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Factors Affecting the Performance of the LARG Supply Chain Using Qualitative Methods in Poultry Farming in Gilan Province

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A B S T R A C T

Objective: The aim of this research is to identify the factors affecting the performance of the LARG supply chain using qualitative methods in poultry farming in Gilan Province.

Methodology: This research adopts a qualitative approach and utilizes the grounded theory method. Data were collected through semi-structured in-depth interviews. Twenty experts and specialists, including university faculty members and managers with at least 15 years of experience in management, were selected through purposive sampling and the snowball technique. The validity of this research was examined and confirmed by the interviewees and subsequently by specialized professors. To assess reliability, the test-retest method was employed. The reliability of the interviews conducted in this study was 84%, and since this value is above 60%, the reliability of the coding is confirmed. Data were analyzed using the constant comparative method in three stages: open coding, axial coding, and selective coding. The qualitative findings were analyzed using MAXQDA software, and ultimately, the paradigmatic model of the supply chain was explained.

Findings: The model's goodness-of-fit indices indicated a satisfactory fit of the data with the conceptual model, meaning that the quantitative data were in good agreement with the conceptual model of the research and supported the qualitative data.

Conclusion: The study revealed that several key factors, including customer relationship management, service delivery management, information management, employee management, financial management, capacity and resources management, pollution management, ethical management, economic factors, social factors, technological environment, political environment, and laws and policies significantly influence the supply chain performance.

Keywords: *LARG supply chain, poultry farming, agile, lean, grounded theory.*

1 Introduction

The poultry industry is a critical component of the agricultural sector, significantly contributing to food security and economic stability worldwide. In recent years, the complexities of supply chain management (SCM) within this sector have been amplified due to various factors, including biosecurity challenges, regulatory pressures, and the increasing need for sustainability (Anvari, 2021). Supply chain management plays a vital role in ensuring the efficiency and effectiveness of poultry production. Effective SCM can enhance productivity, reduce costs, and ensure the timely delivery of quality products (Beamon, 1999). The integration of SCM practices can significantly impact firm performance, as evidenced by various meta-analyses and empirical studies (Leuschner et al., 2013; Liu et al., 2022).

The poultry supply chain is fraught with numerous challenges, such as the prevalence of foodborne pathogens, antibiotic use, and biosecurity issues. Studies have shown that poor management practices can increase the prevalence of pathogens like Campylobacter, which is a significant concern for both human health and poultry welfare (Hakeem & Lu, 2021; Sibanda et al., 2018). Furthermore, the overuse of antibiotics in poultry production has raised alarms regarding antimicrobial resistance, making the implementation of stringent biosecurity measures imperative (Masud et al., 2020; Poudel et al., 2023).

Biosecurity preparedness is a critical aspect of poultry farm management, particularly in the context of large and small farms. Research conducted in the United Arab Emirates highlights the importance of biosecurity protocols to mitigate disease outbreaks and enhance farm productivity (Fathelrahman et al., 2020). Similar concerns are echoed in studies from Bangladesh and Nepal, where dependencies and dynamics within the supply chain affect antibiotic use and biosecurity practices (Masud et al., 2020; Poudel et al., 2023).

The advent of digitalization and big data analytics has transformed supply chain practices across various industries, including poultry farming. The integration of these technologies facilitates better monitoring, analysis, and decision-making, ultimately improving supply chain performance (Hamed & Bohari, 2022; Liu et al., 2022). Automated techniques for monitoring the behavior and welfare of broilers and laying hens are moving towards the goal of precision livestock farming, offering significant advancements in ensuring animal welfare and operational efficiency (Li et al., 2020).

Sustainability and resilience are increasingly becoming focal points in the discourse on supply chain management. The LARG supply chain paradigm, which encompasses Lean, Agile, Resilient, and Green practices, is particularly relevant in the context of the poultry industry. These practices aim to create a balance between efficiency and adaptability, ensuring that supply chains can withstand and recover from disruptions while minimizing environmental impact (Anvari, 2021; Kler et al., 2022).

