic rate in 2019, which was 9.22% (24.79 million) (BPS, 2019b).

The province of Jambi, Indonesia, has experienced a relatively rapid spread of COVID-19. As of March 21, 2022, the total number of positive COVID-19 cases in Jambi Province reached 37,769, with the highest distribution in Jambi City, accounting for 5,064 cases (covid19.go.id).

The swift spread of COVID-19 in Jambi City inevitably impacts the socio-economic vulnerability of the local population. In this context, the most affected by COVID-19 are the poor, those at risk of poverty, and workers in the informal sector (Fitriani, 2020). The vulnerability of informal sector workers is primarily due to characteristics of the informal sector, which include: 1) irregular business activities in terms of location and working hours; 2) the use of primitive technology; 3) relatively low education and skills of the workers; 4) low productivity and income (Wasiti, 2009).

The growth of employment opportunities in the informal sector in Indonesia's economy results from the limited creation and expansion of jobs in the formal sector. Indonesia showed that the employment elasticity from 2010 to 2014 was 0.41, meaning that 1 percent of economic growth only resulted in a 0.41 percent increase in employment opportunities (ILO, 2017). On the other hand, Allen et al. (2014) identified human capital factors as a barrier preventing the Indonesian workforce from entering formal sector employment.

The vulnerability of informal sector workers (and consequently, the vulnerability of their households) is compounded by the fact that a significant proportion of workers in Jambi City are in the informal sector. Data from 2020 indicates that nearly half (49.22 percent) of the workers in Jambi City are in the informal sector (BPS, 2021c).

This research analyzes the socio-economic conditions and economic coping strategies of informal sector workers' households in Jambi City in response to the COVID-19 pandemic. This study is significant as it provides new insights into how families in the informal sector cope with an unprecedented economic crisis, contributing

to the existing literature on the pandemic's impact on this vulnerable group (Friedman, 1998; Maryam, 2017; Sunarti, 2013). Furthermore, this research contributes to the knowledge base regarding the relationship between family characteristics and the choice of coping strategies, as explored in previous studies (Astuti et al., 2016; Junaidi et al., 2020; Maryam, 2012; Sugiharto et al., 2016).

Coping, defined as overcoming or managing, involves efforts by individuals to handle various demands (internal and external) that burden and disrupt their lives. Coping strategies involve the active process of individuals and families in managing, adapting to, or confronting stressful situations. Coping strategies are divided into internal and external (Friedman, 1998). The study of economic coping strategies is crucial in relation to improving the welfare of vulnerable/poor households (Castilhos et al., 2017; Cordero-Ahiman et al., 2018; Frade & Coelho, 2015; Mardiharini, 2016; Song et al., 2021).

.An individual's personality influences the selection of coping strategies, the level of stress experienced, physical health, positive beliefs or outlooks, problem-solving skills, social skills, and social support (Sunarti, 2013; Sunarti & Fitriani, 2010). Coping resources, which are subjective, also affect the choice of coping strategies (Allen et al., 2014; Hand et al., 2015; Maschi et al., 2015).

According to Lazarus & Folkman (1984), there are eight coping strategies for dealing with stressful situations. These include confrontation, seeking social support, planning problem-solving, self-control, accepting responsibility, distancing, positive reappraisal, and escape or avoidance. Evans & Kim (2013) further suggest that the choice of coping strategy highly depends on the type of stress encountered. Discuss economic coping strategies to meet food needs, which can be categorized into strategies for reducing expenditures and increasing income (Puspitawati, 2012).

METHODS

The primary data used in this study consists of primary data collected from respondents of informal sector worker households in Jambi City. The population for this research encompasses all informal sector worker households in Jambi City, with the criteria being complete households comprising at least a father, mother, and child.

The sampling method employed is a two-stage stratified sampling. In the first stage, sample neighborhoods for the study were selected through purposive sampling. From the 11 sub-districts in Jambi City, three with the highest population density were chosen: Jelutung Sub-district, Danau Sipin Sub-district, and Jambi Selatan Sub-district. Subsequently, one neighborhood with the highest number of families was selected from each sub-district, leading to the selection of Jelutung in Jelutung Sub-district, Legok in Danau Sipin Sub-district, and Thehok in Jambi Selatan Sub-district as the research locations. The second stage involved selecting a sample of 50 informal sector worker households from each sample neighborhood. The sampling process was conducted in stages: 1) Listing of informal sector worker households in each selected neighborhood. The listing of poor households was based on family data collected by BKKBN in 2019, which includes “by name by address” employment information of the household heads; 2) Selecting families within each neighborhood using simple random sampling, employing a Random Number Generator (RNG) software.

Data collection was conducted using a questionnaire. Descriptive statistical analysis was performed to analyze the socio-economic characteristics of the families and their economic coping strategies. The inferential analysis utilized the Structural Equation Modeling (SEM) framework with the following model structure (Figure 1):

