

Assignment 3: Business report

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Authored by: Luong Trac Duc Anh

Student ID: 103488117



Executive summary

Businesses around the world are being opened and developed at a rate faster than ever. A business process model for workflow management is essential to the company's success. An integrated online system can reduce unnecessary procedures and cut down on redundant costs. It can save time on monitoring the process as well as increase the targeted margin.

Information is the resource for the mind's acquisition of skills, knowledge, and wisdom. From a business perspective, information is needed for internal and external factors including analyzing the market, competitors, and even government agencies. Analytical tools are often in use to provide detailed insights through data gathering and illustration.

M-commerce's growth is impeccable, due to the connectivity that it brings for different services. GDF needs a mobile ordering option for individual customers to make purchases on the go. Businesses can easily hire professionals to develop a mobile website for this purpose. A mobile web UI option is also an option to consider, though the development and maintenance process can be more challenging. A website can be accessed by any device with a browser, whether it is Safari or Google Chrome. The risk of failure for an ordering app can be much higher in comparison to a website.

The three business solutions: web analytics, social network analysis, and customer relationship management are utilized to sustain and pursue chances for business development. However, they cannot be employed interchangeably, and the discrepancies will be discussed based on definition, usage, and information process.

Businesses must manage their storage and protect the data itself to maintain customers' privacy. If you are using WordPress, installing a plugin for malware protection is critical for page security. There are standard protocols when it comes to shielding your business from cyber-attacks. Consider proxy VPNs for your staff and insurance for physical assets as well as securing devices that share access to your system.

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Introduction

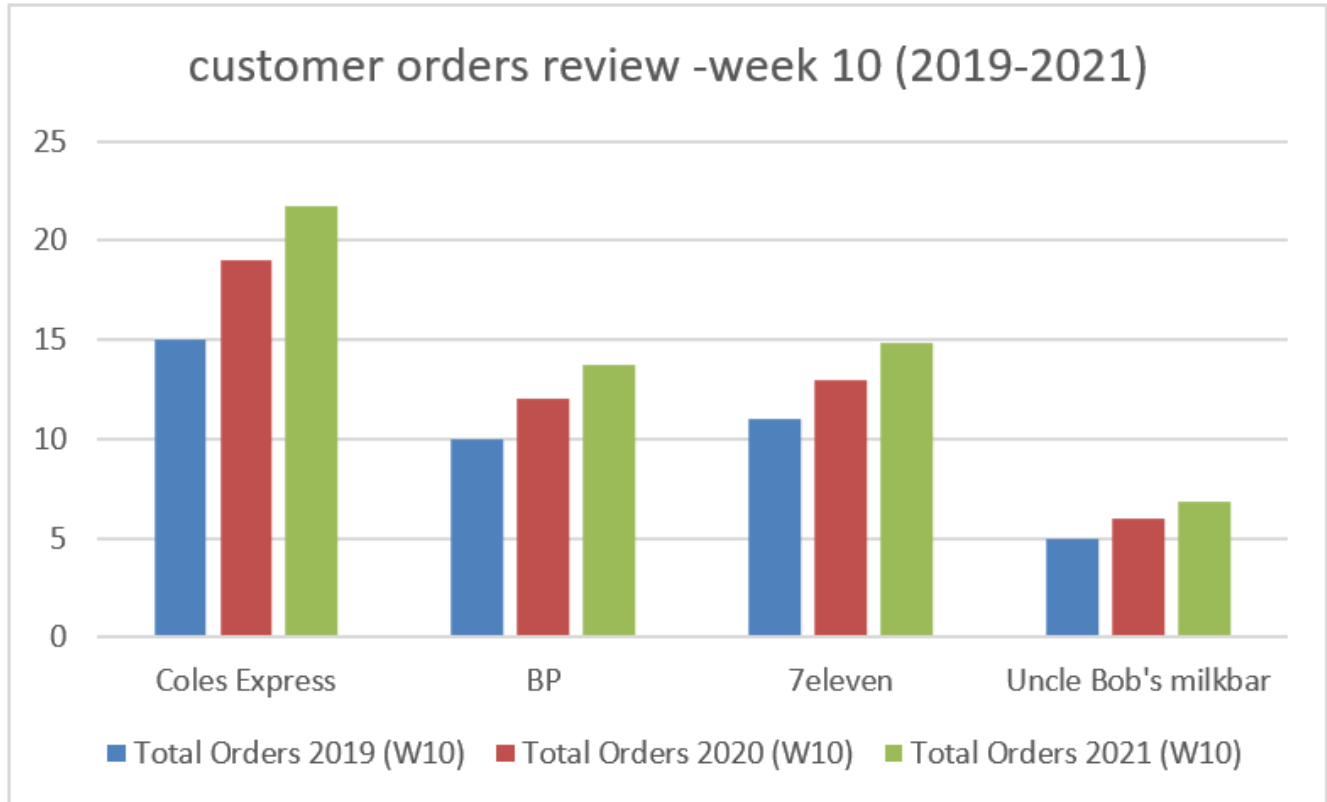
This report will give the general manager a detailed analysis of the present and future of the GDF business after a new system has been implemented. Some of the tools used for this business report include Spreadsheet data analysis for Business Intelligence, visualizing the business workflow through two different business process models (as-is and to-be), as well as comprehensive answers on BPM, data control using DBMS, mobile integration, different business solutions, privacy laws and cybersecurity solutions for the general questions with appropriate references.

