Research Article
Volume 9:4, 2020
DOI: 10.37421/jeom.2020.9.283

Journal of
Entrepreneurship & Organization Management

ISSN: 2169-026X Open Access

Effect of the Management of the Risk of an Increase in Treatment Cost on the Production of Commercial Broiler Farms in the City of Douala, Cameroon

Viban Banah Victor[1]* and Mfondo Merlin[2]

[1]DVM, Animal Production Expert with Minepia

[2]Dean of Studies in the Panafrican Institute for Development Central Africa

Abstract

The poultry sector plays a vital role in the development of the country and the Government considers that poultry farming is a secure employment sector for the youth of Cameroon. It is estimated that each Cameroonian consumes about 3.48 kilograms of chicken per year and the Government hopes to reach a chicken consumption rate per inhabitant of 12kg per person per year by 2035. However, this goal is threatened by numerous challenges amongst which is the inconsistency in production. The objective of this study is to assess the effect of the risk of an increase in treatment cost management (the risk of self-medication, the risk of poor diagnosis and the risk of poor drug administration) on the production of selected broiler farms in Douala. This study was carried out using a survey research design. Simple random sampling technique was used to select the poultry farms in the three clusters, Douala III, IV and V sub-divisions that represent the areas where most of the poultry enterprises in are located Douala town. Then, purposive sampling technique was used to select 216 respondents that is 52, 56, 108 poultry farm managers and their assistants in Douala III, IV and V sub-divisions respectively. Primary data was gotten through the use of a well-structured questionnaire and secondary data through magazines, newspapers, published articles and official reports. Statistical Package for Social Sciences (SPSS, 20) was used to run the major statistics from the data collected. The coefficient of multiple determinations (R2) was used to assess the effect of risks of increase in treatment cost management and broiler production. The findings reveal that, the R^2 value of 0.74 indicates that, about 74% changes in the production of broilers is caused by changes in the risk self-medication (RSM), risk of poor diagnosis (RPD) and risk of poor drug administration (RPDA). The adjusted R2 value of 0.66 implies that the model is 66% goodness fit. All the three hypotheses of this research as well as the main hypothesis have been rejected. It was suggested that, the farmers should always seek the services of an animal and production professional and respect his prescriptions as far as disease diagnosis, veterinary drug choice and administrations are concerned.

Keywords: Risk management • Production • Commercial broiler farms • Self-medication • Poor diagnosis • Poor drug administration.

Introduction

Empirical data of poultry production reveals that the first evidence of poultry farming was in the year 1800 in the United States of America (USA). During the period ranging from 1800 to 1900 poultry production was done in small quantities by individual households. At that time, it was essentially backyard farming, and the meat obtained was used for family consumption and any surplus was sold to the neighbours. The years 1920 to 1930 saw the beginning of broiler production that is a type of chicken specialized for meat production only ("History of poultry production", n.d.). This evolution was spurred by an increase in the demand for meat birds ("History of poultry production", n.d.). Farmers began to notice that, some birds were better suited for laying eggs while others were better producers of meat. They began to raise single purpose chickens used for one reason either egg or meat production, as opposed to dual purpose chickens that were used for both egg and meat production, but just average in performance ("History of poultry production", n.d.). In the 1940s, the poultry industry began to modernize with the beginning of processed chicken ("History of poultry production", n.d.). Producers began to sell their birds already processed that is killed and cleaned. There was a separation among stakeholders involved in the production stages that is hatcheries, feed-mills, farms and processing units that were built in different locations. 1950 to 1960 saw the development of a real commercial broiler industry with vertical integration at every stage of production, processing and marketing. This integration had the advantage of more efficiency, responsiveness and profitability. Then came 1970 to present date era that is characterized by the following developments: Research in animal nutrition with nutritional discoveries, disease eradication programs, genetic improvements, and new technologies. A major contributor during this era is the mechanization of processing and the introduction of automation technologies ("History of poultry production", n.d.).