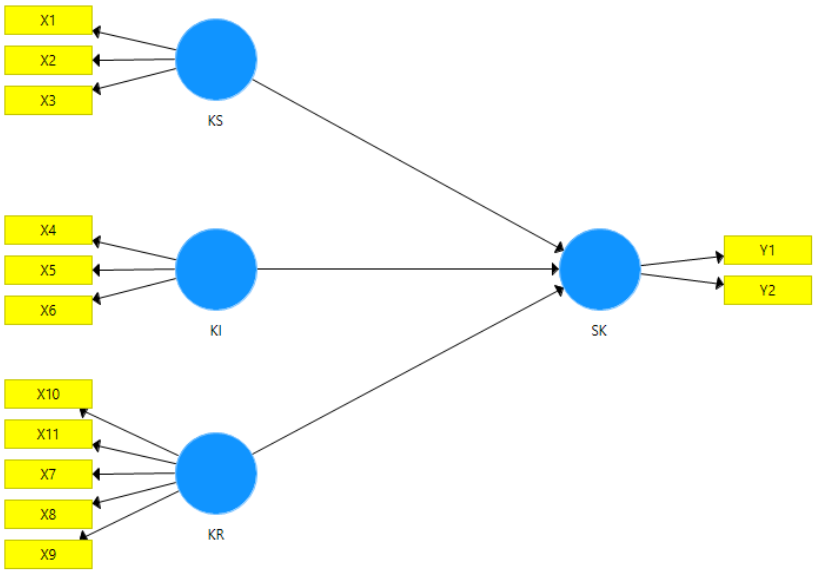

Figure 1. Research model

Where:
KS = Characteristics of the household head/husband
KI = Characteristics of the wife
KR = Household characteristics
SK = Economic coping strategies
X1 = Age of the household head
X2 = Education level of the household head
X3 = Work experience of the household head
X4 = Age of the wife
X5 = Education level of the wife
X6 = Main activity of the wife
X7 = Number of household members
X8 = Sex ratio of household members
X9 = Proportion of household members of productive age
X10 = Proportion of working household members
X11 = Per capita household income
Y1 = Total score of strategies for generating additional income
Y2 = Total score of strategies for cutting back expenses

Operational definitions of the variables used are as follows:

- Economic Coping Strategies: Refers to the efforts made by families to address financial issues by reducing household expenses (cutting back expenses) and increasing family income (generating additional income). Economic Coping Strategies is measured through a questionnaire modified from previous research findings. All statements and answers per item are scored as = 1 (never), = 2 (sometimes), = 3 (often), and = 4 (always).
- Age of the household head/wife: Measured in years based on the age of the last birthday.
- Education of the household head/wife: Measured from the level of formal education.
- Work experience of the household head: Measured by the number of years worked.
- Main activity of the wife: Divided into two categories: working (1) and not working (0).

- Number of household members: The total number of household members living in the same house and dependent on the household head.
- Sex ratio of household members: The ratio of male to female household members.
- The proportion of household members of productive age (%): The number of household members aged 15 – 64 years divided by the total number of household members living in the same house.
- Proportion of working household members (%): The number of working household members divided by the total number of household members living in the same house.
- Per capita household income (Rp per year): The total annual income of the family (household head and working household members) divided by the number of household members living in the same house.

RESULT AND DISCUSSION

Characteristics of individuals and households in the informal sector

This section discusses the characteristics of individuals and households in the informal sector, including age, education, type of employment, number of household members, and housing conditions. Table 1 provides detailed information about the age of informal sector workers.

Table 1 reveals a workforce predominantly in the later stages of their working life, with the majority falling within the 45-54 age bracket, accounting for 38.0% of the total. This is further underscored by the average worker age of 46.78 years. Interestingly, the sector also includes a small but notable segment of older workers aged 65 and above, making up 2.0% of the workforce. This presence of older workers might reflect a necessity to continue working beyond the traditional retirement age, possibly due to economic needs or insufficient social security.

Table 1. Informal sector workers by age group in Jambi City, 2022

Age Group (year)	Frequency	Percentage
=<24	3	2.0
25 - 34	16	10.7
35 - 44	37	24.7
45 - 54	57	38.0
55 - 64	34	22.7
65+	3	2.0
Total	150	100.0
Average Age	46.78	

Regarding educational attainment (Table 2), the informal sector in Jambi City is characterized by a relatively high level of education among its workers. Contrary to the common perception of informal sector workers having lower educational backgrounds, nearly two-thirds, or 62.6%, have completed high school or attained higher education. Only a small fraction, about 10.0%, have an elementary education or less. This high educational attainment suggests a potential mismatch between the workers' qualifications and the nature of jobs in the informal sector, possibly indicating an underutilization of skills.

Combining an older, more educated workforce in Jambi City's informal sector presents unique challenges and opportunities. It suggests a need for targeted policy interventions that consider the specific needs of these demographic groups, such as retirement planning and skill utilization. Additionally, a well-educated workforce in the informal sector raises questions about job availability and the alignment of educational

qualifications with the labor market's demands. This scenario could indicate a lack of formal employment opportunities for well-educated individuals or a shift like the informal sector.

Table 2. Informal sector workers by education level in Jambi City, 2022

Education	Frequency	Percentage
Not completed primary	3	2.0
Primary	12	8.0
Junior high	41	27.3
High school	78	52.0
Vocational	11	7.3
Diploma 1-III	5	3.3
Total	150	100.0

The employment landscape and living conditions of informal sector workers in Jambi City in 2022, as detailed in Table 3, present a multifaceted picture. Regarding employment, the informal sector predominantly comprises traders, who comprise half of the workforce, underscoring the significance of trading activities in the local informal economy. Day laborers represent the second-largest group, accounting for 20.0%, highlighting the importance of casual labor. The presence of online motorcycle taxi drivers, small service, and industrial businesses further illustrates the diversity of the informal sector, encompassing both traditional and more modern, digital platform-based forms of employment.