The importance of sustainable practices is underscored by the need to manage environmental impacts such as waste reduction and energy efficiency. Studies have shown that the implementation of green supply chain management practices can lead to significant improvements in environmental performance, which is critical for the long-term viability of the poultry industry (Hamed & Bohari, 2022; Sezen, 2008).

Management practices play a crucial role in determining the performance of supply chains. Effective management can mitigate risks, enhance coordination, and improve overall supply chain efficiency. Various studies have highlighted the positive impact of integrated management practices on supply chain performance, emphasizing the need for strategic alignment and collaboration across the supply chain network (Samaranayake & Laosirihongthong, 2016; Wilujeng et al., 2022).

In the context of the poultry industry, management practices that prioritize biosecurity, animal welfare, and environmental sustainability are essential. Research has shown that poor management practices can lead to increased disease prevalence, reduced animal welfare, and significant economic losses (Golden et al., 2021; Sibanda et al., 2018).

This study aims to identify and analyze the factors affecting the performance of the LARG supply chain in poultry farming in Gilan Province using qualitative methods. The study adopts a grounded theory approach, utilizing semi-structured in-depth interviews with experts and stakeholders to gather data. This method allows for a comprehensive understanding of the complexities and dynamics of the poultry supply chain in the region.

- To identify the key factors influencing the performance of the LARG supply chain in poultry farming.
- To understand the interplay between these factors and how they impact overall supply chain performance.
- To develop a conceptual model that explains the relationships between these factors and provides insights into improving supply chain practices.

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2 Methods and Materials

The methodology used in this research is qualitative. The present research is applied in nature. In applied research, the results derived from existing knowledge and technology are practically utilized and extended in possible or specific fields to gain practical application if successful. The statistical population consists of two groups. The first group includes 25 experts and specialists who are faculty members of Northern universities in the field of Industrial Management. The second group consists of 70 experienced experts and managers from poultry production companies in northern cities who have at least 15 years of experience in commercial management. Sampling of cities in Gilan Province in this stage of the research is purposeful. Additionally, the snowball sampling technique is employed in this phase. Snowball sampling is a method in which sample units provide information about themselves and other community units to the researcher. Initially, an initial group is selected for interviews, and subsequently, interviews with other groups are conducted based on the recommendations of the first group. Interviews continue until no new ideas emerge, indicating theoretical saturation. It is worth noting that code repetition was observed from the fourteenth interview; however, data collection continued until the twentieth interview to ensure full theoretical saturation, resulting in a total of 20 interviews. Data collection in the qualitative section is conducted through interviews with a guided approach and semi-structured format. All participants are informed of the interview's purpose and questions via email in advance. Interviews are conducted following telephone follow-ups, consent from individuals, and scheduling of location and time. Before starting the interviews, the researcher conducts a comprehensive and in-depth review of the literature on LARG supply chain both in Iran and globally, and a study on LARG supply chain theories. The result of these reviews leads to the preparation of an initial list of questions, which, after validation by guiding and consulting professors, are formulated into a form to be asked of experts. In this phase, the interview begins with a question asking the interviewee to describe a sample of the LARG supply chain in recent years. To measure the reliability of this research, the test-retest method is used. Initially, the number of agreements is doubled and divided by the total number of codes. If the resulting value is above 60%, the reliability of the analysis is deemed appropriate, confirming the reliability of the coding. In the present research, the data obtained from interview texts were analyzed using MAXQDA software for increased accuracy and research speed.

3 Findings and Results

In the present research, data obtained from interview texts were analyzed using MAXQDA software for increased accuracy and speed. In the first stage, open coding was conducted, followed by the formation of concepts from the initial codes, and finally, categories were derived from the relationships among concepts. In the open coding stage, 419 codes extracted from 20 precise interviews with experts and specialists in the research field were converted into 128 more abstract concepts, ultimately resulting in the identification of 23 categories. The results of this stage, including the formation of concepts and related categories, are shown in Table 1.

