

Analysis of Information Systems used by McDonald's Llantrisant, South Wales



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Executive summary

McDonald's is a very large international food chain with millions of employees and thousands of stores around the globe. The organisation had a very humble beginning at Chicago in early 1930s. This report is regarding the information systems that is currently used in Llantrisant McDonald's restaurant. The same system is applicable for most McDonald's restaurants around UK.

The report clearly identifies the requirement and necessity of information systems. Furthermore, it also identifies different types of information management systems exist within the store.

Importance of POS, MIS and MYS and its contribution towards successful decision making for a better business performance is also elaborated in the report.

Towards the end of the report, challenges such as power failure and crashing of systems are also mentioned. Suggestions to avoid such challenges are also mentioned towards the end of the report.

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Introduction

McDonald's is an international fast food chain. The company was originally started by two brothers by the name Mac and Dick from Chicago USA in 1937. With thousands of stores and millions of employees around the world, McDonald's now, is very large organisation. The goal of the organisation is to become the most desirable restaurant for people to come and eat. For this purpose the organisation pays great attention towards quality of service and their products.

The company had come up with a set of rules, regulations and management styles for all the stores around world, to stay profitable and relevant. The McDonald's use a handful of different types of information systems that can help, each individual stores to make appropriate decisions from forecasting to managing stocks. The information provided by the MIS (management information system) is the foundation of successful decision making (Kelly, 2009). Most of these information systems are integrated to the store and mostly work in real time by tracking different details within the store. A set of software provided by the organisation helps the management within the stores to keep hold of all kind of information systems.

The management information system executed within the store enables collection of data, handling, storing and disseminates the relevant and appropriate data to the management to support the operations within the store (Laudon and Traver, 2013).

INFORMATION SYSTEMS

There are mainly five different types of information systems. They are **TPS** or Transaction Processing System, Office Information System, **DSS** or Decision Support System, **MIS** or Management Information System and Expert System. However, apart from these main systems McDonald's also possess handful of few other modern systems. These include **MYS** or made for you system, Hyperactive Bob System (**HBS**), Point of sale System (**POS**), Touch Interface Operating Systems (**TIS** (Laudon and Laudon, 2008) (system, 2014).

Transaction processing System (TPS)

TPS system is designed to capture and analyse the information that is generated during restaurant's day to day transactions. It is done when transaction between two people occurs, data is collected regarding the transaction and then processed and this is called "transaction processing." Transaction process concerns with collection, storing, altering and retrieval of data regarding transaction within the organisation. TPS system comes in very handy for purposes such as payroll, maintaining employee record and payment of employee. In most

cases the information held within the TPS is safely kept and well protected because it contains information regarding money which is very precarious to the organisation. TPS also help the McDonalds to maintain the details of their suppliers, the quality and quantity of their products, and lastly the invoice amount. This system helps to minimise the difficulty that the employees could face by doing things manually.

Office Information system

Office information system is basically an information system that uses a collection of hardware, software and networking systems to improve the work flow and improve the quality of communication among the employees it is also known as **office automation**. Computers and other modern electronic gadgets are used to perform tasks and collect information rather than doing things manually. This saves a lot of time and man power. It is also used to send information such as emails, documents and graphics electronically to a bulk of employees at a time. McDonalds restaurant uses a variety of electronic devices such as computers, electronic clock –in system, networking devices, cameras, time keepers, electronic order screen etc.as the part of office information systems.

Decision Support System (DSS)

When McDonald's started to expand years ago, the organisation thought of improving the market by introducing modern technology for helping the management making right decisions by analysing a large amount of available data. Decision Support System is designed to analyse the available information, with respect to different factors within the restaurant and come up with possible options or choices that the management of the store can decide on. For this particular system, even though electronic devices such as computers are used, the ultimate decision is made by a human being. However, the computers and the software saves a lot of time and enables the management make quick decisions on different matters as it is important for a successful business (Laudon and Traver, 2013).

Managing Information system (MIS)

Management is essential for any type organisation regardless their size or complexity. MIS is a very common information system used by many organisation .Management information system is a system that is designed to support and run the organisation efficiently and effectively, by providing essential information at right time. The MIS depends on three primary resources for information.