Business review

Task A: EXCEL for business intelligence

The following graphs generated by the data tables in the given Excel spreadsheet will give us a more insightful look at the business trends and therefore seek opportunities for stability and future growth for Golden Dairy Farms.

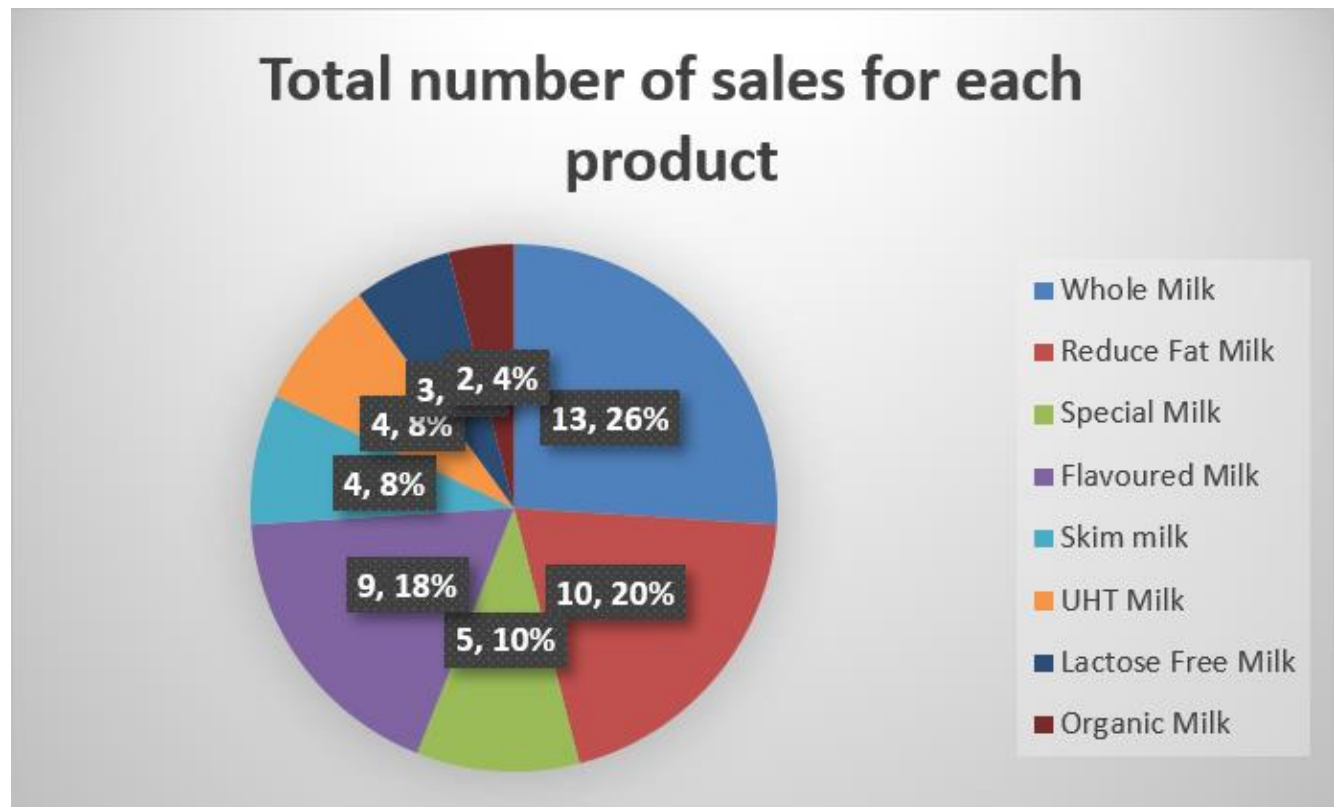
Image 1: Customer orders review – week 10 (2019-2021)