Table 3. Informal sector workers by job type in Jambi City, 2022

Job Type	Frequency	Percentage
Trader	75	50.0
Day Laborer	30	20.0
Online Motorcycle Taxi	17	11.3
Small Service Business	21	14.0
Small Industrial Business	4	2.7
Public Transport Driver	3	2.0
Total	150	100.0

The household composition of these workers reveals that the average number of household members, excluding the household head, is 3.08, indicating that most of these workers are responsible for supporting moderately sized families (Table 4). This is particularly evident as 60.0% of the workers have 3 to 4 household members, suggesting that the income derived from informal employment is crucial for the sustenance of multiple dependents, which could have significant implications for their economic resilience and vulnerability.

Table 4. Informal sector workers by number of household members in Jambi City, 2022

Number of Household Members	Frequency	Percentage
1 - 2	48	32.0
3 - 4	90	60.0
5+	12	8.0
Total	150	100.0
Average (persons)	3.08	

The data from Tables 5 and 6 provide insightful details about the housing ownership status and housing quality among informal sector workers in Jambi City in 2022. Table 5 shows that a significant majority (60.0%) of informal sector workers own their homes. This high homeownership rate is notable, especially within the informal sector, often associated with economic instability and lower income levels.

Homeownership can be seen as a sign of relative economic stability and a form of investment or asset accumulation for these workers. However, a considerable proportion of workers (22.7%) are in rented or leased accommodations, and 17.3% live in houses owned by parents or relatives. This diversity in housing ownership indicates varying economic security and independence levels within the sector. Those renting or living in family-owned properties might face different economic challenges compared to homeowners, such as a lack of asset security or a rent burden.

Table 5. Informal sector workers by housing ownership in Jambi City, 2022

Housing Ownership Status	Frequency	Percentage
Own	90	60.0
Rent/Lease	34	22.7
Parental/Family-owned	26	17.3
Total	150	100.0

Table 6 sheds light on the housing quality, as indicated by the basic materials used in construction. The majority of houses have zinc roofs (73.3%), brick or concrete block walls (78.7%), and cement or ceramic floors (86.0%). These materials are generally durable and suggest that the housing conditions of informal sector workers in Jambi City are relatively good. Good housing quality is crucial for these workers' overall well-being and living conditions, impacting their health, safety, and comfort.

Table 6. Informal sector workers by basic house material in Jambi City, 2022

Basic House Material	Frequency	Percentage
Roof Type		
Concrete	5	3.3
Tile	32	21.3
Zinc	110	73.3
Other	3	2.0
Total	150	100.0
Wall Type		
Brick/Concrete Block	118	78.7
Wood/Plank	32	21.3
Total	150	100.0
Floor Type		
Cement/Ceramic	129	86.0
Wood/Plank	15	10.0
Earth	6	4.0
Total	150	100.0

In summary, the data reflects a scenario where a significant portion of informal sector workers in Jambi City are homeowners and live in houses made of durable materials, indicating stability and decent living conditions. However, workers in rented or family-owned housing also highlight the economic diversity within the sector, with different groups facing varying levels of housing security and economic stability. This information is vital for understanding the socio-economic status of informal sector workers and formulating policies to improve their living conditions and economic well-being.

The impact of COVID-19 on the socio-economic conditions of informal sector workers

The socio-economic impact of COVID-19 on households of informal sector workers in Jambi City, as presented in Table 7, reveals significant challenges, particularly in savings and income. This aligns with global trends observed in informal

sectors during the pandemic. For instance, Makoni & Tichaawa (2021) noted similar impacts in Zimbabwe's informal business tourism sector, where household incomes and the supply of basic commodities were severely affected. This comparison underscores the widespread nature of the pandemic's economic repercussions, transcending geographical boundaries and affecting informal sectors universally.

Table 7. Informal sector workers by covid-19 impact on socio-economic conditions in Jambi City, 2022

Socio-Economic Condition	Impact of COVID-19				
	Improved	Unchanged	Worsened	Not relevant	Total
Food Consumption	0.7	58.7	22.7	18.0	100.0
Non-Food Consumption	0.7	35.3	60.0	4.0	100.0
Income	0.7	1.02	67.3	20.0	100.0
Health	4.7	32.7	18.7	44.0	100.0
Housing and Furnishings	1.3	63.3	29.3	6.0	100.0
Transportation	0.7	73.3	5.3	20.7	100.0
Children's Education	0.7	62.7	7.3	29.3	100.0
Savings	0.7	8.7	75.3	15.3	100.0

In Jambi City, the deterioration of savings in more than three-quarters (75.3%) of these households is a critical concern. This reflects informal workers' broader economic instability, who often lack the financial safety nets available in formal employment. The study by Shkodra & Bajrami (2022) on women farmers in Kosovo highlights how the pandemic has constrained access to financial resources, further exacerbating vulnerabilities in the informal sector. This suggests that the decline in savings among Jambi City's informal workers is part of a larger global pattern of financial insecurity triggered by the pandemic.

Moreover, the reported decline in income for 67.3% of informal sector workers in Jambi City resonates with findings from Bangladesh, where Akther et al. (2022) observed a significant reduction in income and livelihood opportunities due to COVID-19, pushing many into poverty. This highlights the pandemic's role in exacerbating income inequalities, particularly for those in informal employment.

Interestingly, the impact of COVID-19 on transportation was the least felt among informal sector workers in Jambi City, with only 5.3% reporting a worsening situation. This contrasts with the broader disruptions in logistics and supply chains noted in other regions, such as the challenges faced in the waste recycling sector in Surabaya, Indonesia, as Warmadewanthi et al. (2021) reported. The lesser impact on transportation in Jambi City could be attributed to localized factors or the nature of the informal work prevalent in the area.