- * Technology
- *Information
- * people

The people are considered as the most important resource within the organisation on the

belief that, without people there would be no business because people are the customers. The main three types of information that is generated by MIS include, detailed information, summary information and exception information. The decision made by the help of MIS system is used on a daily basis on multiple functional areas. MIS is used to produce list of labour, their working hours and in some cases, it can be used to generate a report on monthly expenses for comparison purposes. The Management Information System also help the management and staffs of the McDonald's restaurant to forecast and prepare for their future by understanding the performance of the business. There is a list of criteria to choose information that can help in the process of decision making. They include, required information, source of information, reason why a particular source information is considered, the format and mode of information etc. MIS generally used in McDonald's restaurants for, Financial Management, Inventory management, Technical Foundation, Asset Management, Forecasting, Time and Expense management, Procurement etc (Laudon and Laudon, 2008). The information based on the decisions made by MIS system is used to guide the employees and staffs by letting them know, what to expect and how to handle different situations (O'Brien and Marakas, 2008). This enables McDonald's to get a competitive advantage over other fast food restaurants.

Expert System

Expert system is a type of information system that is designed to capture and store information, using various electronic devices for human reasoning and decision making process (assisting human decision making). This is very similar to the functioning of MIS (Tenkanidur, 2014).

Made For You System (MYS)

Made for you system is a type of information system which was, first introduced to McDonald's restaurants in 1998 across USA. In MYS modern technology is utilised to operate the functions within the restaurant. It starts as soon as an order is made, it appears on the kitchen screen in the appropriate workstation (there are different workstations in the kitchen such as grill side, chicken side, fries etc.). This systems also allows to store information regarding the quantity of each product that was sold, the hours a particular item was sold mostly etc. These information can be used to forecasting and preparation for another similar day. However, the MYS is mainly used to raise the productivity and to guarantee customer satisfaction by providing quality fresh products. The MYS also plays a vital role for the better communication between the front counter and kitchen staff.

Hyperactive Bob System (HBS)

Hyperactive Bob System or HBS is a simple information system which provides very vital information for the staffs and employees of a restaurant. HBS basically is nothing more than few roof mounted CCTV cameras and few appropriately placed television screen connected to the camera. The cameras are fixed outside the restaurant, and the screens are at different stations inside the kitchen (generally only 2 screens inside the kitchen), there is one screen inside the office as well. The cameras scans for incoming vehicles and the visuals are

transmitted to all screens simultaneously in real time. On viewing the traffic the staffs and kitchen employees start to prepare for the orders. For example, if there is a visual showing a huge number of cars coming in through the “drive in through” section or parking in the “parking lot”. Kitchen staffs will ensure everything is ready, as soon as orders come in. For this purpose they make sure, there are enough frozen food in their freezers, buns, sauces and packing materials all are ready. In some cases, employees are re-arranged by staffs according to the speed and ability to perform at busy environment. The same system is also used to find out how many cars have gone through the “drive in through” section and parked at the parking lot. This information is later used to forecast what kind of business to expect on similar days or situations (Tenkanidiyur, 2014).

Scale of Point system (POS)

A cash register can be regarded as a primitive form of POS system. The main drawback or limit of a cash register is the fact that it can only monitor cash flow. This is where the POS system comes in handy. POS system can categorize data into sales by type, taxation status and provide the information regarding inventory as well. POS system functions by using a combination of different hardware and software. In most cases it requires manual data entry; however, it can function using a scanning device, but it is not possible with the current operation system that exist within the restaurant.

In McDonald's restaurant POS system is attached with the computerised electronic cash registers, which are capable to read and process electronic cards such as a debit card easily. It processes and stores vital information and it can retrieve data or transmit information to the main computers, when it is necessary for decision making purposes. Apart from the electronic cash registers there are other electronic mobile devices, which are also used for the same purpose, but from the outside of the store. They are usually used when there is a huge number of cars within the “drive-in through” section. McDonald's POS system is designed to reduce and avoid complex data clogging up and causing confusions to an inexperienced staff. An inexperienced part-time staff might be able to perform the transaction on a sophisticated menu in a matter of seconds.

The POS system is mainly used to ensure customer satisfaction by increasing the speed of the process and reducing the possibilities for the error. POS and MYS works together for maximum efficiency within the kitchen. Every input that comes in, POS helps to convey them to appropriate workstation instantaneously. It enables the payment due and also shows the time duration after an order is made, this enables the staff to understand if any customer is waiting on something or not (O'Brien and Marakas, 2008).