Despite these great improvements over the last centuries, the poultry industry worldwide is still faced with a number of difficulties. According to Yegani (2011), despite substantial qualitative and quantitative progress in different sectors of the poultry industry, the industry still continues to face numerous challenges on a global basis. Some of these major challenges include: Feed cost, Disease outbreaks, Issues about the inclusion of antibiotics in poultry feed and also the use of alternatives to antibiotic growth promoters, the safety of poultry products for human consumption, poultry welfare-related issues, nutrition-related environmental issues, issues related to water in terms of both quality and quantity.

These challenges are important factors that can hamper efficient and effective poultry production. In other words, the occurrence or absence of these challenges/risks can have an effect on the performance of the poultry industry.

Globally, the study of risk management began after World War II. Risk management has for ages been limited to the use of market insurance to protect individuals and companies from various losses related to accidents. International risk control began in the 1990s, and financial organizations developed internal risk management models and capital calculation formulas to hedge against unanticipated risks and reduce regulatory capital [1]. Risk and uncertainty have always existed in all business ventures. However, with the globalization of businesses, risk is now playing a preponderant role in the

***Address for Correspondence:** Victor VB, DVM, Animal Production Expert with Minepia, Cameroon, Tel: +237677498263, E-mail: vibanvictor@yahoo.fr*

Received 05 August 2020; **Accepted** 05 October 2020; **Published** 12 October 2020

performance of organizations. Salman, Jurgen and DeVreede [2,3] state that risk management is a powerful tool that supports management in making major business decisions. Risk Management helps to prevent business failures, rework and overkill, but more importantly, it stimulates win-win situations.

Risk management practices (RMP) are often considered as appropriate tools to cope against these uncertainties, but their adoption can also absorb resources meant for the production activity, resulting in a controversial impact on the overall farm productivity.

Therefore, in this global context, a wrong decision can have a huge economic, financial and social impact on the activities of an organization. As a consequence, risk management is now standing out clearly as an aspect to consider in the daily life of a company, and the poultry sector is not exempted from this trend.

Poultry production in Cameroon unlike in the United States, for example, is still a relatively young industry. However, there are a few similarities in the evolution of the industry. At its beginning, it was traditional with very little inputs and the birds used were exclusively less productive breeds. Over the years, the situation has changed with the introduction of improved breeds of chicken that have higher performances, the modernization of rearing techniques and the birth of new stakeholders. In the last decade, a truly commercial poultry industry has evolved characterized by a clear organization of the stakeholders into separate aspects of the sector (MINEPIA Magazine, 2016). This improved organization of the sector, as well as the ban of importation of frozen chicken in 2006, has led to rapid growth of the industry [4]. The increase in production has led to the exportation of poultry products especially eggs to other countries in the Central African sub region and in Africa as a whole (GIZ, 2016). Experts state that about 80% of the products of the poultry sector in Cameroon is exported and consumed out of the country. Nowadays, the poultry sector is organized into hatchers, farmers, feed producers and equipment providers, veterinarians, chicken and egg distributors. Three types of breeds are used by the poultry industry notably the white table birds, the brown egg-laying breeds and the "local birds". Production is mostly done on the floor as compared to cages elsewhere [5]. Poultry houses or farms are usually built with a mixture of material such as cement blocks and plank ([5]. It is also possible to see houses that are built with bamboos. Poultry production in Cameroon is in the hands of small producers that constitute the majority with a few big producers who lead the market. The poultry industry is polarized.

Also, the Government has shown a lot of interest to this sector and has taken important measures to boost its development. In 2013, a subvention of 600 million FCFA was injected into the sector through the support of day-old chick producers. Corn which is the main ingredient in chicken feed because it makes up 80% of it, has been imported and distributed at very low rates to farmers in an attempt to bring down the cost of production. The Government has suspended the importation of chicken since 2006 so as to avoid competition in the local market with heavily subsidized chicken from Europe. In 2014, in order to improve the organisation of the sector and bring in new investors, the Government organised the first international poultry forum (SAVI) in Yaounde. The second edition was held from the 24th to the 28th October 2016 and the third edition from the 3rd to the 5th of May 2018.