Table 1

Concepts and Categories Derived from the Open Coding Stage Concepts and Categories Derived from the Open Coding Stage

No.	Concept	Category
1	Criticisms and complaints	Customer Relationship Management
2	Acceptance method	
3	Customer relationship system	
4	Customer loyalty	
5	Customer value	
6	Customer satisfaction	
7	Correct services	Service Delivery Management
8	Average service delivery time	
9	Service attractiveness	
10	Company image	
11	Response speed	
12	Service quality	
13	Information accuracy and precision	Information Management

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14	Timeliness of information	
15	Information exchange credibility	
16	Information exchange volume	
17	Job rotation	Employee Management
18	Employee rewards	
19	Employee safety and health	
20	Employee satisfaction	
21	Employee training	
22	Employee development and motivation	
23	Costs	Financial Management
24	Equipment prices	
25	Return on investment	
26	Productivity	Capacity and Resources Management
27	Technology (up-to-date resources)	
28	Workforce utilization percentage	
29	Workforce occupancy rate	
30	Number of workforce	
31	Number of active workforce	
32	Waste	Pollution Management
33	Workshop greenness	
34	Environmental considerations of the workshop	
35	Chemical gas emissions	
36	Overall waste toxicity	
37	Workshop physical appearance	
38	Workshop green space	
39	Corruption and bribery	Ethical Management
40	Manager's behavior with customers	
41	Worker’s behavior with customers	
42	Administrative staff behavior with customers	
43	Customer privacy protection	
44	Suitability of the country's economic infrastructure for development	Economic Factors
45	High government investment in production	
46	High government investment in production training	
47	Suitability of the country's economic space for improving production programs	
48	Existence of formal and informal connections with other production centers	Social Factors
49	Attractiveness of production programs	
50	Standardization of production programs	
51	Cultural value similarity of the production sector	
52	Production sector officials’ beliefs and attitudes toward society	
53	Government spending on technology research and development	Technological Environment
54	Improvement of production productivity through IT	
55	Speed and quality of communication and information exchange in the production sector	
56	Government attention to developing IT infrastructure in production	
57	Role of political institutions on internal production issues	Political Environment
58	Emergence of internal issues influenced by uncontrollable external procedures	
59	Existence of formal and informal political communication channels	
60	Attention to international organizations' standards and policies	
61	Equipment sanctions	Laws and Policies
62	Environmental requirements	
63	Relationships with environmentally friendly suppliers	
64	Waste reduction	
65	Energy consumption saving	
66	Internal social responsibility	Community and Stakeholders
67	External social responsibility	
68	Preventive training	
69	Modernity and up-to-date	Equipment
70	Sufficiency	
71	Ease of use	
72	Flexibility	
73	Customer attraction	Demand Management
74	Customer visit forecasting	

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75	Customer needs forecasting	
76	Delivery time and speed	Supplier Relationship Management
77	Quality of delivered goods and services	
78	Flexibility in the volume of delivered goods and services	
79	Price of delivered goods	
80	Supplier commitment	
81	Rapid service update	Environmental Dynamics
82	Rapid advancement of new technologies in the production sector	
83	Differing environmental factors	
84	Difficulty predicting customer needs changes	
85	Perfect competition market	Market Conditions
86	Monopoly market	
87	Rapid changes in market customer preferences	
88	Increasing new customer needs	
89	Accuracy	Time Constraints
90	Error and risk rate	
91	Rapid reaction	
92	Setting general goals	Production Promotion Planning
93	Specific and strategies	
94	Strategy implementation determination	
95	Strategy alignment with needs	
96	Problem analysis	
97	Operational program design and adjustment	
98	Public attention and participation in the program	Policymaking
99	Mentioning the concept of production promotion in the company's mission and goals	
100	Policy formulation for launching and implementing production promotion programs	
101	Sufficient investment for implementing production promotion projects	
102	Identifying and reducing environmental pollution	Environmental Management System
103	Reducing operational costs and waste disposal	
104	Formulating environmental policies	
105	Reducing pollutant and hazardous substance emissions in the environment	
106	Monitoring program progress and revising the environmental management plan	
107	Company collaboration with other foreign companies	Improving Joint Collaboration
108	Collaboration among different units within the company	
109	Employee participation in collaboration across different sectors	
110	Employee participation in increasing production	
111	Reducing customer dissatisfaction	Reducing Error Risk
112	Reducing manufacturing errors	
113	Reducing production waste	
114	Reducing errors in the production process	
115	Reducing errors in the use of technology and equipment	
116	Modern and up-to-date company equipment	Improving Service Quality
117	Employee interest in solving company problems	
118	Quick and prompt service delivery	
119	Polite and friendly employee behavior with customers	
120	Understanding and meeting the specific needs of each customer	
121	Training and care programs	Promoting Professional Status of Personnel
122	Behavioral training programs	
123	Technological training programs	
124	Motivational incentives	
125	Reducing pollutant emissions	Improving Environmental Status
126	Cost reduction	
127	Reducing environmental pollution management	
128	Improving waste categorization	