Economic coping strategies

Referring to the average scores of both strategy groups in Jambi City, it is evident that informal sector workers more commonly employ the 'generating additional income' strategy than the 'cutting back expenses' strategy. The average score for the 'generating additional income' strategy is 2.20 (Table 8), which is higher than the 'cutting back expenses' strategy at 1.89 (Table 9).

Generally, the 'generating additional income' strategy appears more effective in maintaining or enhancing the quality of life than 'cutting back expenses'. This is because the former directly addresses income issues, whereas the latter focuses more on reducing expenditures, which may not be sufficient to overcome significant income shortfalls. This observation aligns with the challenges and coping strategies, Fonjong, (2004) identified in the context of women food crop entrepreneurs in Cameroon.

In more detail, within the 'generating additional income' strategy, the highest scores are for the household head working harder, starting a small business to increase family income, and the household head seeking part-time work. High scores in these strategies indicate their effectiveness in maintaining or improving the quality of life. With additional income, households can meet basic needs and mitigate the negative impacts of reduced primary income, a situation echoed in the study of the Harijan community's coping strategies in Bangladesh by Parvez et al. (2020).

Table 8. Informal sector workers by 'generating additional income' strategy in Jambi City, 2022

Strategy	Average Score
Household head working harder	3.3667
Starting a small business to increase family income	3.1800
Household head seeking part-time work	3.1600
Spouse working harder	2.6533
Receiving food from relatives	2.3533
Other family members working harder	2.3133
Receiving government assistance	2.2133
Receiving coupons for subsidized rice	2.1733
Other family members seeking part-time work	2.1000
Rearing livestock (chickens, goats, cows, fish, etc.)	2.0800
Spouse seeking part-time work	1.8400
Gathering wild food (from fields/gardens)	1.2933
Involving school-age children in work to help the family economy	1.0600
Migrating	1.0467
Avearge	2.2024

In the 'cutting back expenses' strategy, the highest scores are for repairing the house or household appliances oneself, followed by reducing purchases of household furniture and clothing. These strategies are quite effective in reducing expenses. Still, they may not be sufficient to address significant income reductions, as observed in the study of Italian households during the COVID-19 pandemic by Siza (2022).

Table 10. Informal sector workers by 'cutting back expenses' strategy in Jambi City, 2022

Strategy	Average Score
Repairing the house or household appliances oneself	2.5933
Reducing purchases of household furniture	2.5533
Reducing clothing purchases	2.5467
Reducing travel	2.4933
Reducing usage of water/electricity/telephone	2.4133
Buying cheaper food	2.3800
Choosing cheaper medical treatment when sick	2.3733
Replacing expensive medicines with cheaper ones	2.2267
Reducing types of food consumed	2.1867
Reducing meal portions	2.0533
Buying lower-value food (e.g., replacing rice with cassava)	2.0333
Reducing children's daily pocket money	1.8800
Postponing medical treatment when a family member is sick	1.3933
Buying used uniforms, shoes, and books for school	1.2933
Borrowing/asking for used uniforms, shoes/books for school	1.2667
Temporarily or permanently entrusting a child to another family	1.1200
Children dropping out of school	1.0400
Going days without eating (fasting)	1.0133
Children forced to skip school	1.0067
Average	1.8877

The influence of household socio-economic characteristics on the economic coping strategies of informal sector workers in Jambi City

Before further analysis, the initial model was evaluated to assess the validity and reliability of the indicators within the latent variables (constructs). Validity was tested using convergent and discriminant validity of the indicators, while reliability was assessed using two criteria: composite reliability and Cronbach's alpha.

Convergent validity was determined based on the correlation between item and construct scores. An indicator was considered convergently valid if its correlation (loading value) was ≥ 0.50. The discriminant validity of an indicator was assessed by examining the average variance extracted (AVE) of each construct. An indicator was deemed discriminantly valid if the AVE value was > 0.5.

The construct reliability was measured using two criteria: composite reliability and Cronbach's alpha. Both Cronbach's alpha and Composite Reliability should be above 0.7, although a Cronbach's alpha up to 0.6 is still acceptable.

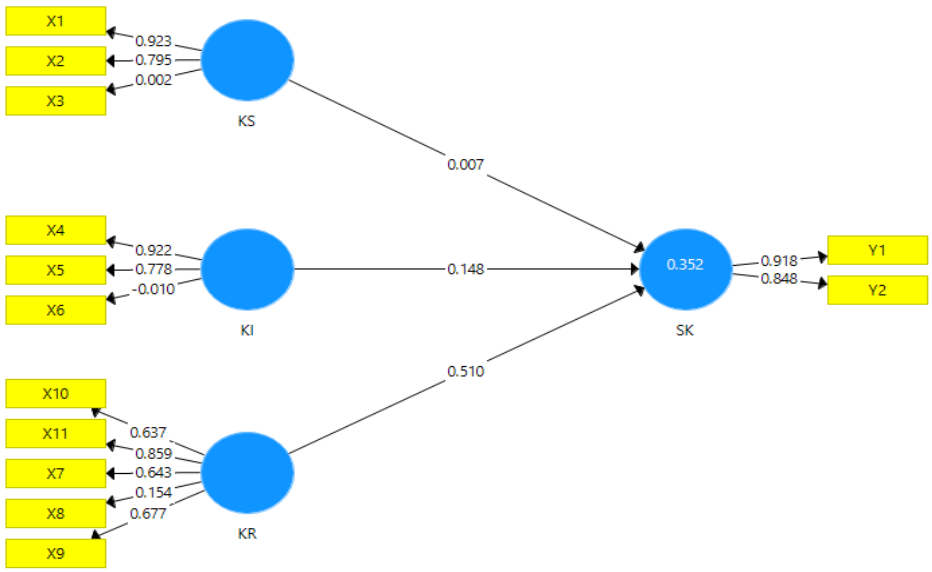

Figure 2. Testing of the initial model table

Table 10. Correlation among constructs, AVE, Cronbach's Alpha, and Composite Reliability of the initial model

