

# Effectiveness of technology in meat production



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The Problem and Its Setting Introduction Technology Indeed has changed how most businesses are done today. Technological advancements have undergone in the last couple of years. More and more developments seem to be happening with great minds of people at work. The reality that business itself has become technology makes a difference when comparing it during the past decades. Technology has dramatically revolutionized the way businesses work.

From traditional to automated, from simple to complex, these are all changes brought with the adoption of technology, making it a part of the underlying emissions of establishing a successful business, Every business has a different approach on what technological advancement they will engage to in order to make their businesses shift to a higher level; making It cream of the crop. Meat production business has certainly take part in the trend of bringing technology into their services. Discovering the unlimited potentials of the Industry and serving it to its clients.

Meat companies must catch up with the technological advancement today by bringing the state-of-the-art technology at their processing plants. With this, meat production companies need to maintain the laity and safety of the product they make as it is the one valued. It also serves as the foundation of where are they now. In the Philippines, there are several meat companies today. Each of this company already located a way to revolutionize their production as they engage with technological changes. The effectiveness of technology on these companies is different as they dealt with the different techniques.

Making the most high quality products, meat production companies might expand across countries, making it one of the top-of-the-line meat companies today. With this in mind, we, the researchers cited to conduct a study about the effectiveness of technology in meat production. The researchers have decided to discover the insights of COD Photosphere Inc. Background of the Study More investments are made by meat processing companies to expand their operations in producing high-class products and possibly emerging globally.

According to Secretary Salvador Clausal, "Cod's utilization of modern machines and techniques, creation of new meat by-products and proper packaging, have contributed immensely to the realization of our goal of a stable supply of basic commodities at affordable prices." Through the years, COD Photosphere Inc. came one of the most well-known meat processing companies up-to-date. The processed meat products they make have become very much a part of modern diet of Flossing.

Industry stakeholders acknowledge the importance of this sector in providing cash flow within the country. In contrast, there is a huge discrepancy in terms of level of mechanization among I OFF 100% manual. For big players, level of mechanization range from 50-95% The question on what effectively does technology contribute to meat processing companies is raised by the industry stakeholders. And we, the researchers, will provide data for this problem. Setting of the Study This study will be conducted in Vulcan, Philippines (Figure 1).

The Philippines, a part of Southeast Asia is a tropical country with 7, 107 islands. Meanwhile, COD Photosphere Inc. In El Camino Road, Stop. NIH, Mycenaeen City, Vulcan (Figure 2) is the selected company for this study. It is a meat processing company that produces different kinds of frozen and processed products. COD strives for consumer's total satisfaction, driven, it searches for new products that would answer consumer's needs as well as uplift their lives with new discoveries. Figure 1 Map of Vulcan Figure 2 Map of COD Photosphere Inc. N El Camino Road, Stop. Nine, Mycenaeen City, Vulcan

Theoretical/Conceptual Framework This study will be guided by Mar's Historical Materialism theory (1880). Included in the writing of Karl Mar's theory of Historical Materialism, he tackled the mode of production. It is a specific combination of productive forces which include human labor, power and available knowledge given the level of technology in the means of production. In example, tools, equipment, building, technologies, materials and improved land.

Marx believes that industrial production, technology and economic growth are the necessary elements to achieve a better stage in material life. The indecency of capital is realized by the transformation of the means of labor into machinery. It is this transformation with the implement of mechanism of production which Marx claimed necessary. " The implements of labor, in the form of machinery, necessitate the substitution of natural forces for human forces, and the conscious application of science, instead of rule of thumb".

In relation to that concept, this study will be based by the theory on technological change in food processing industry (1999). The major drivers have been changing relative prices, Increasing competitive pressures from <https://assignbuster.com/effectiveness-of-technology-in-meat-production/>

globalizes markets, improving transportation and egoistic infrastructures, evolving information systems and increasing consumer demands for quality differentiated products. Technology is giving us a huge hand to help us lessen the manual work of men in meat production every day, which leads to increase meat production in a shorter period of time.

In the theory, technological change in a competitive food processing industry should reduce unit production costs, consumer prices, and marketing margins while increasing farm output prices. Figure 3 The Conceptual Chart on Using the System Model Figure 3 shows the process that will be done in this study. Using the system model, the input includes the technology performance of the equipments being used by effectively of the technology being adapted by COD at its operations. Lastly, the output is to propose study and measurements on the effectiveness of technology on meat production.

