The function of food prices in management information systems on public trust

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Received 20 June 2025

Revised 25 August 2025

Accepted 12 September 2025

Citation: Za, S. Z., Achmad, G. N., Darma, D. C., Ikbal, M. (2025). The function of food prices in management information systems on public trust. *Journal of Management, Economics, and Industrial Organization*, *9*(3), 26-51. http://doi.org/10.31039/jomeino.2025.932



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Abstract

From this paper, we highlight the management information system (MIS) and its role in food prices and public confidence. The case study focuses on nine traditional markets that have existed for a long time until now. To find out the extent of the benefits of MIS developed by the government, we put some questions in a questionnaire distributed to 250 respondents. We focused multiple linear regression analysis on processing data that has collected based on interviews. The results of this important work divided into two categories (direct impact and indirect effect). Regarding food prices, MIS has played a significant role. From other findings, public trust, MIS, and food prices also influence significantly. In the next scenario, by involving food prices as a mediation effect, the contribution will also have a real impact because food prices can have a significant effect on both relationships (MIS and public trust). The price of food is an indicator that plays an important role in this finding. This is because these variables can maintain economic stability in a region through good MIS management in expanding public trust, especially for civilians who want accurate data related to their daily needs. This study's theoretical contribution integrates the MIS framework, food price dynamics, and public trust to develop a more comprehensive approach to digital transformation governance.

Keywords: open access, survey, multiple linear regression, public trust, traditional markets

JEL Classification Codes: L17, C83, C12, D73, M21

1.0 Introduction

1.1 Background

Science is an important element in producing technology that all groups can access. In the industrial era 4.0, accessibility to information systems is an urgent need to increase public trust (Maria et al., 2019). The government plays a major role through regulators in the public system so that something can properly monitor all policies. Focus on programs that have planned must base on accountability and transparency. By revitalizing digitally systemized information, it allows civilians to track what development problems are relevant issues and what solutions they can pursue (Pusriadi et al., 2021; ZA et al., 2020).

The most important part of information management in the government sector is building a reliable system, one of which is the regional management information system (SIMDA). The Agency of Financial and Development Supervisory (BPKP) has developed this application and is a product of information system technology that is focused on local governments in Indonesia for effective financial management (Nor et al., 2019). Davis (1993) classifies SIMDA as a database that plays a role in facilitating regional financial management within the Regional Work Units (SKPD). It is necessary to control this application to become a guideline for local governments in implementing accurate information disclosure.

One form or derivative of SIMDA is "e-Farming". This information system is web-based and supported by a concept that can provide information as data related to food or commodity prices. Decisions on the feasibility of agricultural productivity are as presenting digital data, which can be accessed using the system, which is accessed by civilians who connected to the internet network or through their respective mobile phones. The creativity and innovation displayed are in line with the mission at the national and regional levels.

The impact of the absence of a properly managed information system to monitor agricultural production will be severe if farmers and civilians cannot evaluate it for maximum benefits. Agricultural commodities are the main sustainability of consumption activities (Darma et al., 2020). We cannot avoid this phenomenon, because the agricultural sector supports the intake of foodstuffs for humankind. The activities to determine the harvest period in the agricultural sector requires the availability of decision-making tools by farmers in determining the quality of the feasibility of the harvest and reducing the impact of systematic losses (Liu et al., 2022). With such an issue that is so important to the system and management, it demands the expansion of information so that the workable results of the harvest of

agricultural production are easily, quickly, and precisely to be marketed and maximally distributed, so that prices do not soar and used by parties who are looking for separate benefits.

1.2 Research problems

Samarinda, as the center or economic center in East Kalimantan Province, is of course a special concentration to address the affordability of food prices (Wijaya et al., 2020). It is not only focused on the civilian population in the city, but those who live in other areas also rely heavily on several commodities that are not owned for consumption. The high demand with a very large level of demand has made Samarinda a city based on the industrial sector, the service sector, and the trade sector. According to Yijo et al. (2021), if the government does not deal with real action, then food prices will be out of control and will lead to hyperinflation. If there prolonged inflation, a multidimensional crisis will arise and conflict can it can avoid no longer.

Price stabilization does not occur in several countries, but also in Indonesia through different policy responses (Ministry of Trade of Indonesia, 2016). Food price stability is a joint initiative between producers and consumers. The interests of food producers include the desire for certainty in business because prices are stable, can improve production planning, and, of course, are sustainable output. On the consumer side, food price instability has the potential to disrupt food security programs (accessibility, food nutrition, and availability). Of course, apart from instability, a vital spotlight is on the price level. For producers, a favorable price is an absolute requirement for business continuity, while for consumers, an affordable price can ensure it fulfil their basic rights.

The performance of planning, control, and decision making carried out in an integrated, rational, coordinated manner, and transforms data into information that has meaningful knowledge for its users in the fields of management and business (Eisape, 2020). Berisha-Shaqiri (2014) explains that a professional MIS is an integration of a series of physical and non-physical resources in an organization, where each field has the responsibility to prepare information in every job through information technology.