	Correlation				Cronbachs Alpha	Composite Reliability
	KI	**KR**	**KS**	**SK**		
KI	1				0.281	0.649
KR	0.435	1			0.627	0.749
KS	0.713	0.412	1		0.426	0.661
SK	0.375	0.577	0.323	1	0.725	0.877
AVE	0.485	0.408	0.495	0.781		

The initial model testing revealed that one indicator in the household head characteristics variable (KS) was not valid and reliable, specifically the X3 indicator (household head's experience). Furthermore, the KS construct was also invalid and unreliable, as indicated by the AVE, composite reliability, and Cronbach's alpha values. Therefore, this indicator was subsequently removed from the model.

In the spouse characteristics variable (KI), one indicator, X6 (main activity of the spouse), was found to be invalid and unreliable. Consequently, this indicator was also removed from the model.

For the household characteristics variable (KR), one indicator, X8 (sex ratio of household members), was invalid and unreliable. Despite meeting the composite reliability criteria, it was not valid and reliable based on the AVE and Cronbach's alpha values. Therefore, this indicator was removed from the model.

After removing the invalid and unreliable indicators, the modified model is presented in Figure 3.

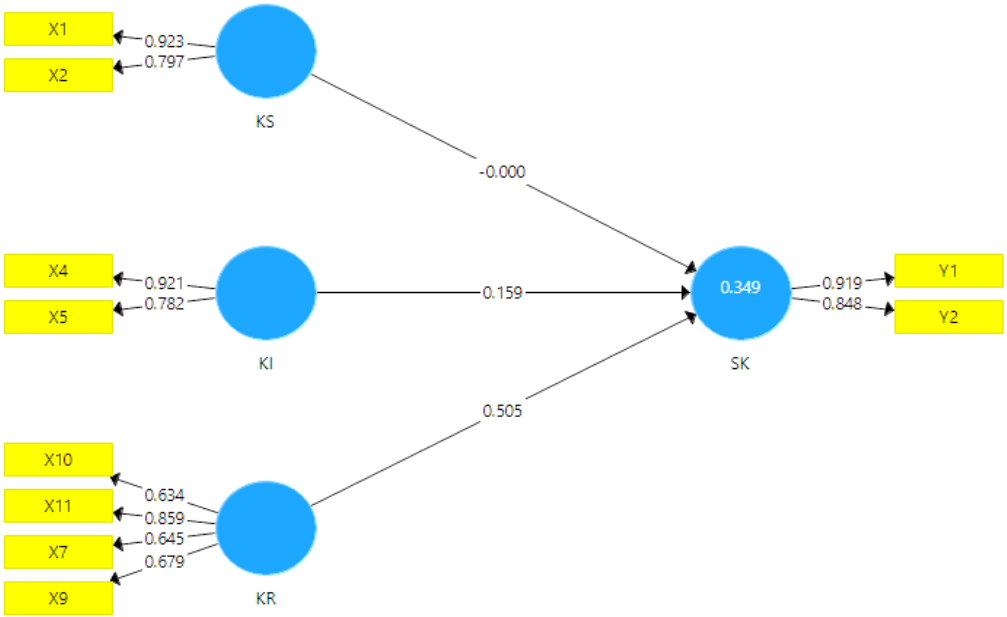

Figure 3. Modified model

Based on Figure 3, it is evident that the correlation (loading factor) of all construct indicators is above 0.5. This is also reflected in the discriminant validity test (all AVE values above 0.5) and the reliability test (Cronbach's alpha above 0.6 and Composite Reliability above 0.7). (Table 11)

Table 11. Correlation among constructs, AVE, Cronbach's Alpha, and Composite Reliability of the modified model

	Correlation				Cronbachs Alpha	Composite Reliability
	KI	**KR**	**KS**	**SK**		
KI	1				0.647	0.843
KR	0.422	1			0.668	0.8
KS	0.718	0.411	1		0.67	0.852
SK	0.372	0.572	0.322	1	0.725	0.877
AVE	0.73	0.504	0.744	0.781		

The coefficient values and the significance of the t-statistic determined the influence among variables. An influence is considered significant if the probability of the t-statistic is smaller than α= 1%, 5%, or 10%.

Table 12. Hypothesis testing of relationships among variables in the model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
KI -> SK	0.159	0.165	0.088	1.802	0.072
KR -> SK	0.505	0.512	0.067	7.546	0
KS -> SK	0	-0.002	0.081	0.005	0.996

Based on Table 12, it is apparent that both the spouse's characteristics (KI) and household characteristics (KR) significantly influence the coping strategies adopted by informal sector worker households. However, the household head's characteristics (KS) do not influence the choice of economic coping strategies.