This is a modification to the previously given graph which contained only 2 years (2019 and 2020). From this bar graph, we can see that the business Total Orders grow gradually in the 3 years from 2019 to 2021. Coles Express registered the largest numbers in the entire process, which can be easily understood as this is one of the biggest retailers in Australia, claiming the seventh position on the ranking table as of July 2020. BP and 7eleven statistics are quite similar, as the gap has remained unchanged at 1 order annually. Uncle Bob's milkbar obtained the lowest numbers which can be explained due to the shop being a local store with many customers being primary and high school students. Moreover, the shop does not have a vehicle fueling option so the customer influx can hardly experience a major spike. Following this trend, we can allocate our product distribution in the future to a big retail institution like Coles, with more high-end products and a variety of options to choose from. On

the contrary, since Uncle Bob's milk bar focuses on serving the younger demographic, products that are popular among this age group are flavored milk, whole milk, and reduce fat milk (*Teens / Dairy UK 2016*) should be dispatched more often.

Image 2: Total number of sales for each product



Moving to the second graph which references the data from the milk products (supplier) table, we can see the most popular product in 2020 was whole milk, registered at 13,26% of the total sales. Reduce fat milk and flavored milk followed up with a small margin between the two, recorded at 10,20% and 9,18% respectively. Organic milk was the least popular product with only 2,4% sales total recorded in the year. From this pattern, we can shift our focus on enhancing the quality of whole milk, reduce fat milk, and flavored milk as they are the most bought.

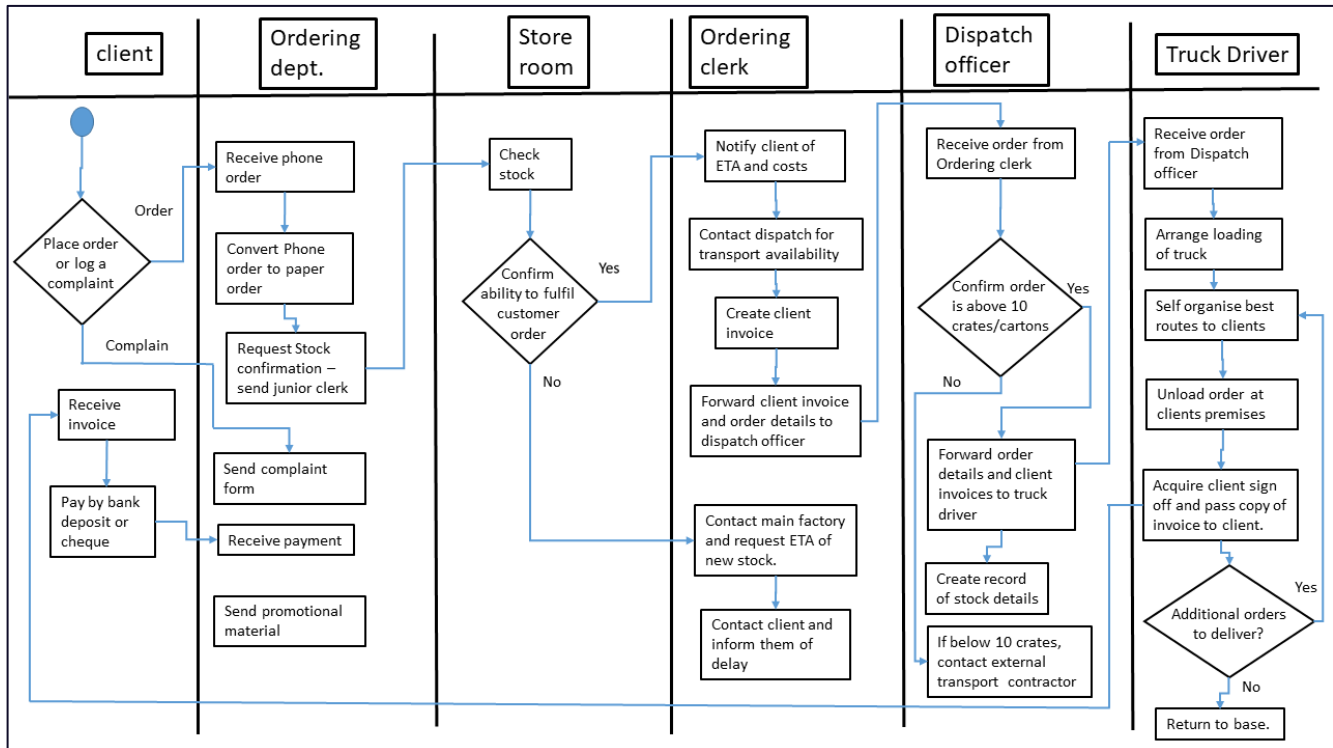
Image 3: Liters ordered in 2020 by product