The novelty and significance of the various previous reviews have presented how and to what extent the support from the MIS towards the openness of commodity prices in order to gain public trust. Karim (2011) argues that MIS is a key factor to reach and facilitate decisions in an organization effectively. In some financial institutions in Bahrain, MIS is a strategic rarity for implementing sound decisions, where it highlights and tests the leadership factor. As a result, tactical planning no longer functions optimally because the public has more confidence in the MIS that has been built. Meanwhile, Yang et al. (2021)

describe failing to sell fresh produce because of expiration and to the detriment of wholesale retailers in China. As a result, there missed news disclosures, so information related to prices in the market is irrelevant. After implementing MIS, retailers selling fresh produce were more efficient and their promotional activities returned to normal. With quality information, it aligned pricing with quality. This will certainly encourage the demand side and the maximum profit from sales is always increasing. Positive public perception is more profitable for wholesale retailers.

Still, in China, dynamic pricing caused another fact analyzed by Zhao and Zheng (2000) about the stock of products from the retail industry that is easily damaged over a limited period. There are demands from customers in the homogeneity process because the price distribution is always changing. From time to time, inventory decreases and optimal prices are also unstable. It highly prioritized supply chain management to deal with obstacles to travel services. The policy on price changes will balance supply and demand, so that they must balance fluctuations in the stock of goods with the actual MIS.

1.3 Purpose

An equally important dimension is the reputation for performing the Samarinda City government in responding to demands for information disclosure related to food prices and regulating it wisely so that serious spikes do not occur. Therefore, we wish to see the response of the civilian population to the use of the existing information system, so that the public will believe in the stability of food prices. The fundamental contribution here is to prioritize perception. There are still many previous studies that only design models in MIS, but do not reveal the reactions of the public to the success of the system in terms of price openness. For the Samarinda City, MIS has been applied, but the public response not yet known. We really emphasize their response and understanding in this matter to what extent the implementation of MIS to channel food price transparency and whether the informants can pay attention to it to become a common spotlight.

We presented the sessions in this paper in several stages. An introduction that includes the background, problems, and research objectives is in the first part. The literature review explores the basic theories in the second section. In the third part, there is a model design that presents relevant studies, so that hypotheses can planned. In the fourth section, we describe the methods and explanations. It presented analysis of data interpretation and discussion in the fifth section. The conclusions are in the sixth section, as the contribution of the findings through the limitations that need to be disclosed for suggestions for other researchers.

2.0 Theoretical basis

2.1 Literature review

Davis (2003) interprets a MIS as a unit, where the user machine system integrated and supports an organization's management, operations, and decision making validly. Bac (2022) highlights MIS, which is defined as a system of machines and humans that are connected to providing information and carrying out management operations functions for alternative actions in an organization. O'Brien and Marakas (2014) demonstrated that MIS can support information with views on business people and can also take the form of reports so that MIS defined as a combination organized by humans, which is as software, hardware, data sources, procedures, networks, and policies that store, separate, retrieve, and change important information in an organization.

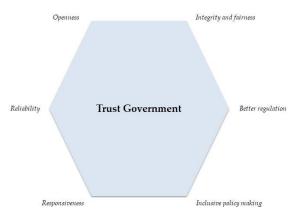


Figure 1. An important factor that has an impact on public trust

Source: (OECD, 2016).

Zhao and Wu (2015) emphasize that public trust has a major influence on various products produced by the government, whether from service products or policy products. A high level of public trust shows civilians can accept that all products produced by complying with all government regulations (Marien & Hooghe, 2011). This is not an easy problem, because it is not automatic that they can get easily their trust, so there are still consequences that can change. The long debate regarding conceptual arguments linking control and trust in public policy administration has put forward the real assumption that control is opposite to belief (Rosanvallon & Goldhammer, 2008; De Walle & Six, 2014; Frederickson et al., 2012). For developing countries like Indonesia, the level of public trust manifested in various government activities through accountability, transparency, political culture, bureaucratic reform, and public

participation that provides an assessment of government institutions (Kim, 2010). The criteria provided by the Organisation for Economic Co-operation and Development (2016) for six areas as an attempt by the government to gain public trust shown in Figure 1.

The price formed for a commodity result from the interaction between buyers and sellers. Cashin et al. (2002) evaluated the number of goods adjusts prices transacted. From the seller's point of view (supply/S), ensuring that it sold any goods or services will reduce prices. On the buyer side (demand/D), the more goods or services you want to buy, the more the price will be. Many factors influence supply and demand behavior in price formation interactions. In a case study for food commodities originating from the agricultural sector, price formation determined by a supply shock, because the demand side is stable following the trend (Miljkovic & Effertz, 2010).

Ebert and Ricky (2003) investigate if the selling price is determining what a company will receive for the sale of its products. In principle, the selling price must be able to cover the full cost plus a reasonable profit. The selling price equals the production cost plus a "mark-up". In addition, Hansen et al. (2010) underline that the selling price is the monetary accumulation that companies charge to customers or buyers for the products delivered. The price of agricultural commodities is one development in the agricultural sector and development policies in Indonesia. This policy should protect producers. However, its implementation is contradictory because it also aimed the price policy at protecting consumers, which is supported by a price stabilization program (Dorosh, 2008).