Axial coding is the second stage of the grounded theory method, requiring more focus. Axial coding is the process of relating categories to their subcategories. For this purpose, categories and the relationships among them are classified using the axial coding paradigm, including the central phenomenon, causal conditions, strategies (actions and interactions), contextual conditions, intervening conditions, and consequences.

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Selective coding, the third stage of the grounded theory method, is the theory refinement process. Selective coding is the main stage of theorizing. During the selective coding process and integration, the transcribed interview texts were re-examined, and sentences and ideas indicating the relationship between main and subcategories were considered. In this stage, the central phenomenon around which other categories revolve and form a whole is systematically selected and described abstractly, linking it to other categories to present a comprehensive description of the process studied. The results of open and axial coding lead to selective coding, indicating that the supply chain is a function of causal conditions, contextual conditions, and intervening conditions. These factors prepare the conditions for the central phenomenon, leading to consequences.

Accordingly, the conceptual model presented in Figure 1 shows the relationships between the main categories derived from the qualitative analysis process. As mentioned, the causal conditions of the supply chain consist of five categories. To confirm whether these categories are correctly measured by their respective indicators, first-order confirmatory factor analysis is used. Table 2 presents the factor loadings of each indicator.

Table 2

Factor Loadings of Indicators for Causal Conditions of the Supply Chain

Factor Loading	Indicator	Factor
0.925	Equipment sanctions	Laws and Policies
0.947	Environmental requirements	
0.950	Relationships with environmentally friendly suppliers	
0.938	Waste reduction	
0.952	Energy consumption saving	
0.965	Internal social responsibility	Community and Stakeholders
0.949	External social responsibility	
0.971	Preventive training	
0.932	Modernity and up-to-date	Equipment
0.941	Sufficiency	
0.944	Ease of use	
0.956	Flexibility	
0.920	Customer attraction	Demand Management
0.967	Customer visit forecasting	
0.901	Customer needs forecasting	
0.955	Delivery time and speed	Supplier Relationship Management
0.966	Quality of delivered goods and services	
0.922	Flexibility in the volume of delivered goods and services	
0.818	Price of delivered goods	
0.997	Supplier commitment	

