**CHAPTER 2- REVIEW OF RELATED LITERATURE**

**AND STUDIES**

**2.1 RELATED LITERATURE**

**2.1.1 Foreign Literature**

**2.1.1.1 La GALETTE Supermarket**

**Background of the Company**

La GALETTE is a German supermarket chain. It has 3 stores across Rwanda and 101 employees. It is planning to expand to Congo and Burundi countries. La GALETTE is a wholly German company owned by the Michael Fietzek. On 5th February 1997, La GALETTE opened its first store in Kigali Rwanda, is a supermarket specialized in the ordering of family use alimentation products.

**Features of the Company**

Online ordering and inventory system is an application that will permit the customers to get the information; the project is very broad reason why they have been limited to the LA GALETTE supermarket especially for: Product management, Customer management, ordering, delivers. The parts of their system includes: Product, this need Identification of product, Category of product, Name of product, Description of product, Price of product, and image of product. The Stock, Identification of stock, Identification of product, Date of Registration and Quantity and lastly Contains Identification of order and Delivery Date.

**Processes of the Company**

At La GALETTE supermarket, before purchasing product from different continent, they put on store according or following on type of each product. They use physical inventory where every product purchased recorded by using form of stock, when chief of store want to check the number which are on store, they take all form for each product then count product for verify if the number written on form matching on the number of product stored.

**Stated below the Scope of their Allocation System:**

After purchasing new product or getting product from supplier those products are recorded on stock, for selling product are recorded on shelf of supermarket others to cold chamber like cheese, meat or to fridge and freezer, sometimes come from to cold chamber toward freezer, before recorded to shelf checking expiration date of product. All products are recorded according on group of each product, group of alimentation product, group of pastry or bakery and butcher product. After recording all products on stock and shelf, it is necessary also to record on machine of cashier where recordable depending on group. There is a person's loaded that action in supermarket who controller when shelf are take care or occupy of products.

***[***[***http://www.vc4.nl/usedby.php***](http://www.vc4.nl/usedby.php)***]***

# 2.1.1.2 JPMA

**Background of the Company**

JPMA product suite blends rock-solid point of sale with built-in customer loyalty, enterprise-level store management, kiosk services, digital messaging and mobile applications, all of which are seasoned with features founded in the unique history of providing solutions to the world’s largest and smallest retailers. JPMA was founded in 1984 by James P. Magee. They believe that a retailer’s ability to sustain a single and dynamic software solution across rapidly changing hardware environments is crucial to the global retail industry.

**Features of the Company Computerized System**

* Detailed purchase tracking and Configurable Daily spending limits.
* Multiple media support including cash, credit card, debit card, payroll deduction and stored value card and Media for cashless transactions include magnetic stripe, bar code, and pin pad devices.
* Crystal reports provide a variety of ways to analyze business
* Reduced theft, vandalism and shrinkage and easily integrated to electronic surveillance systems and reduced cash, coin and refund maintenance calls and multiple cafeteria management with JPMA.

**Processes of the Company**

The company have excellent hardware partners and they are happy to manage the entire process for the costumer.  In the end, they want their hardware decision to be the costumers own and they will support the people in whatever they choose and it includes the Following: Simple and Intuitive**-** The ‘smart guys’ at JPMA have done everything in their power to remove the complexity from point of sale so that retailers can focus on their operations. In most environments, cashiers are processing customers with less than 30 minutes of training.  Intuitive graphical tools are used for screen design allowing the retailer to easily add or remove functions and change the look and feel of their interface**.** Graphical Flip Charts- provide simple ways for cashiers to ring up unusual or unstainable items. POS Designer Flip Charts will help their cashier with produce recognition for those hard to identify produce items, assuring their customers that the proper price is being charged. Alphanumeric Product Lookup- Alphanumeric look-up allows cashiers to find items and current prices by simply typing in any part of the item description.