Here, the Presidential Regulation of the Republic of Indonesia number 71 of 2015 (article 2, paragraph 6) stipulates the necessities and/or essential goods for the civilian population, including rice, beef, soybeans, shallots, chicken meat, sugar, cooking oil, milk, and chicken eggs. As further information, this regulation also supported by the Minister of Trade Regulation number 27 of 2017 concerning "determination of purchase reference prices" for farmers and consumers. With this step, we hope it can guarantee price stability, certainty, and the availability of staple goods.

2.2 Review of empirical and hypothesis

Price conflicts involving the official channels of food retailers and the online channels of food processing plants for the food supply chain have been presented by Yu and Ren (2018). By analyzing the coordination mechanism and pricing decisions between companies and retailers of processed food, a systematic influence on the information about the quality of the food that is displayed is very systematic. Another supporting point, information services also positively correlated with company channel prices,

and it positively correlated information service levels with company prices so that processed food retailers can compete with other competitors.

Galtier et al. (2014) confirm their findings that MIS has served as an extra service and provides added value to agricultural services and the agricultural sector so that intermediaries collectively can eliminate some obstacles faced by market players, such as price stability. Green et al. (2013) focus on the relationship between demand for food and food prices in all countries. With special reference, where at the level of household income and national income, they predict that the increase in food prices will affect the percentage of poor households. Changes in food prices globally have a greater impact on food consumption, especially for those living in low-income countries (Elfani, 2015). The implication is that the national government needs to respond through a food price policy set to reduce the burden of malnutrition.

Recession in food receipts and increases in food prices always creates economic shocks, thus implicating changes in purchasing behavior that cannot be predicted and calculated by the "elasticity of the law of demand". Under normal market conditions, Andreyeva et al. (2010) concentrate on understanding this effect in difficult economic situations, where low-income groups or those in the "poverty line" do not maintain the quality of their food consumption. The fear that often arises is that when revenues fall and food prices soar, it creates pressure to buy food at a low cost so that you no longer care about calorie-dense foods. The consequence is for the economic community to debate the "elasticity of food prices" with diverging diets that can add to chronic disease. Canada has food risk and one of the best safety assessment systems in the world. Although the trust in the high-risk assessment system and food safety said to be quite good, many consumers are skeptical about several aspects. With an online survey involving consumer perceptions, Sutherland et al. (2020) concentrate on determining which areas in Canada should improve. As a result, some informants satisfied with the security system, but they concerned about public communication about food risks, so it needs complete transparency in the organizations involved.

As a comparison, the case in developing countries such as Benin, if MIS is information got by private and professional farmers by utilizing the network. The results of a study conducted by Chogou and Gandonou (2012) concluded that they choose to sell their products to fellow farmers without a specific contract because they use and receive market information to plan to buy and sell transactions. It does not relate decisions like this to access to information that is passed through the market to most farmers with support from the local government.

Effective MIS—including food market, production forecasts, price reporting systems, and supply chain transparency—can significantly influence food prices by reducing information asymmetry, improving distribution efficiency, and enabling faster policy responses to supply or demand shocks. For example, the FAO emphasizes that market MIS and early warning systems provide governments with a reliable picture of market conditions, allowing them to take timely actions such as importing or releasing strategic stocks to maintain food price stability (Food and Agriculture Organization of the United Nations, 2025). Volatile food prices, especially sudden increases, can undermine public trust in governments and institutions because people perceive basic necessities as becoming unaffordable and view the government as either incapable or lacking transparency in managing food stability—a phenomenon extensively discussed in the literature on food price volatility and its social impacts (Gilbert & Morgan, 2010). Thus, public trust is higher when the MIS not only functions technically (through data collection and processing) but also ensures transparency (including publicly accessible prices and supply information), policy accountability, and rapid responses to food price fluctuations. Within the framework of mediation, MIS indirectly influences public trust through its impact on food prices. If MIS helps prevent price spikes or makes price movements more predictable and equitable, public trust in institutions increases. Conversely, poor or opaque MIS may fail to control prices or even exacerbate fluctuations, thereby diminishing public trust. A study conducted in Korea on food traceability systems demonstrates that systems providing comprehensive information from production to distribution reduce consumer uncertainty, increase willingness to pay premium prices, and enhance purchase intent. This reflects higher consumer confidence when food prices and attributes are transparent and accountable (Choe et al., 2009).

Other comparative manuscripts linking the role of MIS in food pricing and their impact on fostering public trust in Africa and Europe have been discussed. Empirical evidence suggests that MIS can enhance market transparency and improve farmers' bargaining positions, thereby indirectly supporting public trust. The use of MIS increases the prices farmers receive and their incomes by providing them with better knowledge of market prices and product supply (Ferdinand, 2019). Policies promoting MIS in countries such as Burkina Faso, Tanzania, and Zambia—as reported by David-Benz et al. (2012)—demonstrate that MIS increase transparency, strengthen farmers' bargaining power, and assist farmer organizations in advocating for more pro-farmer policies. A study conducted in the Eastern Cape Province of South Africa also found that information system-based applications, including those providing price or market information, help improve productivity and food security for smallholder farming households (Mdoda et al., 2024). Based on this evidence, it can be concluded that the availability

and accessibility of reliable and user-friendly MIS can help the public—including farmers and consumers—perceive food prices as fair and accountable. In Europe, scientific papers have explored how food value chain management information—including the transparency and openness of market participants—affect consumer confidence in the food system. Macready et al. (2020) explain that consumer confidence is significantly influenced by the openness of actors in the food value chain—producers, processors, and retailers—in providing information about prices, safety, product origin, and production standards. Consequently, the specific functions of MIS in Europe related to food prices include reducing information asymmetry, fostering transparency throughout the supply chain, facilitating price reporting by public regulators, and strengthening the perception that the food system is fair and accountable. All of these functions support increased public trust. Based on the relevant studies developed in this study, we propose four hypotheses:

The first hypothesis (H₁): MIS has a positive effect on food prices.