The third chart demonstrates the number of liters of products ordered in 2020. The data trend can be predictable, as two of the most popular products by sales (illustrated in the second chart) are whole milk and reduce fat milk acquired the highest number. However, even though skim milk only made up 5% of the sales numbers, the number of liters orders registered the third-highest at 205,7. This figure tells us that skim milk may not be the most profitable sector and the business should gravitate its focus to other products.

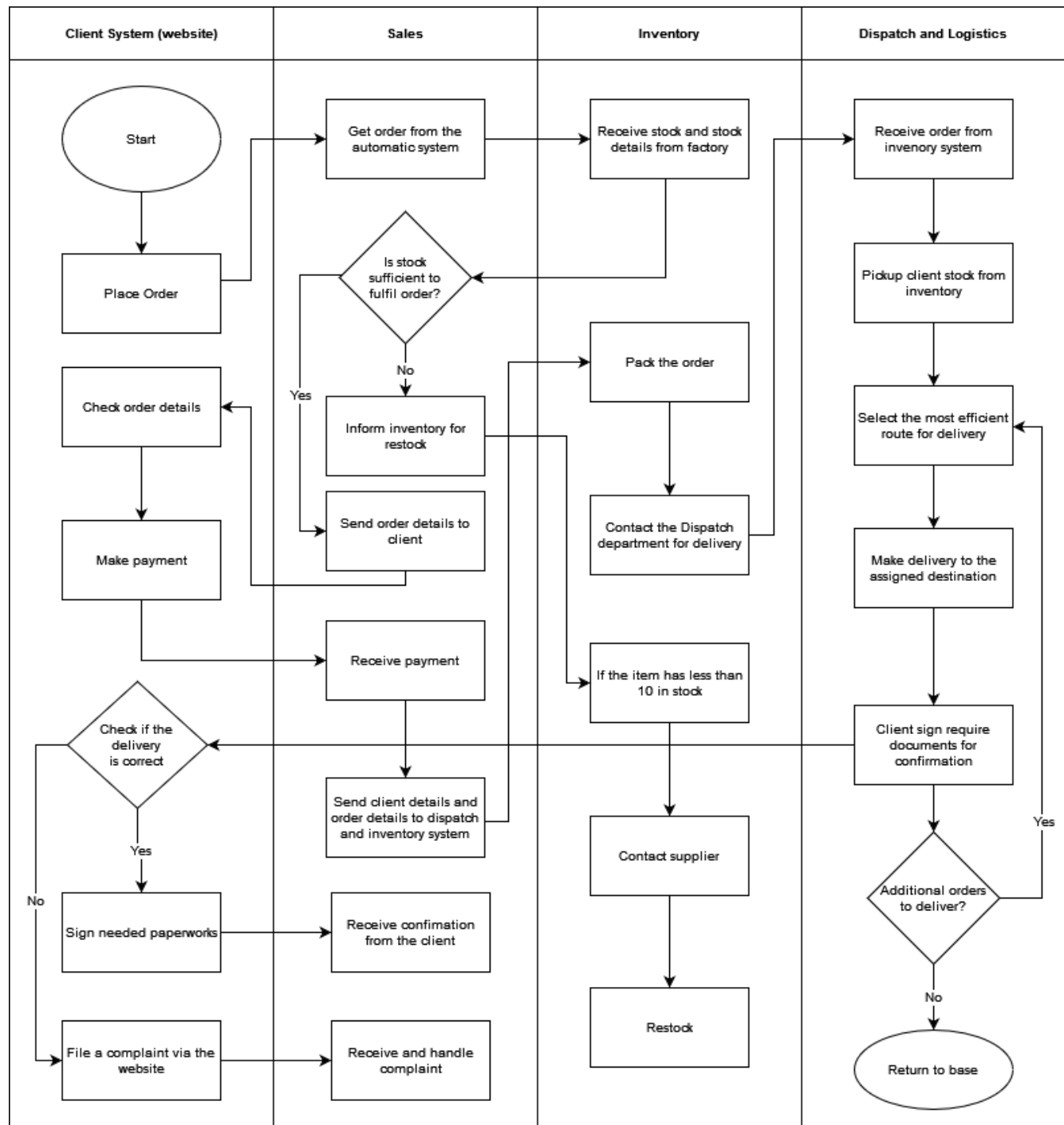
Task B: Business process models

As-is application processes



The as-is business process model is the one currently in use by the business. Even though it has supported the business process for a long time and is still functional, modifications are needed for a more efficient workflow. As it can be seen on the diagram, there are six different departments in charge of the ordering process, with many manual steps that can lead to insufficient time management as well as any costs incurred.

To-be application processes



The to-be business process model is an upgrade from the previous as-is version. The system integrates an automated business management system, which reduces the

number of associated departments by four, with most of the heavy workloads and customer services handled by the new system which is labeled as “Client System.”

Task C: General questions

Question 1

The importance of business process modeling for different organizations, with GDF included?

Today, businesses around the world are being opened and developed at a rate faster than ever. With technology advancements integrated into the process, a business process model for workflow management is essential to the company’s success. First, we need to know the definition of process modeling. It is a visual representation of how businesses operate and involves identifying and showing entities, actions, enablers, and their relationships. Even though the purpose of creating business documentation does not present any data collected in the form of records, forms, or databases, business process modeling has acquired its reputation as a standardized design and management procedure for various purposes. The representations of business processes are often through the form of maps and flow charts, with every step modeled by the BPMN (Business Process Modelling Notation), an asset to successful management.

The pros of providing as-is and to-be models to a General Manager?

Providing both as-is and to-be process models to the manager will be beneficial. The comparison between the two process charts from the present and in the future can highlight major modifications of how an integrated online system can reduce the

unnecessary procedures and cut down on redundant cost, saving time on monitoring the process as well as increasing the targeted margin.

As we can see from the to-be application process chart, which is an upgraded version of the as-is manual system, every step is strategically executed throughout the interaction from four different parties, including the Client System, Sales department, Inventory for product stockpiles, and a delivery system to dispatch orders to the end-users. The procedure is a continual flow, with three conditional checkpoints to moderate the process when experiencing missteps or simply a shortage in the product supply. Error detection can be accomplished by any department, including the end-user to enhance customer experience, as well as cut down on unnecessary fees related to error correction.

Question 2

The significance of information for an organization?