***[http://www.jpma.com/about-jpma/]***

# 2.1.1.3 PARKnSHOP

**Background of the company**

**PARKnSHOP is the leading supermarket chain in Hong Kong. Their brand promise is "You earn more at PARKnSHOP" as they are confident in offering value for money, wide product choice, freshness & safety, and tailored stores to meet the needs of different customer segments. Their Mission is “To enrich the life of our customers”.**

**Features and Process of the company**

* **Value for Money-** Money Back loyalty program provides members with tailor made offers, Offer hundreds of promotions with especially deep savings and Thousands of Own Labels give customers choice, value and quality.
* **Wide Product Choice-** Hold seasonal bazaars and country food festivals frequently to provide excitement, Wide range of Asian and Western products sourced from around the world and Wide choice of organic food.
* **Freshness & Safety-** Quality Assurance enforces the standards in freshness and food safety audits of stores, suppliers, and fresh food distribution centre. "Vegetable Barcode ID Card" and "Farm Check" Quality Control records enable them to trace the origin of vegetable to the exact farm it was grown. They also detail the full life history of the vegetable to give you the peace of mind.
* **Tailored Stores-** More than 260 stores in Hong Kong and Macau with different store formats to meet the needs of different customer segments.

***[***[***http://www.parknshop.com/WebShop/index.do***](http://www.parknshop.com/WebShop/index.do)***]***

**2.1.2 Local Literature**

**2.1.2.1 SM Hypermarket**

**Background of the company**

SM Hypermarket in SM Fairview Branch is the front line as the largest mall and retail operator in the Philippines that providing their customers with Fresh and Healthy reliable services of foods, where prices are always reasonable and the shopping experience is made richer by their professional and customer-centric store associates. In [commerce](http://en.wikipedia.org/wiki/Commerce), a hypermarket is a [superstore](http://en.wikipedia.org/wiki/Big-box_store) combining a [supermarket](http://en.wikipedia.org/wiki/Supermarket) and a [department store](http://en.wikipedia.org/wiki/Department_store). The result is an expansive [retail](http://en.wikipedia.org/wiki/Retailing) facility carrying a wide range of products under one roof, including full [groceries](http://en.wikipedia.org/wiki/Grocery_store) lines and [general merchandise](http://en.wikipedia.org/wiki/Product_(business)). In theory, hypermarkets allow customers to satisfy all their routine shopping needs in one trip.

**Stated below the scope of their Manual Allocation:**

* **Product Identification-** It includes their Product code, Product Name and the Product size.
* **Product Reports-** Reports of their products so they can exchange if there is a reject or there is damage in a product.
* **Labelling, Signage and Display-** They labelled their product categories so the customer can easily see what goods they want to buy.

**Processes of the Company**

The SM Hypermarket Process for their Allocating their Products are includes the following: The first step are given by the one who in-charge in processing for transferring all the products needed on the store areas by through the warehouse this commonly known as flash outing of products in the warehouse storage, that the employee’s will start processing their allocation by receiving of all the products given by the merchandisers. Then Next step, the Merchandisers are the only one who has an access to transfer the products in the shelves and allocating products will starts. Then next they will recognized and know the proper location of each items by its type, brand, color, quantity, description, categories and also includes the sizes of each products. Before they can put all the products on the shelves areas, they must check every location properly. The in-charge will be checking first the availability of their products into their shelf-space areas, and then they will check or monitor also their Product Highlights, stocks and signage’s.

***[http://www.smhypermarket.com/]***

**2.1.2.2 Puregold**

**Background of the Company**

Puregold today is the Number 1 Retailer in the Hypermarket Format and they are the second big retailer store in our country nowadays, they have 159 stores in different branches. Their Vision is “To be the Most Customer-Oriented Hypermarket offering a One-Stop Shopping Convenience and Best Value to their Customers” and there have a slogan also to entertain their customers “Sa Puregold, Always Panalo”. Their Mission is “to provide products, services and business opportunities to every Filipino family” they establish lasting relationship with their suppliers and business partners. They strive to promote the personal and professional development of their employees. They also commit profitable results to the stockholders.