Second hypothesis (H_2) : Food prices have a positive effect on public trust.

Third hypothesis (H_3): MIS has a positive effect on public trust.

Fourth hypothesis (H₄): MIS has a positive effect on public trust through food prices.

3.0 Materials and methods

3.1 Data

It formed the paper design with primary data, so we needed to interview respondents to get information related to MIS, food prices, and public trust. We package interview data as questionnaires distributed to informants from July 2024 to September 2024. For observations and field voice recorders, support documentation, writing instruments, and mobile phones. Data collection objects are civilians who evaluate information on the price of basic commodities in Samarinda City including rice, sugar, cooking oil, meat, eggs, liquid milk, powdered milk, dry shelled corn, iodized salt, plywood, cement, cassava, nuts land, green beans, foreign fish, onions, chilies, instant noodles, soybeans, kerosene, and wheat flour in nine traditional market units (Pagi Market, Segiri Market, Merdeka Market, Lok Bahu Market, Bengkuring Market, Ijabah Market, Pasar Kedondong, Palaran Market, and Kemuning Market).

Respondents commented regarding the extent of the information displayed on the official website displayed by the Trade Office of Samarinda City regarding the price of necessities per day (see Figure 2). The sample used in this paper is cluster random sampling. According to Frey (2018), this technique is quite popular and applicable, where a researcher divides the population into separate groups. From

these clusters, the sample chosen randomly. Comparative analysis based on cluster random sampling, got from the cluster data. We often use cluster random sampling in social science studies (Taherdoost, 2016). Cluster random sampling is a sampling technique that is applied when the population found in groups that appear uniform, but remain different internally. This statistical population then divided into several clusters and a random sample of 250 respondents selected, so it is very appropriate if we only focus on nine points.

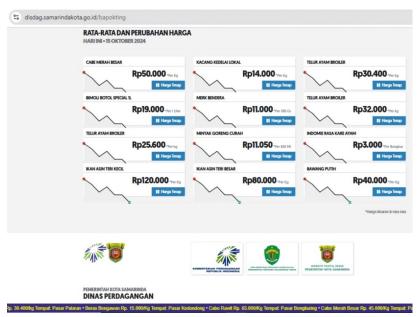


Figure 2. Official website about food price information

Source: (Trade Office of Samarinda City, 2024).



Figure 3. Procedure for samples

Source: (created by authors).

The strategic steps in random clusters into three conditions, which are illustrated in Figure 3. First, we divide the population (consumers) into groups or clusters based on the purchase of necessities at traditional markets in Samarinda City. Then, we selected several clusters according to the targeted design

through systematic random sample selection. Finally, from the clusters, we included respondents as subjects, so that they represent each cluster or location. Samarinda is an intriguing choice for a case study because the city exemplifies the dynamic interplay between food price fluctuations, efforts to digitize public services, and public trust in the municipal government. Handayani et al. (2025) noted that the prices of staple foods such as rice, sugar, and cooking oil significantly influenced inflation in Samarinda, indicating that food price issues are deeply felt by residents. Moreover, the Samarinda city government has implemented digital public service applications, including sub-district digitalization, "Samarinda Santer", and "Samagov", which demonstrate institutional readiness for the adoption of MIS in local governance (Ramadhani & Dyastari, 2024). Sensitivity to food price inflation is also reflected in local policies aimed at curbing inflation through the control of staple goods, such as those enforced by the Regional Inflation Control Team (TPID) and market operations. Therefore, Samarinda provides a robust empirical context: the community experiences the impact of food prices, government institutions are actively utilizing information technology, and public trust can be assessed in response to both factors.

3.2 List of variables

The classified of variables that have designed in the previous chapter into operational definitions so that there is no double interpretation. The correct conceptualization determines the respondent's understanding of responding to the questions asked (see Table 1). The calculation of those who have selected as respondents must fully understand the concepts and indicators of the three variables. To facilitate the perception of respondents, a Likert scale used with the largest to the lowest size, where 1 - very dissatisfied, 2 - dissatisfied, 3 - quite satisfied, 4 - satisfied, and 5 - very satisfied. To determine information, Louangrath (2017) is of the opinion that the minimum sample size in statistical studies is 100 and has met the standard.