Statement of the Problem The Study intends to investigate the effectiveness of technology on production within a meat production company, specifically on COD. Specifically, the study seeks to answer the following questions: 1 . What are the benefits of technology in terms of: 1. 1 Meat Product Companies 1. 1. 1 Quantity of products . 1. 2 Time Management 1. 1. 3 Budget 1. 1. 4 Income 1. 1. 5 Demand 1. 2 Consumer 1. 2. 1 Quality 1. 2. 2 Savings 1. 2. 3 Satisfaction 1. 3 Employee 1. 3. 1 Difficulty 1. 3. 2 Laboring 1. 3. 3 Safeness 2. How do the companies upgrade their technology through time? . How does technology affect the cleaning, decontamination, preservation and packaging processes of the meat products being made? 4. What are the implications of the effectively of technology to the company's

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growth as an industry? Significance of the Study The study will give the industry stakeholders of meat processing industries an accurate and clear idea on how effective technology usage in their operations and manufacturing is. This study will help and give them a better idea and overview of what the outcome of the technological advancement brought them.

Through this, they could also think and plan more ways in improving their products and operations for consumers' welfare and satisfaction. Scope, Delimitation and Limitations of the This study will be concerned with discovering what the extent the effectively of technology can contribute in making COD Photosphere Inc. ' s goods and services, of high quality, nutritious and at its best. It deals with shifting to a more a advanced way of making their products as they constantly engage in high quality research.

It will investigate only the processes involved within the internal and external environment related with the affairs of the company as connected with technology. It will not consider the personal characteristics of the owners, employees nor the consumers. Definition of Terms The following terms are defined according to the context in which they will be used in the study for a clearer understanding of what the mean: Meat Production . It refers to meat sold to enterprises, processing meat and meat reduces or to purchase for slaughter. And efficient technology usage covering all assets of human life including business.

CHAPTER 2 Review of Related Literature and Studies This chapter includes the review of related literature and studies which the researcher have

perused to have a bases or references for the topic under study. Foreign Literature Jude Capper PH. D (2012) in his article “ The Environmental and Economic impact of removing productivity- enhancing technologies from U. S. Beef Production,” discussed that discontinuing use of scientifically proven, U. S Food and Drug Administration – proved technologies would create sobering unintended consequences. These effects are equivalent to imposing an 8. 2 percent tax on U. S. Beef farmers and ranchers , leading too 17 percent reduction in U. S. Beef production by 2023” says Capper . And it releases of 3. 1 billion more metric tons of CO CEQ, and the destruction of 16. 9 million acres of Amazon Rainforest’s in the West Central Centered regions of Brazil. “ The Bottom line is that losing the ability to use safe, approved technologies will create significant environmental and economic challenges that are undesirable and unnecessary,” Capper concludes.

This literature is closely related to the current study for it directly mentions the effect of losing the technology in the meat production. Automation in the meat - processing industry is an important issue. It ensures greater energy efficiency as well as productivity and quality. In addition, it improves hygiene conditions and relieves staff of the heavy physical work. Industrial robots are increasingly proving to be the key to effective solutions as opposed to costly specialized mechanical approaches. (“ Automation for Greater Productivity and Food Safety’).

This is related to the present study because it discussed how the technology helps he production of meat in terms of hygiene and quality. Andrew Peacock (2011) in his article “ Robots and Automation on the line” discussed that installing robots has also significantly fallen in price in recent years and <https://assignbuster.com/effectiveness-of-technology-in-meat-production/>

that generally the cost of these kinds of robot generally lower than bespoke machines. It also help to reduce the numbers of people working on a line and this will not only reduce cost but also cut the possible risks , improve safety and they improve hygiene in the workplace.

His article was relevant to the present research in that it tackled how technology/robot can help o the company to became good in quality and hygiene and the work was reach it expectations and the labor cost and the price will reduce and it's good for the both side. Chris Harris (2009) in his article " Traceability Advancing with Technology' discussed the concept of traceability has developed for the entire food chain as a way of showing the provenance , authenticity , wholesomeness and healthiness of the food on offer as well as being a food safety measure.

This literature is closely related to the current study for it directly mention the effect of the advance technology in racing the meat product. Chris Harris (2010) in his article " Robotics - The Future of the Food Processing Industry' discussed that the use of robotics in the production of becomes a part of the food safety and hygiene regime and becomes the answer in having higher speed of production and to lack of man power. As many companies use a adapt automation , it becomes a part not only of the production but from slaughter to final packaging , state - of- the - art technology is being used.

This literature is closely related to our current study for it discussed how technology or automation answers and participates on the operations of the company, the current study like the article reviewed aims to know and discover the progress being made with the adoption of technology. The use



of wireless technologies and Ethernet in the recent years has substantially changed the world of process automation. The importance of measurement technology was emphasized as it is related to the monitoring operations on the production of the products.