**Features of the Company**

Market locations are appropriate where there is a desire to communicate customer pull up the supply chain. The aim of the company' is to send single unit consumption signals back up the supply chain so that a demand leveling effect occurs. It is possible for someone to decide to cater for a party of 300 from the company so it is possible to decide to suddenly fill ten trucks and send massively distorting signals up those same pathways. Thus the 'market location' can be used as a sort of isolator between actual demand and how supply would like demand to be, an isolator between batch demand spikes and the up upstream supply process.

**Stated below the Scope of their Manual Allocation:**

* **Product Reports-** The Puregold Company have Reports of products that are entered in their company that will modify all the summarized details information for their products.
* **Product Specification-** Puregold Company as the Number one retailers of the Hypermarket brands in the Philippines they have the Products personal information and identification that will define as their uniqueness and compatibility for the customers that will meets their needs.
* **Product List-** The Puregold, they have the List of all the products that are in the company describing if its fresh goods or dried goods or a groceries types of products.
* **Log Book Checking-** Counting of products time to time to monitor it well and to know if the allocation clerk’s need to replenish it or not.

**Processes of the company**

The store offered a wide array of goods from groceries, apparel, household accessories and furniture at very affordable prices. Their process of allocating their products by their shelf space selling areas is to list down all the information and details of each product that will help them to monitor and check it. But their whole process also is by hand-in-hand manual inputting of all data’s. First they well taking risk by the replenishing personnel to flash out all the products need in the warehouse then they will put it and assort it by categories on their shelves space areas and they will attach all the information needed by the customers in the top loads display and signage that will classify as a valid information for the products of the Puregold.

***[http://www.puregold.com.ph/]***

**2.1.2.3 Waltermart**

**Background of the Company**

**Walter Mart Malls,** then called Shopping Centers, is the first community shopping center format in the Southern Luzon. In terms of customer habit, Walter Mart has become the "third place", wherein, in the daily grind of a customer's life, Walter Mart has essentially become the "reliable link" between their home and their place of work. Thus, to put it in exact words, they are the "everyday mall" and this is where their main differentiation lies: their customers come to them, as a community mall, on an almost daily basis while perhaps they go to a regional mall on a maximum of 2 times a month. As their daily mall, they make sure that they know their habits, preferences and choices and they answer all these in terms of their merchant mix, tenant offerings and mall promotions. On top of that, they also anticipate their ever changing lifestyle and its continuing sophistication by constantly improving and upgrading their facilities, service levels and mall atmospherics.

**Features of the Company**

* Sales Forecasting, Stock Assortment Planning, Buying Planning - Open-to-Buy, Merchandising Development and Inventory Control.
* Product Logo and Licensing Strategies, Fresh and proven new approaches to Visual Merchandising and Sourcing and Buying.
* Supplier Relationships Management with EDI Programs, including Automatic Sales and Inventory Reporting, Repeat Ordering and Electronic Payments and have a Training and Implementation Program.

**Stated below the Scope of the Company:**

* **Operating Level of Supply (OLS) -** This refers to the required amount of stock and the number of days supply.
* **Request Level of Supply (RLS) -** This are refers to the request amount of stock and the number of days supply for satisfying demands between time of making an order and delivery time of items.
* **Safety Level of Supply (SLS) -** This are refers to the minimum amount of stock or the number of day’s supply that should be kept to serve as a buffer against unexpected shipment delays or major fluctuations in demand.
* **Reorder Point (RP) -** It refers to the quantity to which inventory is allowed to drop before a replacement order will fill-in is placed. Reorder point equals to the sum of request level of supply and safety level of supply.
* **Goal Demand Stock Level (Storage Objective) (GDSL) -** is the amount of stock

Or the Number of days’ supply that is calculated as a sum of operating level of supply and safety level of supply. This stock level is only applied to the items that are demanded.

* **Maintenance Safety Stock Level (MSSL) -** It refers to the applied to the items that are requested.
* **Excess Stocks (ES) -** It refers to applied to the items that are not demanded frequently. If an item is defined as an excess stock then logistic unit or depot will send this item back to the main depots.