Table 1. Conceptual of variable

Variable	Items	Actual reference
MIS	Information gathering, information processing,	(Laudon & Laudon, 2010; Horst &
	storage, display, distribution of information to	Hitters, 2020; Dal Zotto & Omidi,
	support decisions, and organizational monitoring	2020)
Food prices	The purpose of demand, the suitability of costs,	(Tjiptono, 2008, Alma, 2007. Ikpe &
_	determining demand, analysis of competitor bids	Nteegah, 2013; Ranchev et al., 2018)
	and prices, pricing methods, and affordability of the	
	final price	
Public trust	Reputation, security, and benefits derived from the	(Sari, 2017; Jones & Leonard, 2008;
	website	Ladychenko et al., 2020)

The design of the model considers the principal objectives of the paper, so it only covers three aspects, namely MIS, food prices, and public trust. In the first hypothesis, MIS is an independent variable that predicts food prices (dependent variable). In the second hypothesis and the third hypothesis, food prices and MIS act as independent variables and the dependent variable lies in public trust. Meanwhile, for the fourth hypothesis, food prices classified as a mediating variable that connects MIS (independent variable) to public trust (dependent variable). Systematics in the first hypothesis, second hypothesis, and third hypothesis describe a direct effect, while specifically in the second hypothesis, there is an indirect relationship that is determined by mediation. The definition of the independent variable, the dependent variable, and the mediating variable reviewed by Pokhariyal (2019) that the independent variable is a type of variable that affects and explains other variables, while the dependent variable is a type of variable that influenced and explained by the independent variable. These two types of variables are categories of research variables that are commonly used in various studies because they can see their wide application capabilities. Another explanation specifically for the mediating variable, Farooq and Vij (2017) defines that the moderator variable is a relationship that emphasizes the relationship between the independent variable and the dependent variable. Sometimes, the formal relationship between these two variables influenced by several other factors that are not included in the statistical model, so it is necessary to deepen with the moderator variable to reduce the residual factor. In addition, the mediator variable can also weaken the relationship between one or more variables. Thus, the moderating variable for this case is the price of food, which changes the relationship between MIS and public trust.

3.3 Specification and measurement

We adjust the standard equation function in this statistical model for the type of variable. With the SPSS version 25, we simplified and tabulated the collected data through multiple linear regression. This analysis is only limited to calculating the demographics of respondents, descriptive statistics, testing the validity and reliability of instruments, and disclosing hypotheses. Particularly for the indirect effects that SPSS not reach can, additional software used, namely the Sobel test (Koopman et al., 2014; Demming et al., 2017).

It based the simulation on three formulations that deduce the four hypotheses. The first formulation of food prices explained by MIS, then the second and third formulations present the impact of food prices and MIS on public confidence. In the fourth formulation, MIS, through mediation (food prices) projected public trust. The equation functions with the formulas Baron and Kenny (1986) and Gujarati (2012) are arranged:

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$$Y_I = \beta_0 + \beta_I + \varepsilon_I \tag{1}$$

$$Y_2 = \beta_0 + \beta_2 + \beta_3 + \varepsilon_2 \tag{2}$$

$$Y_3 = \beta_0 + \beta_4 \cdot \beta_5 + \beta_6 \cdot \beta_7 + \varepsilon_3 \tag{3}$$

These three structures have their own character. The first structure, where Y_1 (food price), β_0 (constant), β_1 (MIS coefficient), and ϵ_1 (residue model-1). In the second structure, where Y_2 (public trust coefficient), β_0 (constant), β_2 (food price coefficient), β_3 (MIS coefficient), and ϵ_2 (residual model-2). In the third structure, the mixed path diagram is real in the real situation represented by the first structure and the second structure, where Y_3 (food prices as a mediation between MIS and the public trust), β_0 (constant), $\beta_4*\beta_5$ (multiplication of the MIS coefficient to the price coefficient food), $\beta_6*\beta_7$ (multiplication of the food price coefficient against the public confidence coefficient), and ϵ_3 (residual model-3). Additional specifications to the questionnaire must meet the reliability requirements must be higher than 70% and validity below 5%. Additional partial testing and mediation on the four hypotheses, Yudaruddin (2020) recommends using Pearson product-moment correlation so that we can see that all components have a significant correlation with an error rate of 5%.

4.0 Results and discussion

4.1 Descriptive statistics and profile of respondents

The function of statistical statistics in this paper is to describe an event and show that gathered through investigations and processes that have not generalized and drawn conclusions about the observed population. As shown in Table 2, the MIS variable, food prices, and public trust exhibit varying means, standard deviations (SD), and variances. In descending order, food prices have the highest mean value of 28.981, followed by public trust at 24.603, and MIS with the lowest mean of 23.584. Regarding SD, MIS has the highest value at 3.115, public trust is second at 2.989, and food prices have the lowest SD of 2.776. Interestingly, public trust has the largest variance of 12.558, MIS ranks second with a variance of 10.544, and food prices have the smallest variance at 9.678.

Table 2. Components in descriptive statistics

Variables	Minimum	Maximum	Mean	SD	Variance
MIS	18	29	23.584	3.115	10.544
Food prices	14	35	28.981	2.776	9.678
Public trust	16	30	24.603	2.989	12.558

Source: (calculations with SPSS).