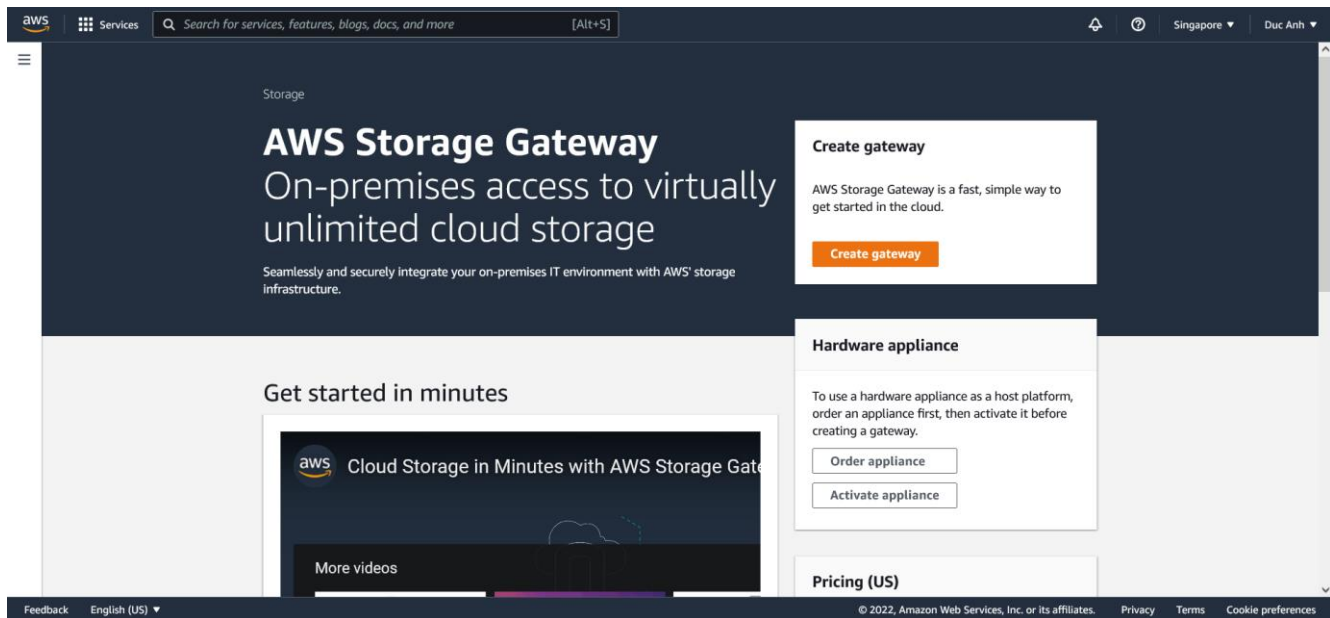
To analyze the benefits of information, we need to first go through the definition of information, as arguments on how the concepts are defined and their association to other related terms like data or knowledge. Information is the resource for the mind's acquisition of skills, knowledge, and wisdom.

From a business perspective, information is both needed for internal management for maximizing the efficiency and effectiveness of the working process, and external factors including analyzing the market, competitors, and even government agencies. Business managers often determine the kind of necessary information involved in their work of preparation, organizing, budgeting, and decision making. Apart from the

traditional view on the use of information in management, analytical tools are often in use to provide detailed insights through data gathering and illustration, which will assist the decision-making process of high-tier executives. Figuring out patterns in customer behaviors and making predictions on future trends will give the company a competitive edge in the market. Not only can managers circle out the customer demographics for each product type, but also make proposals for advertising and proper distribution across customer local stores.

An instance of how IT (Information Technology) can be a fundamental tool for attracting new buyers and gathering information?

In the case of GDF, alterations are needed in the network system, as individual standalone systems would not be able to manage the influx amount of data and information generated in the process of scaling the business. Therefore, a network and online cloud storage service are required. To connect between the company system's computers, an OSI (Open System Interconnection) model will be practical, as this system is popular among vendors for telecommunication to sell products and services. For data storage, the Amazon Web Service (AWS) has diverse options to choose from. One of which could be mentioned is AWS Storage Gateway, as the service has many integrated benefits and features, including optimized transfer and scalability. The service is suitable for GDF, as the transition process to the cloud may take time and need to be executed gradually. The screenshot below is the website interface for gateway registration.