Today, poultry products represent 14% of all animal protein sources to Cameroonians (MINEPIA Magazine, 2016). In 2015, the poultry sector contributed about 5% to the Gross Domestic Product (GDP) of Cameroon [6]. The poultry industry plays a very important role in the development of the country, and the Government considers that Poultry farming is a secure employment sector for the youth of the country (MINEPIA Magazine, 2016). Private investments are encouraged. Reports from the "Interprofession Avicole du Cameroun" (IPAVIC), show that, as of 2013, there were 9,000 poultry farms and the poultry sector alone created about 320,000 jobs. The production figures stood at 46.43 million broilers per year or 69,650 tons of poultry meat and 119,340 tons of table eggs. A close look at these statistics reveals that, each Cameroonian in an estimated population of 20 million from the last census of 2005 consumes 3.48 kilograms of chicken per year. The Food and Agricultural Organization (FAO) reports state that, in 2009, poultry consumption stood at less than 10 kg per person in Africa and around 50 kg per person in the United States. The average world consumption was 13.6 kg per person. A close look at these figures shows that, there is a huge gap in terms of consumption per person that has to be filled through national production. Indeed, the poultry industry has a lot of factors that are favorable to it. Notably, suitable temperature appropriate for poultry farming, the possibility of importing inputs that is not available locally without customs duties and taxes and a huge sub regional market [4]. Unfortunately, this potential is still not exploited fully because of a number of setbacks.

According to the Government, Cameroon hopes to reach a chicken consumption rate per inhabitant of 12 kg per person per year by 2035 (PACA, 2013). To achieve this objective, experts are of the opinion that, the poultry industry must experience continuous and steady growth for several years. Unfortunately, the industry is plagued by several setbacks that hamper investment, production, marketing and consequently the growth of the sector. Some of these issues are the lack of financial resources, lack of quality inputs, lack of trained professionals in quantity and quality, disorganized markets, frequent disease outbreaks, etc. For instance, Cameroon has experienced two outbreaks of bird flu, a serious poultry disease that has huge sanitary and economic impact, over the last twelve years. The first outbreak was in 2006 and the most recent in 2016. The recent episode lasted for more than one year and had a huge impact on the poultry industry. Experts in the poultry sector declare that the recent bird flu outbreak caused an estimated loss of 66 billion francs CFA to the industry. At the same time, its contribution to the GDP slowed down to 1% [7].

Apart from the rare events with national impacts that seem to occur every ten years, more troubling to the growth of the poultry industry in the littoral regional and the city of Douala, in particular, are the daily difficulties concerning access to capital, improving production, transformation and marketing. For example, as far as production is concerned, the mastery of some production parameters like chicken death (mortality), weight gain and treatment costs are important day-to-day factors that can inform decisions those farmers have to take.

According to the Project to improve agricultural competitiveness (PACA) treatment cost refers to all those expenses linked with the purchase of medication and diverse veterinary products (disinfectant, vaccines …). Treatment cost should be estimated at the beginning of a commercial farming project since it is a technical factor that can easily become a drawback to the attainment of project objectives, especially given its dependence on the ever changing and dynamic environment. Therefore, this study is carried out to determine the effect of the management of the risk of an increase in treatment cost on the production of commercial broiler farming in the city of Douala.