**Processes of the company**

The process of the Wall mart mall also is manual inputting of the data that the details are given required in their allocating their products. They are using hand-in-hand process like checking the list of the products, monitoring and controlling valuable information that will define as the proper details of each product.

***[http://www.waltermart.com.ph/]***

**2.2 RELATED STUDIES**

**2.2.1 Foreign Studies**

**2.2.1.1 Duncan Grant**

(1998) According to the company of Neoworks they have worked together with The Entertainer to build an online merchandising system for their multi-site online business; The order management and warehouse management systems that process and ship the goods to customers. These integrations automate the end-to-end selling process, including product listing, stock availability updates, cross outlet merchandising, marshalling of orders from all outlets through The Entertainer’s order fulfilment systems and providing order status updates back to the outlets. Stock allocation is controlled through a combination of automated strategies with manual overrides that enable The Entertainer’s merchandisers to maintain fine control over key product lines. The Entertainer uses the system to optimize their allocation of stock across outlets to achieve maximum profitability for the business. The automated stock allocation strategies employed are a combination of statistical projections based on historical sales data, minimum target levels for each outlet and per outlet weightings set by the merchandising team.

"The online merchandising solution they have developed with Neoworks gives us the flexibility they need to increase stock availability across channels, increase sales and maximize profitability. In addition it gives us total control over the movement of data between channels; ensuring timely and accurate information is displayed to customers whichever route they shop with them." **Duncan Grant - Director of Multichannel, the Entertainer**

***[http://www.neoworks.com/case-studies/the-entertainer-merchandising/]***

**2.2.1.2 Trevino**

(2003) The Company has been able to implement an automated merchandising system that allows the chain to better control its inventory at the store level. As a result, OXXO has been able to reduce out-of-stocks from 12 percent to less than 2 percent. “We believe we had previously lost sales by being out of stock so much, so this change has most likely helped increase sales,” Trevino says. The automated system also has “Improved their value proposition,” that Trevino says. Previously, the chain had to carry the same merchandise in each store; the new system helps to analyse sales at the individual store level, as well as demographic information and customer behaviour, to determine the merchandise mix for each store. “Before, they were a ‘one-size-fits-all’ operation and they could not react to different consumer behaviour and space restraints” at individual stores, Trevino says. In addition to customizing the merchandise carried at each store, the system helps to perform price segmentation. By studying customer price tolerance and market competitive conditions, it can segment pricing for various products by region. And also receives more up-to-date sales reports. “Previously, they got monthly sales reports from their stores, but during each month, they did not get updates on how their sales were going,” Trevino says. “Now they can analyse sales on a weekly basis, and sometimes even daily. This allows them to react faster to changes in customer demand.”

Once that information is known, the merchants can change store layouts so that these products are located closer together, or the chain might run special promotions where customers who buy one product get a discount on the other. That also found that the purchase of one product often leads customers to buy another, causing a halo effect. “Now we can promote the sale of the first product and expect an increase in sales of other products,” **Trevino.**

***[***[***http://www.stores.org/stores-magazine-august-2008/merchandising-mexico***](http://www.stores.org/stores-magazine-august-2008/merchandising-mexico)***]***

**2.2.1.3 Lisa LaBruno**

(2012)“Retailers need to understand this emerging technology and its implications for loss prevention now so that they can proactively address any challenges that lie ahead rather than just reacting to them after emerging POS technologies become the norm,” said Lisa LaBruno**,** RILA’s vice president of loss prevention and legal affairs, in a statement.  The speed at which mobile technology is affecting and reshaping retail is dramatic,” added Dan Valerio, Ernst & Young's Americas Retail Sector Leader. “The importance of understanding the risks such advancements have on a retailer's business cannot be underestimated.” An initiative to examine the loss prevention risks associated with emerging point of sale technology will be conducted by the Retail Industry Leaders Association (RILA) here, in partnership with the University of Arkansas, Sam M. Walton College of Business, and with support from Checkpoint Systems and Ernst & Young. The initiative will study emerging point-of-sale technology, including self-checkout, mobile coupons, touch less payment, mobile POS and mobile self-checkout, evaluate the loss-prevention risks posed by each and identify possible preventive strategies. The project is the brainchild of RILA’s Asset Protection Leaders Council (APLC), a forum for top-level retail asset-protection executives. **Lisa LaBruno**