For the description of respondents, the presentation of their identity is very important to know, because it summarizes their profile by dividing them into several groups, including gender, age, occupation, income, and education level. Table 3 reports the character of the respondents based on 250 samples, most of whom were women at 73.6%, of which 31.6% were between 31 years—40 years. An 43.6% of respondents work as company employees with an income level of Rp 4,100,000—Rp 5,000,000, 38.4% and 32% of them are university graduates or have a bachelor's degree.

Table 3. Demographics of respondents (obs = 250)

Part	Items	Unit	%
Gender	Male	66	26.4
	Female	184	73.6
Age (years)	20–30	35	14
,	31–40	79	31.6
	41–50	62	24.8
	51–60	54	21.6
	> 61	20	8
Profession	Government employees	81	32.4
	Company employees	109	43.6
	Businessman	22	8.8
	Student	38	15.2
Income (IDR)	< 2,000,000	14	5.6
,	2,100,000-3,000,000	65	26
	3,100,000-4,000,000	43	17.2
	4,100,000-5,000,000	96	38.4
	> 5,000,000	32	12.8
Educational background	Never attended school	7	2.8
J	Primary school	33	13.2
	Secondary school	17	6.8
	High School	68	27.2
	Bachelor	80	32
	Master	35	14
	Doctor	10	4

Source: (survey with questionnaire).

4.2 Parameters for questionnaire eligibility

Table 4 evaluates the instruments on all items in each variable. MIS and food prices have the same number of items, six items. Then, public trust determined by three items. With speculation that has adjusted to the statistical standard rules, the validity test is that the score for each item must be below 0.05 and Cronbach's Alpha (CA) which represents the assumption of reliability, is above 0.7. From the SPSS output, the data have ensured that the MIS variable, food price variable, and public trust variable

with fifteen items have met the quality of the instrument, where for validity testing (p <0.05) and reliability testing (n> 0.7). For each variable, something also known that "distribution of information to support decisions" is the most dominant item of the five items in the MIS, the probability value reaches 0.000 and CA is 0.925. Interestingly, in the food price variable, there is an item that is dominant on the validity scale, but at the lowest CA score, it is the "price-fixing method" with a probability of 0.000, and it only numbered CA 0.886. Similar to the previous one, the item "benefits from the website" dominates when compared to the three items in the public trust variable for a probability of reaching 0.006. In contrast, the CA score is only 0.890.

Table 4. An overview of the validity and reliability

Variable	Items	Sig. (p <0.05*)	CA (n> 0.70)
MIS	Information gathering	0.012*	0.918
	Information processing	0.038*	0.869
	Storage	0.041*	0.915
	Display	0.025*	0.908
	Distribution of information to support decisions	0.000**	0.925
	Oversight of the organization	0.008**	0.916
Food prices	The purpose of the demand	0.027*	0.908
•	Cost compliance	0.019*	0.934
	Determine the request	0.003**	0.945
	Analyze prices and competitors' offers	0.035*	0.975
	Pricing method	0.000**	0.886
	Affordability of final prices	0.014*	0.911
Public trust	Reputation	0.009**	0.894
	Security	0.006**	0.890
	Benefits obtained from the website	0.022*	0.939

Note: (*p <0.05, **p<0.01). *Source:* (calculations with SPSS).

4.3 Hypothesis testing results

In this session, the paper's results are a continuation of the previous presentation and the last session in disclosing the measurement model. These findings will follow up the suitability of support for the proposed hypothesis (see Table 5). The testing of the first hypothesis that MIS has a significant effect on food prices (p = 0.029 < 0.05). The second hypothesis, which explains that food prices have a significant effect on public trust, also accepted (p = 0.007 < 0.01). The third hypothesis with the MIS review has a significant effect on public trust (p = 0.032 < 0.05). The fourth hypothesis, the results are acceptable and the fourth hypothesis which proposes that MIS has a significant effect on public trust through food prices concluded to have accepted (p = 0.002 < 0.01).

Table 5. Decomposition of the regression path

Model	Coef. Beta	Prob.	T-statistic	Std. Error	Supported
First hypothesis	0.266	0.029*	3.414	0.086	Yes
Second hypothesis	0.690	0.007**	7.297	0.015	Yes
Third hypothesis	0.343	0.032*	4.082	0.052	Yes
Fourth hypothesis	0.183	0.002**	3.086	0.059	Yes

Note: (*p <0.05, **p<0.01). *Source:* (calculations with SPSS).

The information got also adjusted for the regression results that in model two directly affected, ensuring that food prices to public trust are the most dominant relationship, where the significance is the lowest, the highest t-statistic is 7.297, and the lowest standard error compared to the others is 0.015. Indirectly influenced food prices can moderate, which involves the MIS relationship to public trust, because the significance is 0.002 (p < 0.01). The new findings in this study emphasize that food prices play a crucial mediating role in the causal relationship between MIS and public trust. When MIS promotes transparency and accuracy in price information, it fosters a perception of fair pricing, which in turn strengthens public trust in the food system and market policies. The contribution and uniqueness of this study lie in the fact that the influence of MIS on public trust is not direct but is significantly mediated by public perceptions of food price stability and fairness.