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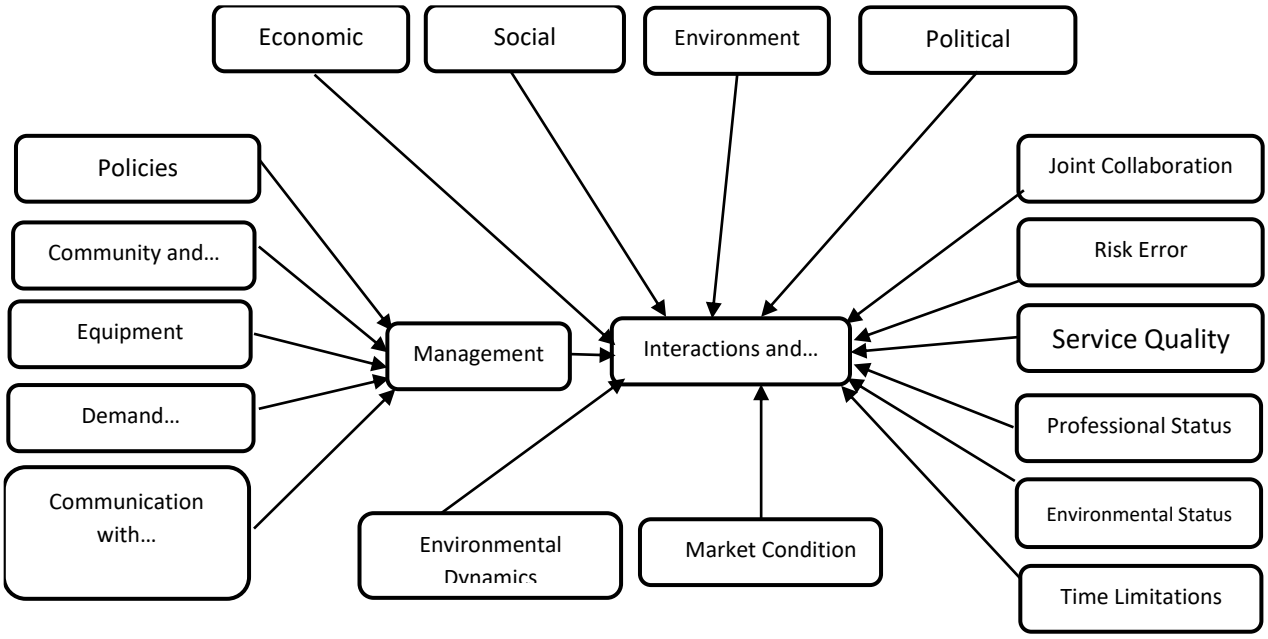
Figure 1

Conceptual Model



As observed, none of the factor loadings in the above table are less than 0.4, indicating that the model components are appropriate and the indicators adequately measure the constructs.

The contextual conditions of the supply chain consist of four categories. To confirm whether these categories are correctly measured by their respective indicators, first-order confirmatory factor analysis is used. Table 3 presents the factor loadings of each indicator.

Table 3

Factor Loadings of Indicators for Contextual Conditions of the Supply Chain

Factor Loading	Indicator	Factor
0.749	Suitability of the country's economic infrastructure for development	Economic Factors
0.925	High government investment in production	
0.891	High government investment in production training	
0.874	Suitability of the country's economic space for improving production programs	
0.973	Existence of formal and informal connections with other production centers	Social Factors
0.948	Attractiveness of production programs	
0.985	Standardization of production programs	
0.785	Cultural value similarity of the production sector	
0.958	Production sector officials' beliefs and attitudes toward society	
0.847	Government spending on technology research and development	Technological Environment
0.983	Improvement of production productivity through IT	
0.996	Speed and quality of communication and information exchange in the production sector	
0.987	Government attention to developing IT infrastructure in production	
0.906	Role of political institutions on internal production issues	Political Environment
0.934	Emergence of internal issues influenced by uncontrollable external procedures	
0.892	Existence of formal and informal political communication channels	
0.967	Attention to international organizations' standards and policies	

As observed, none of the factor loadings in the above table are less than 0.4, indicating that the model components are appropriate and the indicators adequately measure the constructs.

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The intervening conditions of the supply chain consist of three categories. To confirm whether these categories are correctly measured by their respective indicators, first-order confirmatory factor analysis is used. Table 4 presents the factor loadings of each indicator.

Table 4

Factor Loadings of Indicators for Intervening Conditions of the Supply Chain

Factor Loading	Indicator	Factor
0.992	Rapid service update	Environmental Dynamics
0.979	Rapid advancement of new technologies in the production sector	
0.837	Differing environmental factors	
0.909	Difficulty predicting customer needs changes	
0.939	Perfect competition market	Market Conditions
0.983	Monopoly market	
0.917	Rapid changes in market customer preferences	
0.951	Increasing new customer needs	
0.957	Accuracy	Time Constraints
0.920	Error and risk rate	
0.922	Rapid reaction	

As observed, none of the factor loadings in the above table are less than 0.4, indicating that the model components are appropriate and the indicators adequately measure the constructs.