Through technology, “ Intelligent” measuring instruments made the production easier and more accurate. It makes the production a dynamic process. Moreover , the measurement technology must also attics the hygienic regulations of the industry. (“ Modern Sensors Provide Precise Insights Into Production,” 2012). Meat processing industries adapt technologies and relating it to our current study, the effectiveness being described is not just with the production operations of the company but moreover, with the efficiency and quality of the products meeting up with the hygienic and sanitation standards.

Knolled and Told (2012) in their book “ Advanced Technologies For Meat Processing” tackled that in the recent years, the meat Industry has incorporated important technological advances. The book presents developments concerning the quality, analysis and processing of meat and meat products. The book begins by explaining various production systems that includes the use of modernized systems and facilities. It describes different new technologies that emerged that meat processing industries are systems of the final products. This is related to our present study because it discussed the importance of technological advancement to meat industries.

It contributed to a broader aspect of what “ effectiveness” in our current study embodies. This book became a great help for it has data that is

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connected to our duty. Sanderson and Cheeriest (1985) in their article “ Technical Forces Shaping the U. S. Food Processing Industry,” discussed that U. S. Food Companies spend over one- half percent of their earnings on research and development , meaning they spend a lot of money in order to adapt technological changes in their products. According to the article, the U. S. Food Industry had annual sales worth \$176 B, meaning, about \$1 B was spent on research and development.

The article also tackles the major forces on technological advancement. It is said that ultimately, consumer preference is the main concern why the industries spend a lot of money on advancement. Marketers strive to optimize certain factors into the products that they sell for it is a very essential tool for success. The article was a relevant one because it sheds light so as to why industries are using technology in their operations and why are they spending so much for these. We think that knowing how industries are dealing how effective it is during the process.

Local Literature New plant is part of the Government’s Millennium Development Goals aiming to reduce poverty. Though industrialization and modernization, the new plant will recess meat products that will provide assistance or capital for the hog and poultry our study because it shows the potential of the meat processing industry. Through the use of technology, it will not only create and sell products but it will also help people to earn a living. It shed light to our study because the effectiveness and help of technology not just stay with the four corners of the company but with the external environment too.

Gloria Tuiton (2006) on her article, "Meat Processing Technology for the Oilcan's" described the advantages of technology over the production of meat products by the industries. He mentioned that there is longer storage life of the products and acceptability of the products being made. He also added that there is an increase in the profitability or income for households and meat processors. There is also stable product quality, meaning there is less waste, reject or rework because of IGMP and standardized processing procedures.

This article is very relevant for it focuses on the pros of using advanced technology for meat production which is the focus of our problem. It breaks down the effectiveness of using technology in simpler words that can be understood easily. Amidst the challenges in hog prices and production costs in 2010, they were able to effectively mitigate the pressure through their implementation and optimization of their production and distribution. In addition, they enhanced their equipments with the aim of strengthening their position in the market. (Run Food Reports Percent Profit Jump," 2011).

This article is relevant to our study because it concretely shows how effective enhancing the system of production and distribution is through using modern technology. Meat processing has become a very important segment of the Philippine Economy. According to the article, it contributes to over POP Billion to the Gross Domestic Product. There's a bright prospect for the Philippines to become a production hub for high quality meat processed products as they emerged in adapting state-of-the-art technology and equipments. ("Meat Processing Business." 2007).

This literature is relevant to our study because it explain how the meat processing industries in the Philippines are doing as they use modern technology. It shows that through this shift, industries can help our country. Namely Velour's report on an agricultural program reported that eat processing industries follow policies that needs to be followed and maintained, starting from the slaughterhouse up to its packaging aspects. Technological instrument were featured and it was observed that even though they shift on technology, they still maintain the quality of the products they make.

And through research and development , they were also able to make these product more high- quality , healthier but still preserving its original taste that consumers used to eat. This is relevant to our resent study as it contributes in determining how technology makes progress to the products being made by the meat industries. The push to build more modern slaughterhouse and impose standards indicate growing demand for modern meat processing technology. Vietnamese Government knows changes must be made due to growing concern over food safety along with the rising demand for hygiene.

According to Lad Miscommunication , General Manager , NEO, the reforms being undertaken indicates a positive outlook for the meat processing industry. In addition, with the modernization of the industry, newcomers who want to penetrate to the industry are Pushes to Reform Meat Processing Industry," 2009). This article is relevant to our study because it shows the ring out the best in them through automation and upgrading of the company's operations. It may be prudent for both developing and developed <https://assignbuster.com/effectiveness-of-technology-in-meat-production/>

countries to review carefully the costs of intensive meat production before investing in such operations.

At the same time, consideration of progressive and more sustainable approaches to energy efficient production with the shift that they will undergo, each society shall have to decide how much more they prepared for their meat so as to include the true costs of the production processes in the retail price. (" Energy Flow , Environment and Ethical Implications for Meat Production," 2010). This report is relevant to our study because it explain how companies deal with the idea of bringing up modernized technology into their operations.