Research Objectives

The main purpose of this research is to assess the effect of the management of the risk of an increase in treatment cost on the production of commercial broiler farms in Douala

More specifically this work aims to:

- Assess the effect of the management of the risk of self-medication on the production of commercial broiler farms in Douala;

- Assess the effect of the management of the risk of poor diagnosis on the production of commercial broiler farms on Douala;

- Assess the effect of the management of the risk of poor drug administration on the production of commercial broiler farms in Douala;

Research Questions

This work has as key research question: what is the effect of the management of the risk of an increase in treatment cost on the production of commercial broiler farms in Douala, Cameroon?

More specifically, it will address the following issues:

1. What is the effect of the management of the risk of self-medication on the production of commercial broiler farms in Douala?

2. What is the effect of the management of the risk of poor diagnosis on the production of commercial broiler farms in Douala?

3. What is the effect of the management of the risk of poor drug administration on the production of commercial broiler farms in Douala?

Research Hypotheses

This work has as main research hypothesis: there is a positive effect of the management of the risk of an increase in treatment cost on the production of commercial broiler farms in Douala, Cameroon.

More specifically, the following hypotheses will be tested:

1. There is a positive effect of the management of the risk of self-medication on the production of commercial broiler farms in Douala.

2. There is a positive effect of the management of the risk of poor diagnosis on the production of commercial broiler farms in Douala.

3. There is a positive effect of the management of the risk of poor drug administration on the production of commercial broiler farms in Douala.

Methodology

The research adopted the survey research design. A sample of 127 broiler farms was selected. The primary data collection instruments were a questionnaire, an interview guide and an observation guide. The well-structured questionnaires were addressed to the poultry farm managers and their assistants. Data was also collected from some animal health and production experts using the interview and observation guides. The research instruments were validated and their reliability ensured using cronch bach alpha reliability coefficient. The data gathered was analyzed using the Statistical Package for Social Sciences (SPSS) version 20 and Microsoft Excel 2013.

Findings

A regression analysis was run on the effect of risk of treatment cost on the production of commercial broiler farms. The results are presented in this table and comments follow below.

The results in Table 1 revealed that the R^2 value of 0.74 indicates that, about 74% changes in the production of broilers is caused by changes in treatment cost of the risk of self-medication (RSM), risk of poor diagnosis (RPD) and risk of poor drug administration (RPDA). This means that, the remaining 26 % changes in the broilers production could be caused by others factor not shown in the equation. The adjusted R^2 value of 0.66 implies that the model is 66% goodness fit. The F-statistics of value of 104.89 which is significant at 0.05 level of significant indicate that there is a significant impact of treatment cost on the production of commercial broilers.

Table 1a. Dependent Variable: Production.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.387	1.288		4.961	.000
	RSM	-.213	.066	-.267	-3.202	.002
	RPD	-.336	.086	-.364	-3.900	.000
	RPDA	-.529	.168	-.408	-3.156	.002

R^2=0.74

Adjusted R2=0.66

F-statistics=104.89

The estimated coefficient of the risk of self-medication (RSM), risk of poor diagnosis (RPD) and risk of poor drug administration (RPDA) are all negative. This means that there exist an inverse relationship between these variables and the production of commercial broilers. In other words an increase in any of these variables will lead to a decrease in the production of commercial broilers. All the three hypotheses of this research as well as the main hypothesis have been rejected.

Discussion and Findings

These results are all significant at 0.05 level of significance and in line with management theories. These findings are in line with the findings of Ishag Kheiry [8] indicating that, broiler farmers in Oman are increasingly exposed to a wide range of risks while the availability of risk management instruments lags behind. These findings are also in accordance with the findings of Mobley and Kahan [9], stating that, for the broiler production to be profitable, a good disease prevention program should be available for the newly introduced chicks to avoid any future losses. Diseases can be transmitted via humans, other birds, newly introduced chicks, or contaminated equipment. Controlling diseases from the beginning is important for the success of the operation. Vaccination is an effective way to reduce the negative effects of diseases that can cause losses in a poultry farm production, showing the negative effect of treatment cost risk on the production of commercial poultry farms [10].