The action and interaction conditions of the supply chain consist of three categories. To confirm whether these categories are correctly measured by their respective indicators, first-order confirmatory factor analysis is used. Table 5 presents the factor loadings of each indicator.

Table 5

Factor Loadings of Indicators for Action and Interaction (Strategies) Conditions of the Supply Chain

Factor Loading	Indicator	Factor
0.789	Setting general goals	Production Promotion Planning
0.768	Specific and strategies	
0.772	Strategy implementation determination	
0.973	Strategy alignment with needs	
0.916	Problem analysis	
0.874	Operational program design and adjustment	
0.892	Public attention and participation in the program	Policymaking
0.935	Mentioning the concept of production promotion in the company's mission and goals	
0.958	Policy formulation for launching and implementing production promotion programs	
0.941	Sufficient investment for implementing production promotion projects	
0.894	Identifying and reducing environmental pollution	Environmental Management System
0.918	Reducing operational costs and waste disposal	
0.963	Formulating environmental policies	
0.948	Reducing pollutant and hazardous substance emissions in the environment	
0.921	Monitoring program progress and revising the environmental management plan	

As observed, none of the factor loadings in the above table are less than 0.4, indicating that the model components are appropriate and the indicators adequately measure the constructs.

The consequences of the supply chain consist of five categories. To confirm whether these categories are correctly measured by their respective indicators, first-order confirmatory factor analysis is used. Table 6 presents the factor loadings of each indicator.

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Table 6

Factor Loadings of Indicators for Consequences Conditions of the Supply Chain

Factor Loading	Indicator	Factor
0.977	Company collaboration with other foreign companies	Improving Joint Collaboration
0.949	Collaboration among different units within the company	
0.913	Employee participation in collaboration across different sectors	
0.937	Reducing customer dissatisfaction	Reducing Error Risk
0.900	Reducing manufacturing errors	
0.919	Reducing production waste	
0.978	Reducing errors in the production process	
0.981	Reducing errors in the use of technology and equipment	
0.857	Modern and up-to-date company equipment	Improving Service Quality
0.996	Employee interest in solving company problems	
0.915	Quick and prompt service delivery	
0.979	Polite and friendly employee behavior with customers	
0.969	Understanding and meeting the specific needs of each customer	
0.888	Training and care programs	Promoting Professional Status of Personnel
0.998	Behavioral training programs	
0.928	Technological training programs	
0.995	Motivational incentives	
0.976	Reducing pollutant emissions	Improving Environmental Status
0.912	Cost reduction	
0.914	Reducing environmental pollution management	
0.955	Improving waste categorization	

As observed, none of the factor loadings in the above table are less than 0.4, indicating that the model components are appropriate and the indicators adequately measure the constructs.

4 Discussion and Conclusion

The aim of this study was to identify and analyze the factors affecting the performance of the LARG supply chain in poultry farming in Gilan Province using qualitative methods. The study revealed that several key factors, including customer relationship management, service delivery management, information management, employee management, financial management, capacity and resources management, pollution management, ethical management, economic factors, social factors, technological environment, political environment, and laws and policies significantly influence the supply chain performance. These factors included customer relationship management, service delivery management, information management, employee management, financial management, capacity and resources management, pollution management, ethical management, economic factors, social factors, technological environment, political environment, and laws and policies.

Customer relationship management (CRM) and service delivery management emerged as significant categories influencing the performance of the LARG supply chain. Elements such as customer satisfaction, loyalty, and effective communication were highlighted as essential components. This aligns with the findings of Beamon (1999), who emphasized the importance of customer satisfaction and service quality in supply chain performance (Beamon, 1999). Additionally, Golden, Rothrock, and Mishra (2021) highlighted the necessity of mapping foodborne pathogen contamination to improve customer trust and service quality in poultry supply chains (Golden et al., 2021).

Information management, focusing on the accuracy, timeliness, and credibility of information exchange, was identified as a crucial factor. This finding is consistent with Sezen (2008), who discussed the relative effects of information sharing on supply chain performance (Sezen, 2008). Effective employee management, including job satisfaction, training, and safety, was also found to be pivotal. Hakeem and Lu (2021) emphasized the need for proper training and management practices to control pathogens in poultry environments, underscoring the relevance of employee management in maintaining supply chain resilience and hygiene standards (Hakeem & Lu, 2021).