Referring to the valid indicators of the spouse's characteristics, it can be stated that the age and education of the spouse are determining factors for informal sector worker households in choosing economic coping strategies. Research by Mwinuka et al. (2023) showed that socio-economic factors, including individual characteristics such as age and insurance status, greatly influence coping strategies for healthcare financing among informal sector workers. Furthermore, referring to the valid indicators of household characteristics, it can be stated that the number of household members, the proportion of productive-age household members, the proportion of working household members, and per capita income are determining factors in household choices for implementing economic coping strategies. A study by Deusdetus et al. (2020) found that in the absence of adequate social protection mechanisms, the elderly in the informal sector adopt various coping strategies to maintain income security. Salmah et al. (2022) also found that the working hours of female household heads in the informal sector are influenced by income, age, and the number of children, highlighting the importance of family factors in determining economic coping strategies. Research by Junaidi et al. (2020) showed that socio-economic-demographic family characteristics significantly influence food security, an important aspect of economic coping strategies. Similarly, Haque et al. (2021) found that education, housing conditions, and annual income positively correlate with coping strategies for household food security during flood periods.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The demographic profile of informal sector workers is characterized by a predominance of individuals in their productive years, with a substantial proportion (62.6%) possessing at least a senior high school education. Their primary engagements are in trading and daily wage labor. The average household size in this sector is 3.08 members, and their economic conditions, as indicated by factors such as home ownership and quality, are relatively favorable.

However, the COVID-19 pandemic negatively impacts these households' socio-economic conditions. Notably, significant adverse effects have been on income, savings, and non-food expenditures. In response to these challenges, these households have more prevalently adopted generating additional income rather than cutting back expenses, reflecting a proactive approach to economic resilience.

Recommendations

Governments and relevant institutions must initiate and support training programs tailored to the needs of informal sector workers. These programs should focus on digital

literacy, entrepreneurship, and technical skills that align with current and evolving labor market demands.

Initiatives should be designed to provide immediate relief and bolster the long-term economic resilience of informal sector workers. This could involve support for establishing worker cooperatives, facilitating access to new markets, and creating robust support networks.

A comprehensive approach to assistance is crucial. This should encompass health, education, and access to social services, aiming to provide a multifaceted support system that enables informal sector workers to not only withstand the current pandemic impacts but also to lay a strong foundation for future growth and stability.

Effective and relevant program development for informal sector workers necessitates collaboration between governments, non-governmental organizations, the private sector, and local communities. Such partnerships are essential to ensure that the interventions are well-suited to the specific needs and conditions of the target populations.

REFERENCES

Akther, F., Biswas, S. K., Sultana, M. N., & Masroor, I. (2022). Analyzing The Household Level Socio-economic Impact of Covid-19 Sufferance: Outcomes Of A Microstudy of The Households In Khulna City In Bangladesh. *European Journal of Social Sciences Studies*, *7*(2), 55-74 https://doi.org/10.46827/ejsss.v7i2.1217

Ali, S. A., Baloch, M., Ahmed, N., Arshad Ali, A., & Iqbal, A. (2020). The outbreak of Coronavirus Disease 2019 (COVID-19)—An emerging global health threat. *Journal of Infection and Public Health*, *13*(4), 644–646. https://doi.org/10.1016/j.jiph.2020.02.033

Allen, J., Zebrack, B., Wittmann, D., Hammelef, K., & Morris, A. (2014). Expanding the NCCN guidelines for distress management: a model of barriers to the use of coping resources. *The Journal of Community and Supportive Oncology*, *12*(8), 271–277. https://doi.org/10.12788/jcso.0064

Apolone, G., Montomoli, E., Manenti, A., Boeri, M., Sabia, F., Hyseni, I., Mazzini, L., Martinuzzi, D., Cantone, L., Milanese, G., Sestini, S., Suatoni, P., Marchianò, A., Bollati, V., Sozzi, G., & Pastorino, U. (2021). Unexpected detection of SARS-CoV-2 antibodies in the prepandemic period in Italy. *Tumori*, *107*(5), 446-451. https://doi.org/10.1177/0300891620974755

Astuti, T. W. H., Hartoyo, H., & Muflikhati, I. (2016). Tekanan Ekonomi dan strategi Koping Keluarga Petani di Daerah Rawan Banjir. *Jurnal Ilmu Keluarga Dan Konsumen*, *9*(1), 43–52. https://doi.org/10.24156/jikk.2016.9.1.43

BPS. (2010). *Profil Kemiskinan di Indonesia Maret 2010, Berita Resmi Statistik*. Jakarta: BPS

BPS. (2019a). *Keadaan Ketenagakerjaan Indonesia Agustus 2019, Berita Resmi Statistik*. Jakarta: BPS

BPS. (2019b). *rofil Kemiskinan di Indonesia September 2019, Berita Resmi Statistik*. Jakarta: BPS

BPS. (2020a). *Profil Kemiskinan di Indonesia Maret 2020, Berita Resmi Statistik*. Jakarta: BPS

BPS. (2020b). *Produk Domestik Regional Bruto Provinsi-Provinsi di Indonesia Menurut Lapangan Usaha, 2015 - 2019*. Jakarta: BPS

BPS. (2021a). *Profil Kemiskinan di Indonesia September 2021, Berita Resmi Statistik*. Jakarta: BPS

BPS. (2021b). *Keadaan Ketenagakerjaan Indonesia Agustus 2021*. Jakarta: BPS

BPS. (2021c). *Statistik Kesejahteraan Rakyat Provinsi Jambi 2021*. Jambi: BPS

BPS. (2022). *Pertumbuhan Ekonomi Indonesia Triwulan IV-2021, Berita Resmi Statistik*. Jakarta: BPS

Castilhos, R. B., Fonseca, M. J., & Bavaresco, V. (2017). Consumption, crisis, and coping strategies of lower class families in Brazil: A sociological account. *International Journal of Consumer Studies*, *41*(4), 379–388. https://doi.org/10.1111/ijcs.12341