The implications of the findings relate to existing statistical results highlighting four key points. First, analytically, MIS in the food sector enhance the transparency and accuracy of data flows—such as production, demand, quality, and distribution costs—enabling traders, governments, and farmers to make more informed and responsive decisions. This, in turn, reduces unnecessary costs and narrows margins caused by asymmetric information, potentially leading to more stable food prices and fewer extreme fluctuations. Recent literature supports that when MIS is integrated into the supply chain—including real-time price information, demand forecasting systems, and distribution monitoring—logistics efficiency improves, and food loss decreases, both of which help curb price increases for consumers. Nevertheless, debate persists because some studies indicate that MIS alone is insufficient; factors such as infrastructure (transportation, cold storage), farmers' capacity to utilize the system, technology adoption costs, and market regulations remain significant obstacles. For example, Giua et al. (2021) revealed that smallholder farmers are often hindered by a lack of technical and financial capabilities. Although they recognize the relative benefits of MIS in managing price risks, they are not always able to secure better prices due to non-technical barriers.

Secondly, relatively stable and predictable increases in food prices—especially for staple commodities such as rice, wheat, or basic vegetables—can enhance public confidence in the government and regulatory institutions. This stability is perceived as evidence that these institutions are capable of effectively managing economic policy and food security, as well as intervening in the market when necessary. Analytically, food price stability reduces economic uncertainty for households, alleviates social pressure caused by food scarcity or inflation, and strengthens the government's legitimacy in the eyes of the public. However, the literature argues that not all food price increases contribute positively to public trust. If the increase is perceived as unfair—such as exacerbating inequality—or if the government's response is slow or lacks transparency, public trust may decline. Han and Yan (2019) state that low perceptions of food security risk (i.e., when food security is perceived as adequate) correlate with high levels of trust in the government's competence, benevolence, and honesty. Conversely, the public becomes skeptical when major food security incidents occur and the government is perceived as unresponsive. Furthermore, a study by Han and Zhai (2022) shows that public anxiety about food safety can undermine political trust in both central and local governments.

Third, reliable MIS applications—including system quality, data integrity, transparency in information flow, and government responsiveness to system users—can significantly enhance public trust in government institutions. This is because the public perceives the government as more accountable, efficient, and responsive. For example, a study conducted in Bahrain, reviewed by Mahmood et al. (2019), demonstrated that government transformation supported by e-government initiatives (as part of digital information and management systems) fosters public trust, with government performance and transparency acting as key mediators in this relationship. In addition, a case study in Pakistan found that effective e-government practices—which are closely linked to efficient MIS—are positively associated with public trust at the local government level, although corruption can diminish this effect (Jameel et al., 2019). Nonetheless, existing literature also argues that MIS alone does not guarantee public trust; high public expectations, negative experiences with data inconsistency, lack of security or privacy, and perceptions that the system is merely a formality rather than a reflection of genuine change can lead to skepticism. For example, in China, although there is a positive correlation between the use of e-government and public trust through perceptions of integrity, performance, and responsiveness, this effect is influenced by the extent to which public expectations are met (Li & Shang, 2023).

Fourth, when the government employs effective MIS—including those that provide real-time food price data, transparency, and public access—it can strengthen public trust by demonstrating competence,

responsiveness, and accountability in managing citizens' basic needs. For example, food price information systems such as Indonesia's Strategic Food Price Information Centre (PIHPS) enable the public to clearly observe fluctuations in staple food prices, thereby reducing perceptions of unfair pricing and enhancing trust in economic management institutions. Yet, the literature identifies several limitations and conditions under which these positive effects do not automatically materialize. If the public already holds high expectations for transparency and price stability, they may become highly sensitive to discrepancies between the information system's reports and actual conditions in local markets. Also, not all segments of society have equal access to these information systems or the ability to interpret the data provided. Aspects such as digital literacy, internet infrastructure, device availability, and trust in data sources serve as important moderators (Li & Shang, 2023). Furthermore, if the MIS presents inaccurate data, updates slowly, or is perceived as vulnerable to manipulation, it can actually erode public trust. Ripamonti (2024) argues that transparency exceeding legal standards and financial disclosure has the greatest impact on trust, provided the public perceives the data as credible. Food prices are significantly influenced by external factors such as logistics, weather, global distribution chains, import policies, subsidies and taxes, and local supply chains (Liu & Andoko, 2017). Accordingly, even if the MIS presents information effectively, the public may still perceive the government as failing to control prices if they remain high due to factors beyond information disclosure. This can lead to skepticism despite the existence of the MIS.

As well known, excessive inflation is one of the key problems in macroeconomics started by economic activity, starting from production, distribution, and consumption (Raza et al., 2023). If the market price is out of control, it will raise another problem. Not only economic factors, social factors, and political factors can influence it, but technology can at least take over the problems that occur in the market's flow (Elbahnasawy & Ellis, 2022; Ghosh, 2023; Hermanda et al., 2024). The government needs to suppress market prices through policies in using sophisticated technology (such as websites) which are always updating developments in commodity prices that trigger hyperinflation. Public trust in the government will emerge by itself if the delivery of information and data needed by producers (in this case, farmers) and consumers can account for. That way, distributors cannot arbitrarily monopolize the market, especially playing with food prices to generate a profit for certain individuals or groups.