***[***[***http://supermarketnews.com/technology/rila-study-risks-new-pos-systems***](http://supermarketnews.com/technology/rila-study-risks-new-pos-systems)***]***

**2.2.2 Local Studies**

**2.2.2.1 Bartolo Khaye**

(2007) 21-25 September To solve the conflict between high inventory and low customer service level in a entire complex distributed network, the problem of collaborative product allocation aligned forward logistics and same-level logistics was studied in this paper. A local network-based approach was proposed, which constructs a local network by allocable nodes in adjacent tiers, then solves from the lower tier to the upper tier through the local network, and thus the product allocation strategies for the n-tier complex distributed network are gotten. For a local network, the relevant directed weighted bipartite graph was built, and this graph was translated into the network flow model in order to acquire the optimal allocation solution. An example was given for illustrating the solving approach. **Bartolo Khaye Dept. of Science and Technology**

***[***[***http://ieeexplore.ieee.org/xpl/abstractAuthors.jsp?tp=&arnumber=4340949&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F4339774%2F4339775%2F04340949.pdf%3Farnumber%3D4340949***](http://ieeexplore.ieee.org/xpl/abstractAuthors.jsp?tp=&arnumber=4340949&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F4339774%2F4339775%2F04340949.pdf%3Farnumber%3D4340949)***]***

**2.2.2.2 Anna Marie Beltran Distor**

(1995) According to the study of Anna Marie Beltran Distor of Proposed Sales Monitoring System issued 1995, the accelerated work structure of the company proper monitoring is essential in order to keep track of the company’s sales activities. Her system aims to come up with an efficient, and accurate mechanized system of preparing invoices that will keep track of the daily transaction and generate reports. Important information will be provided by this study in order to prove that the computerization of the company’s operation and achieve a more reliable and efficient means of monitoring day to day activities. Her system focuses on the analysis and design of the sales monitoring system which will monitor the stacks inventory of the sales departments. This system of hers is somewhat related to the study but they system focuses more on the inventory monitoring system of a trading company. **Anna Marie Beltran Distor**

***[***[***http://www.studymode.com/essays/Chapter-2-Related-Studies-And-Literature-1525044.html?topic***](http://www.studymode.com/essays/Chapter-2-Related-Studies-And-Literature-1525044.html?topic)***]***

**2.2.2.3 Ronald Pachura**

(1994) "It is nearly impossible to overemphasize the importance of keeping inventory levels under control," Ronald Pachura wrote in an article for *IIE Solutions.* "Whether the problems incurred are caused by carrying too little or too much inventory, manufacturers need to become aware that inventory control is not just a materials management or warehouse department issue. The purchasing, receiving, engineering, manufacturing, and accounting departments all contribute to the accuracy of the inventory methods and records."

Pachura created a checklist to aid companies in assessing their inventory controls. He recommended that business managers examine the accuracy and effectiveness of their: bills of materials (BOM); receiving policies; engineering changes; scrap reporting; vendor lead times; reorder triggers; and warehouse locator systems. The inventory turnover ratio is a tool that can help companies to determine whether they are producing and carrying too much inventory. The basic measure of inventory turnover is defined as cost of goods sold divided by average inventory on hand. But Pachura noted that managers may gain more information by segmenting average inventory into raw materials, work in process inventory, and finished goods, and then computing a separate turnover figure for each. Comparing these figures often reveals opportunities for improving inventory controls. **Ronald Pachura**

***[***[***http://www.enotes.com/inventory-control-systems-reference/inventory-control-systems***](http://www.enotes.com/inventory-control-systems-reference/inventory-control-systems)***]***