It will help our current study, we will be able to widen our minds and understand the root cause of modernization they are making. The Philippine Information Agency Special Report of Nil O. Argue (2012) revealed that a meat processing firm in Santos Domingo town has now widened its market in ' Ilocos Norte, La Union and Baguio City. The technology intervention included designing of label, acquisition of foot type sealer, meat mixer and slicer. With the machine, mixing of ingredients in more even and lesser human middling of the product minimizes contamination, and improves quality and longer shelf life of finished products.

Her article was relevant to the present research in that it tackled how the technology affects the production of meat. Cod's utilization of modern machines and techniques , creation of new meat products by proper packaging have contributed immensely to the realization of our goal of a stable supply of basic commodities at affordable prices (" Meat Processing

Industry remains Vibrant as Investment Continue," 2012). This literature is closely related to the current study for it discussed how COD Photosphere Inc. Sees the modern technologies to enhance their meat production.

Foreign Studies Scientists at the University of Alberta, Canada, developed the study with new technologies that may help the meat product industry improve profitability. The team focused on protein recovery and enrichment of poultry meat in improving meat quality. Dry. Mirror Bette , an Assistant Professor of poultry proteins as ingredient , human seem to have lower allergenic reactions towards the meat products. They also conducted a study on HP or High-pressure Processing, an emerging technology, a way to cook food without heating it. New Technologies for Meat Product,") The scientists' study was relevant to our present study for it tackled the improving of meat products through the use of technology. However , it only dealt with the quality and the nutritional value of the food while our study concerns every aspect of meal production. According to a study conducted by Choices Magazine, technological change in the food processing industry has increased rapidly over the past several decades . In theory, technological change in competitive food processing industry should reduce unit production costs, consumer prices and marketing margins while increasing output prices.

The study concluded that technological changes have significantly influenced marketing margins and livestock process. Genealogical Changes in Beef and Pork Production," 2003) This study is relevant to our present study because we can discover the disadvantages of adapting technological changes. In order to balanced and to truly determine the answer to our problem is, we <https://assignbuster.com/effectiveness-of-technology-in-meat-production/>

must. People are turning to more and more processed and packaged food to meet their needs. Data showed that share of food items in family expenditures declined by 0.8% from 43.6% in the year 2000 to 42. In 2003. These changes in the consumption patterns led the meat processing industry and other food industries to shift their production to automated, thus also provide training to their clients. ("Critical Skills in the Processed Food and Beverages Industry," 2012). This study is related to our research because it shows how people respond to the products being made by these industries. It shows the affectively of their adapted technology through the quality of products they make.

### CHAPTER 3 Methods and Procedure

This chapter presents the methods to be used in the study.

It also describes the objects of the study, the instruments used, the procedure of data gathering, and the statistical treatment of the data. This study will determine the effectiveness of technology in COD Photosphere Inc.'s meat production by analyzing and assessing the respondents' answers in the data gathering procedure.

### Method of Research Used

The descriptive and survey methods of research will be used in this study because it involves procedures of fact finding with interpretation, assessment, data collection, and describe events, organize depicts the data being collected into manageable form with the analysis of current conditions.

### Subjects of the Study

In this descriptive study, machineries and adapted technologies being used at COD Photosphere. Inc. Will be chosen as the subjects of the study. The respondents of this study will be the employees of COD Photosphere, Len and consumers who patronized COD Meat products . We will collect data from the respondents through questionnaires that we will

let them answer for us to be able to gather the data needed. Sampling Technique Used Purposive sampling will be utilized in this research. Since our subjects and respondents are selected because of some characteristic.

Since we are dealing with the effectiveness of technology in COD Meat production, we would interview people who fit into description, those people, directly and indirectly involved at the company's operations as an industry.

Research Instruments Used The following instruments will be used in the conduct of the research: 1. Questionnaire. The questionnaire will also be used to assess the respondents' perception about the effectiveness of technology on the company's production operations. 2. Observation.

The observation will be conducted by us, the researchers, to be able to describe or depict what is happening on the company. 3. Interviews. The interview will be used to assess how the respondents see technological advancements in their company as a part of their operations. This will be used, aside from the questionnaires in order to collect more concrete information from the respondents. Validation of Instruments The faculty members of our respective college will validate the questionnaire. Their corrections and suggestions will be incorporated in the draft for the next stage questionnaires.

Their responses will be tested for reliability and accuracy. Procedure of Data Gathering After coming up with the thought on how effective technology in COD production we pick ND asked random and reliable questions through questionnaires and interviews on some of their employees about the changes on how technology help in their production operations and how



technology made their work easier and how effective it is and some of the company's consumers will be asked on how they perceived the quality of the products as the meat producers adapt technological changes.