Cordero-Ahiman, O., Santellano-Estrada, E., & Garrido, A. (2018). Food Access and Coping Strategies Adopted by Households to Fight Hunger among Indigenous Communities of Sierra Tarahumara in Mexico. *Sustainability*, *10*(2), 473. https://doi.org/10.3390/su10020473

Deusdetus, B., Msilu, S., & Lesso, T. (2020). Assessing Coping Strategies And Challenges Facing Elderly Working In Informal Sector In Dodoma Region, Tanzania. *International Journal of Creative Research Thoughts*, *8*(5), 2505–2512. https://doi.org/http://dx.doi.org/10.13140/RG.2.2.35763.04648

Dong, L., Bouey, J., & Bouey, J. (2020). Public Mental Health Crisis during COVID-19 Pandemic, China. *Emerging Infectious Diseases*, *26*(7), 1616-1618. https://doi.org/10.3201/eid2607.200407

Evans, G. W., & Kim, P. (2013). Childhood Poverty, Chronic Stress, Self-Regulation, and Coping. *Child Development Perspectives*, *7*(1), 43–48. https://doi.org/10.1111/cdep.12013

Ferguson, N. M., Laydon, D., Nedjati-Gilani, G., Imai, N., Ainslie, K., Baguelin, M., Bhatia, S., Boonyasiri, A., Cucunubá, Z., Cuomo-Dannenburg, G., Dighe, A., Dorigatti, I., Fu, H., Gaythorpe, K., Green, W., Hamlet, A., Hinsley, W., Okell, L. C., Elsland, S. van, … Ghani., A. C. (2020). *Report 9: Impact of non-pharmaceutical interventions (NPIs) to reduce COVID-19 mortality and healthcare demand Neil*. Imperial College London

Fitriani, F. F. (2020). *BPS: Masyarakat Miskin dan Pekerja Sektor Informal Paling Terdampak Covid-19*. Available at: https://ekonomi.bisnis.com/read/20200602/9/1247570/bps-masyarakat-miskin-dan-pekerja-sektor-informal-paling-terdampak-covid-19-

Fonjong, L. (2004). Challenges and Coping Strategies of Women Food Crops Entrepreneurs in Fako Division, Cameroon. *Journal of International Women's Studies*, *5*(5), 1–17. https://vc.bridgew.edu/jiws/vol5/iss5/1

Frade, & Coelho. (2015). Surviving the Crisis and Austerity: The Coping Strategies of Portuguese Households. *Indiana Journal of Global Legal Studies*, *22*(2), 631-664. https://doi.org/10.2979/indjglolegstu.22.2.631

Friedman, J. (1998). *Family Nursing: Theory and Practice* (3rd ed.). Appleton & Lange.

Hand, L., Hicks, R., & Bahr, M. (2015). Relationships among Transformational and Transactional Leadership Styles, Role Pressures, Stress Levels, and Coping Resources in Senior Queensland Catholic Education Executives. *Review of Business Research*, *15*(1), 43–54. https://doi.org/10.18374/RBR-15-1.4

Haque, M. E., Islam, M. N., Majid, M. A., Islam, M. R., Uddin, M. Y., Alam, M. J., Rahman, M. A., Haque, M. M., Tasnim, J., & Rahman, M. A. (2021). Study the Relationship between Selective Characteristics of Farmers and Their Practicing Coping Strategies towards Household Food Security during Flood Period. *Asian Journal of Education and Social Studies*, 23(13), 49–57. https://doi.org/10.9734/ajess/2021/v23i130547

ILO. (2017). *Laporan Ketenagakerjaan Indonesia 2017: Memanfaatkan Teknologi*

untuk Pertumbuhan dan Penciptaan Lapangan Kerja. Available at: https://www.ilo.org/jakarta/whatwedo/publications/WCMS_613626/lang--en/index.htm

Junaidi, J., Amir, A., & Amril, A. (2020). Analysis of the Socio-Economic-Demographic Characteristics of the Family, Social Capital and Economic Coping Strategy in Increasing Food Security for Urban Poor Households in Jambi Province, Indonesia. *Dirasat: Human and Social Sciences*, *47*(2), 408–424. https://archives.ju.edu.jo/index.php/hum/article/view/103756

Lazarus, R. S., & Folkman, S. (1984). *Stress, Appraisal, and Coping*. Springer Publishing.

Makoni, L., & Tichaawa, T. (2021). Impact Analysis of the COVID-19 Pandemic on the Informal Sector Business Tourism Economy in Zimbabwe. *African Journal of Hospitality, Tourism and Leisure*, *10(1)*, 165–178. https://doi.org/10.46222/ajhtl.19770720-93

Mardiharini, M. (2016). Family-Coping Strategies in Maintaining Welfare During The Economic Crisis In Indonesia: A case study in rural and urban areas in Bogor, West Java, Indonesia. *Jurnal Agro Ekonomi*, *23*(1), 54-70. https://doi.org/10.21082/jae.v23n1.2005.54-70

Maryam, S. (2012). Pengaruh Karakteristik Sosial Ekonomi terhadap Strategi Coping Keluarga Pasca Gempa dan Tsunami di Nanggroe Aceh Darussalam. *Jurnal Aplikasi Manajemen*, *8*(2), 546–560.