Conclusion

From the result of the research, the researchers can say that the risk of an increase in treatment cost exerts a negative effect on the production of commercial broilers in Douala. In other words, poor management of treatment cost rates affects broiler production negatively. Therefore, its causes should be identified, constantly monitored and controlled in commercial poultry projects. The objectives of the research were achieved because the results showed that improving the management of risk related to treatment cost can improve the performance of commercial broiler farms. Overall, there is a significant relationship between treatments cost practices and production in poultry farms in Douala.

Recommendations

Due to the challenges faced by the commercial broiler farmers in Douala and the impact of these constraints on the attainment of their production objectives on the one hand and the sustainability of their enterprises on the other, we suggest the following recommendations.

To policy makers

It is recommended that, the Government should insert in the laws governing education and training of animal health professionals a periodic review and update of school curricula. These review sessions will verify on the one hand that the current programmes still meet the needs of the poultry farmers and on the other, incorporate as the case may be recent scientific developments in the programmes.

To poultry farmers' association (IPAVIC)

It is recommended that, the poultry farmers' association executive should seek for partnerships with other organizations of animal health professionals of the poultry sector like the National Veterinary Council of Cameroon (ONVC).

It is recommended that, the poultry farmers' association should encourage their members to use the services of only trained animal health professionals who are duly registered with their organizations and therefore answerable to these organizations in the case of misconduct or lack of ethics.

To the commercial poultry farmers in Douala

It is recommended that the farmers should always seek the services of an animal and production professional and respects his prescriptions as far as disease diagnosis, veterinary drug choice and administrations are concerned. The terms of their collaboration should be contained in a contract that is legal and can be enforced by a court of law.

It is recommended that farmers refrain from treating their birds by them without a proper technical assistance.

References

1. Dionne G. "Risk Management: History, Definition and Critique." *Risk Manag Ins Rev* 16 (2013): 147-166.
2. Minepia. Annual performance reports (2012).
3. Grinsven JV and Vreede GJ. "Addressing productivity concerns in risk management through repeatable distributed collaboration processes". 36th Annual Hawaii International Conference on System Sciences (2003).
4. Giz. Climate and Environmental Report (2018).
5. Folefack DP, Fouepe GHF, Adamou KM and Ebongue JP et al. "Analysis of the Plantain Supply System of Markets in the City of Douala." *J Eco Sus Dev* 8 (2017).
6. Cameroon: Ipavic announces production of 50 million chickens in 2016. https://www.financialafrik.com/2016/01/20/cameroun-lipavic-annonce-une-production-de-50-millions-de-poulet-en-2016/
7. Cameroon Tribune, Friday, 24 June 2016 16:59, consulted 24/07/2020 at 5:11 in https://www.businessincameroon.com/index.php/farming/2406-6327-cameroon-a-month-after-discovery-of-bird-flu-outbreaks-poultry-sector-loses-fcfa-10-billion
8. Ishag KHM. "Broiler Production Systems Risk Management Sustainability and Feed Subsidy Policy Analysis." *IOSR-JAVS* 12(2019): 33-44.
9. Mobley R and Kahan T. Practical Management of Health Issues in a Poultry Production System: Symptoms, Sources, and Prevention of Common Diseases, Florida A&M University, Tallahassee, Florida (2007).
10. Hamra CF. An Assessment of the Potential Profitability of Poultry Farms: A Broiler Farm Feasibility Case Study. A Research Paper Submitted to the Faculty of The University of Tennessee at Martin in partial fulfillment of requirements for the degree of Master of Science Agriculture and Natural Resources Systems Management (2010): 1-43.

How to cite this article: Viban Banah Victor and Mfondo Merlin. Effect of the Management of the Risk of an Increase in Treatment Cost on the Production of Commercial Broiler Farms in the City of Douala, Cameroon. *J Entrepren Organiz Manag* 9 (2020) doi: 10.37421/jeom.2020.9.283