Nintendo DS System

Nintendo DS System is an electronic training tool used to train new employees when they join McDonald's. The same system is used to record the progress of each individual employee as time goes on. There are designated crew trainers who evaluate each employee to understand their capabilities and skills. They conclude their evaluation either suggesting improvement or showing satisfaction on each employee. This data is

initially recorded in paper and then stored over internet and made in accessible for the particular employee and the management. By this management will be able to take appropriate actions, for example, if an employee require more training, he/she can be given more training. If someone is outstanding can be trained for promotion such as a crew trainer or a manger. This system helps to save space and time by not requiring to storing lot of paper works and time by enabling the easy access of information online immediately online (profile, 2014).

Touch-Interface Ordering System (TIOS)

This a very new system that has the potential to transform the fast food industry. Even though this particular system still haven't reach Llantrisant branch it is available for customers at Cardiff branches and therefore the author beliefs it must also worth mentioning.

This is a machine looks very similar to an ATM or a ticket machine at railway station. The machine allows the customer to make an order by selecting the desired item on a touch screen and pay for it debit or credit card to the slots attached to it. McDonald's believes this will help them to reduce the labour cost, and very recently the organisation decided to fit 7000 such machines around UK (Tenkanidyr, 2014) (LiveScience.com, 2014).

THE MAIN CHALLENGES FACED BY MCDONALDS MANAGEMENT SYSTEMS.

Application of modern technology for management purposes can never guarantee of being free of problems and challenges. One of the obvious problem that has the potential to bring down the whole functioning of the restaurant is to do with power. The author recalls such experiences while working at the restaurant. If power fails, obviously it brings down almost all the electronically managed processes within the restaurant. So this will negatively affect from the payment system in the front counter, and put and completely stop the communication processes within the kitchen. When both POS and MYS not working it is impossible to know what's really happening (Kumar, 2009).

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In the occurrence of such events, Llantrisant McDonald's have no options, but to close both "drive -in through" section and the main doors of the restaurant until the system is back up and running. No more orders will be taken, however, if there is any standing order that will be done. The managers and try to find the source of the problem so that they can restart the whole system. There are emergency numbers provided by the organisations for troubleshooting purposes in such an event. In case if there is no progress for more than 15 minutes, the crew will be asked to leave the kitchen premises and wait in the crew room, until the system restarts.

One of the other problem is the difficulty in identifying the errors within the management systems, when that require technical ability. In some cases some staffs are not sure what to do, if an employee haven't received the payment or if it goes to a wrong person due to a mistake or error made by themselves. In cases like this the data entry process stops can only be resumed by someone who has technical knowledge. McDonald's still use windows xp and

windows actually stopped updating this particular operation system, from the beginning of this year 2014. Sometimes these main computers will crash when they overwhelm with data, bringing down all the other electronic management systems.

Recommendations

McDonald's need to consider on updating their main computer which runs on windows xp with a new and more powerful computer with a latest operation systems. This will save time and money wasted by the old computer keep crashing during peak times.

Implementation of content management system will enable not only to maintain the data but also to share it around the world CMS McDonalds, 2013). It might be also likely to take care the difference in the language, speed of business operation for the personalisation of MIS (McDonald's Cooperation, 2006).

The forecast is currently done at Llantrisant McDonald's just by looking at the sales of same day from last year. It is more like a random guess, there are several factors that can change this idea of expected sales from last year. This can be changed by considering other factors such as climate (generally more people visit restaurant on a sunny day), local events (football match, festivals attract more people to restaurant).

Conclusions

It is very obvious to understand the management systems used by McDonald's restaurant, is very helping and effective part of the operation of the store. McDonald's is growing industry, and it is willing to adopt new tools and styles of management that are more effective than the contemporary ones. The decisions made every day at each McDonald's stores will have its significant consequences and after effects on the business performance. The report has clearly identified the problematic areas, corresponding to the contemporary style information systems, it also suggests new methods and ideas to avoid such problems. A combination of well-trained staffs and by suitable technological advantages, McDonald's can grow up to its dream for becoming the most desired restaurant for the people.

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