Maryam, S. (2017). Strategi Coping: Teori Dan Sumberdayanya. *JURKAM: Jurnal Konseling Andi Matappa*, *1*(2), 101-107. https://doi.org/10.31100/jurkam.v1i2.12

Maschi, T., Viola, D., Morgen, K., & Koskinen, L. (2015). Trauma, stress, grief, loss, and separation among older adults in prison: the protective role of coping resources on physical and mental well-being. *Journal of Crime and Justice*, *38*(1), 113–136. https://doi.org/10.1080/0735648X.2013.808853

Metcalfe, S. M. (2020). Mesenchymal stem cells and management of COVID-19 pneumonia. *Medicine in Drug Discovery*, *5*,. 100019. https://doi.org/10.1016/j.medidd.2020.100019

Mwinuka, B., Nyaberi, J. M., & Echoka, E. (2023). Coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania. *International Journal Of Community Medicine And Public Health*, *10*(6), 2024–2030. https://doi.org/10.18203/2394-6040.ijcmph20231677

Parvez, S., Fatema, K., & Khatunz, Z. (2020). Identifying Livelihood Patterns of Harijan Community and their Coping Strategies of Different Vulnerabilities Situation- A Sociological Investigation. *International Journal of Creative Research Thoughts*, *8*(9), 1840–1846. https://ijcrt.org/papers/IJCRT2009234.pdf

Puspitawati, H. (2012). *Gender dan Keluarga: Konsep dan Realita di Indonesia*. IPB Press.

Salmah, E., Insan, I., Ismiwati, B., Wijimulawiani, B., & A, M. G. (2022). Working Hours of Female Headed Households in The Informal Sector in Rensing Raya Village, West Sakra District East Lombok Regency. *Proceedings of the 1st International Conference on Gender, Culture and Society, ICGCS 2021, 30-31 August 2021, Padang, Indonesia*. https://doi.org/10.4108/eai.30-8-2021.2316416

Shkodra, J., & Bajrami, V. (2022). Impact of COVID-19 on the finance sources of women in the agricultural sector: the case of Kosovo. *Cogent Economics & Finance*, *10*(1). https://doi.org/10.1080/23322039.2022.2085294

Siza, R. (2022). In the midst of the COVID-19 pandemic: economic insecurity and coping strategies of Italian households. *International Journal of Sociology and*

Social Policy, *42*(3/4), 298–312. https://doi.org/10.1108/IJSSP-07-2020-0326

Song, H., Zhu, C., & Fong, L. H. N. (2021). Exploring Residents' Perceptions and Attitudes towards Sustainable Tourism Development in Traditional Villages: The Lens of Stakeholder Theory. *Sustainability*, *13*(23), 13032. https://doi.org/10.3390/su132313032

Sorbello, M., El-Boghdadly, K., Di Giacinto, I., Cataldo, R., Esposito, C., Falcetta, S., Merli, G., Cortese, G., Corso, R. M., Bressan, F., Pintaudi, S., Greif, R., Donati, A., & Petrini, F. (2020). The Italian coronavirus disease 2019 outbreak: recommendations from clinical practice. *Anaesthesia*, *75*(6), 724-732. https://doi.org/10.1111/anae.15049

Sugiharto, A., Hartoyo, H., & Muflikhati, I. (2016). Strategi Nafkah dan Kesejahteraan Keluarga Pada Keluarga Petani Tadah Hujan. *Jurnal Ilmu Keluarga Dan Konsumen*, *9*(1), 33–42. https://doi.org/10.24156/jikk.2016.9.1.33

Sunarti, E. (2013). *Ketahanan Keluarga*. IPB Press.

Sunarti, E., & Fitriani, F. (2010). Kajian Modal Sosial, Dukungan Sosial, dan Ketahanan Keluarga Nelayan di Daerah Rawan Bencana. *Jurnal Ilmu Keluarga Dan Konsumen*, *3*(2), 93–100. https://doi.org/10.24156/jikk.2010.3.2.93

Walker, P. G. T., Whittaker, C., Watson, O. J., Baguelin, M., Winskill, P., Hamlet, A., Djafaara, B. A., Cucunubá, Z., Mesa, D. O., Green, W., Thompson, H., Nayagam, S., Ainslie, K. E. C., Bhatia, S., Bhatt, S., Boonyasiri, A., Boyd, O., Brazeau, N. F., Cattarino, L., … Ghani, A. C. (2020). The impact of COVID-19 and strategies for mitigation and suppression in low- And middle-income countries. *Science*, *369*(6502), 413-422. https://doi.org/10.1126/science.abc0035

Warmadewanthi, I., Wulandari, D., Cahyadi, M. N., Pandebesie, E. S., Anityasari, M., Dwipayanti, N. M. U., Purnama, I. G. H., & Nisaa, A. F. (2021). Socio-economic impacts of the COVID-19 pandemic on waste bank closed-loop system in Surabaya, Indonesia. *Waste Management & Research: The Journal for a Sustainable Circular Economy*, *39*(8), 1039–1047. https://doi.org/10.1177/0734242X211017986

Wasiti, W. (2009). Eksistensi Sektor Informal Dan Upaya Pembinaannya. *INFORMASI*, *35*(2), 93-101. https://doi.org/10.21831/informasi.v2i2.6394

World Bank. (2020). World Bank East Asia and Pacific Economic Update, April 2020 : East Asia and Pacific in the Time of COVID-19. In *World Bank East Asia and Pacific Economic Update* (Issue April). Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1565-2

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of Affective Disorders*, 277, 55-64. https://doi.org/10.1016/j.jad.2020.08.001

Zhang, Y., & Ma, Z. F. (2020). Impact of the COVID-19 Pandemic on Mental Health and Quality of Life among Local Residents in Liaoning Province, China: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, *17*(7), 2381. https://doi.org/10.3390/ijerph17072381