The Central Bureau of Statistics of Samarinda City (2021) has released the latest conditions regarding the population in Samarinda. The latest data shows that out of 817,254 registered residents in Samarinda City in 2020, 746,592 of them or 91.35 of them embraced Islam. With Islam as the majority religion, of

course, the local government must concentrate on fulfilling food stocks, especially during religious (sacred) moments such as "Idul Fitri" and "Idul Adha" which they celebrate every year. Given the need for agricultural commodities, both for foodstuffs and non-food commodities, of course, it becomes an important headline because Samarinda City is not an area that relies on the agricultural sector. Jiuhardi et al. (2024) in his latest study, highlights the profile of Samarinda City as a region with potential sectors in trade, industry, and services so that so far it still relies on foreign countries and other regions, especially Java and Sulawesi to fulfill food stocks. Hence, there needs to be accurate data that project the amount of population demand on local needs. The enthusiasm for food exports is still much higher than the intensity of imports because Samarinda is the center of the East Kalimantan provincial government. Population density, followed by limited land and not matched with good criteria for farming.

For example, the follow-up investigation of Henderson et al. (2021) that the circulation of information is very meaningful for the community to prevent double interpretation. Maintaining public trust is very difficult in maintaining food safety. Credibility, consistency and procedures build reputation. The consequences of primary products from the agricultural sector are rotten ranges and falling prices if there is a delay in distribution and warehousing locations are far from the production area. However, the demand for public communication continues and is at stake. In many countries (such as Canada), Muringai and Goddard (2019) provides a creative solution about a strict system to consider aspects of distance, time, and location. A country ideally practices a systematic domestic food system, so that the public has confidence that the agricultural products they have advantages over other countries (Çakmakçı et al., 2023; Stringer et al., 2020). Thus, the system in question designed by involving the company to deal with complex events and there is an additional anticipation of responding to them by using new, more sophisticated technology. The supply chain has integrated with the sales profit and this has benefited farmers in Canada.

Garza et al. (2019) support another perspective on good practice in maintaining public trust. Advances in nutrition in the United States are a vital basis for people's beliefs about the importance of the health dimension. Public surveys have shown that information showing food needs has affected them significantly. Communication, transparency, marketing, accountability, and equity are comprehensive elements in influencing public trust. The gap in the lack of influence on information has narrowed, and exploration also signals that the public's motivation can maintain their confidence in the policies planned by stakeholders.

5.0 Conclusion, implication and suggestions

The flow of the paper focuses on the role of the MIS and its effects on food prices and public trust. Through multiple regression analysis supported by SPSS and Sobel test, we find MIS has a significant effect on food prices and public trust. Then, food prices also have a significant effect on public trust and food as the right variable to moderate the effect indirectly between MIS on public trust. All the proposed hypotheses have supported. The implication of this paper is that it is necessary to consider scenarios related to the size of the observations taken. We recognize the weaknesses that lie in the sample, the variables presented, and the data interpretation techniques. The conceptual need to be deepened through relevant studies with comparisons at the local level.

Regarding the proposed model, future studies should determine a comprehensive baseline. Apart from the points previously mentioned, there are still many things that need to be studied. Time-lag limited, it is necessary to review it so that all respondents really understand the questions posed by the researcher. In closing, of course, the authors understand well the conditions in the field which are not possible in terms of time and energy aspects, so it is necessary to distribute questionnaires online or special tools. People in Indonesia, including Samarinda City, are not yet fully skilled in utilizing technology and information, because their knowledge is still limited. This should re-evaluate, whether under normal circumstances their response is the same or vice versa when using the sophistication with certain devices. Future authors should prioritize innovation and creativity so that they can dig up more detailed information sources. Considering the existing limitations related to variables, further research is needed to explore and incorporate additional factors beyond the current model of public trust influenced by MIS and food prices. This should involve analytical tools other than multiple regression and moderation, as well as more diverse qualitative approaches, including inter-city observations and longitudinal data.

In response to this, the expansion of knowledge has increased. Although there are limitations to the intensity of technology use in Samarinda City compared to other areas such as Java and Sumatra, it does not reduce public attention to extracting information. This also shows that advances such as technology can change mindsets and provide opportunities for civil society to continue to adapt in responding to information, especially on food prices. Therefore, the urgency lies in the government's role to continue to educate the public through the role of news that is always upgraded, accountable, and based on good-governance. The government must also establish an accurate food price information system that is easily accessible to the public through various channels, such as digital applications, market information boards, and official social media platforms. Additionally, mechanisms for public participation in monitoring and

validating price data should be implemented to ensure transparency and prevent information manipulation. This system should be integrated with rapid response policies—such as market interventions and subsidies—so that the public perceives that information disclosure is followed by concrete actions that protect their interests. The government can begin by developing an integrated, real-time local food price information system, starting with the integration of the MIS with mobile applications and the digitization of daily price inputs at the sub-district level. In particular, training local officials, managers (such as market officers), and producers in operating the MIS is essential to promote effective public communication channels regarding food prices. This system must be linked to a transparent and interactive public dashboard, supported by public feedback mechanisms and automatic intervention policies triggered when prices spike.

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