Financial management, encompassing cost control, equipment pricing, and return on investment, was another critical factor. This is supported by Liu et al. (2022), who discussed the impact of digitalization on supply chain

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integration and financial performance (Liu et al., 2022). Capacity and resources management, which includes workforce utilization and technological advancements, were also significant. Li et al. (2020) reviewed automated techniques for monitoring behavior and welfare, highlighting the role of technology in enhancing capacity management (Li et al., 2020).

Pollution management and ethical management were also identified as significant factors. The study found that managing waste, reducing emissions, and maintaining environmental standards are crucial for a sustainable supply chain. This aligns with the work of Anvari (2021), who integrated LARG supply chain paradigms to improve sustainable performance (Anvari, 2021). Ethical management practices, including addressing corruption and ensuring fair treatment of employees and customers, were emphasized, which resonates with the findings of Sibanda et al. (2018), who reviewed the impact of management practices on pathogen prevalence (Sibanda et al., 2018).

Economic factors, such as the suitability of economic infrastructure and government investment, were found to be influential. This supports Fathelrahman et al. (2020), who highlighted the role of biosecurity and economic factors in enhancing farm productivity (Fathelrahman et al., 2020). Social factors, including cultural values and societal beliefs, were also important, as noted by Masud et al. (2020) in their study on antibiotic use in Bangladesh's poultry industry (Masud et al., 2020). Technological environment factors, such as IT infrastructure and innovation, were crucial for improving efficiency and sustainability (Hamed & Bohari, 2022; Li et al., 2020).

The political environment and laws and policies were found to be critical in shaping the supply chain dynamics. Government regulations, environmental requirements, and relationships with suppliers were significant factors. This finding aligns with the work of Hafez and Attia (2020), who discussed the challenges posed by COVID-19 and the need for strategic future planning in the poultry industry (Hafez & Attia, 2020).

One of the primary limitations of this study is its reliance on qualitative data from a specific geographical location, which may limit the generalizability of the findings. The study's sample size, while sufficient for grounded theory analysis, may not capture the full diversity of experiences and practices in different regions or contexts. Additionally, the study did not incorporate quantitative data, which could provide a more comprehensive understanding of the supply chain dynamics.

Future research should consider expanding the geographical scope to include multiple regions and countries, providing a more comprehensive view of the factors affecting the LARG supply chain in poultry farming. Incorporating quantitative data alongside qualitative methods would offer a more robust analysis, allowing for the validation of findings through statistical techniques. Longitudinal studies could also provide insights into how these factors evolve over time and the long-term impacts on supply chain performance.

Another area for future research is the exploration of technological advancements in supply chain management. Investigating the impact of emerging technologies such as blockchain, artificial intelligence, and IoT on the LARG supply chain could provide valuable insights into how these innovations can enhance efficiency, transparency, and sustainability.

For practitioners in the poultry industry, the findings of this study highlight the importance of integrating comprehensive management practices that address multiple facets of the supply chain. Implementing robust CRM and service delivery management systems can enhance customer satisfaction and loyalty, which are critical for maintaining a competitive edge. Investing in employee training and welfare programs can improve operational efficiency and reduce the risk of pathogen outbreaks, as emphasized by other researchers (Eldin et al., 2023; Hakeem & Lu, 2021; Ucenic & Ratiu, 2017).

Adopting advanced information management systems to ensure the accuracy and timeliness of data exchange can significantly enhance decision-making processes and overall supply chain coordination. Financial management practices that focus on cost control and return on investment are crucial for maintaining profitability in a competitive market.

Furthermore, practitioners should prioritize environmental sustainability by implementing green supply chain practices, such as waste reduction and energy efficiency, which are critical for long-term viability and compliance with regulatory standards. Ethical management practices should also be a focus, ensuring fair treatment of all stakeholders and fostering a positive organizational culture.

Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

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Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

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