AWS Storage Gateway

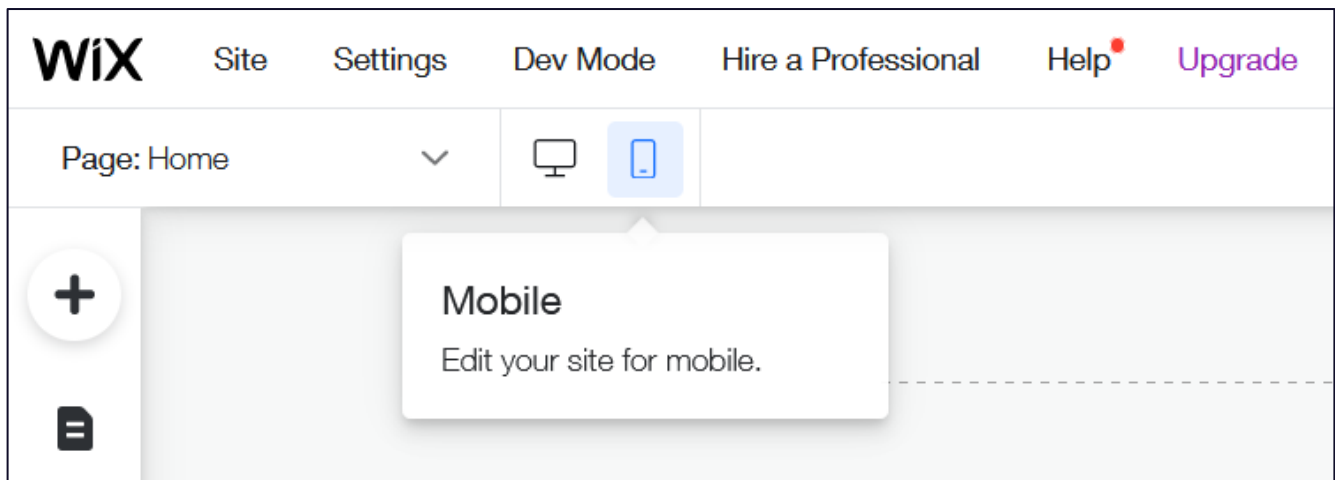
Question 3

The necessity of mobile phone application and website development for the new ordering system promotion?

Since the introduction of the touch screen on telephone devices in 1993 from IBM, the mobile penetration on the global market in almost any field has only increased. Therefore, to gain a competitive position in the market niche, GDF must integrate a mobile ordering option for individual customers to make purchases on the go, preferably through a mobile website interface rather than a standalone application.

M-commerce's growth is impeccable, due to the connectivity that it brings for different services, especially for those that are location sensitive. This form of commerce offers end-users convenience and flexibility, as most of the population carries their mobile devices all the time. Consequently, the growth of this sector creates job opportunities, and businesses like GDF can easily hire professionals to develop a mobile website, with

drag-and-drop website creation tools like Wix or WordPress, with only an additional step of installing an e-commerce plug-in. The mobile-compliant version of the newly automated ordering system can also be created simultaneously with a desktop web interface, as most of the platform for creating and maintaining websites, including the two that I have mentioned, offers page liquidity as they automatically generated a mobile version of your website, with little justification needed for the web to enhance customer experience through the responsiveness, aesthetics feels, and information displayed on the website.



Sample of page liquidity assistance from Wix

Building the website from scratch using HTML, CSS, and JavaScript for easier monitoring and integrating new functionalities to the website is also feasible, as front-end development jobs are common among developers, therefore the options for GDF are ubiquitous.

In addition to the mobile web UI option, a native standalone app is also an option to consider, though the development and maintenance process can be more challenging,

as the IOS Appstore and Android Google Play have different policies for their applications, so the development and maintenance process can be more challenging and time-consuming. Also, the risk of failure for an ordering app can be much higher in comparison to a website. When customers are ordering on the go, their purpose is to do it quickly and conveniently. Downloading and installing an app just to serve the purpose of ordering can be bothersome, especially for new users who want to try out your product for the first time. On the other hand, a website can be accessed by any device with a browser, whether it is Safari or Google Chrome. In short, the mobile compliant for the updated ordering system will be beneficial for the company's growth, and a mobile web interface will be a more comprehensive approach to the application counterpart.

Question 4
Analyze the distinct roles of three key business solutions, including web analytics, social network analysis, and customer relationship management, and how the information generated in those processes is utilized across different environments?

To maintain and seek opportunities for the development of businesses, the three business solutions are used simultaneously. However, the three concepts cannot be used interchangeably, and their differences will be analyzed in this part of the report.

	Web Analytics (WA)	Social Network Analysis (SNA)	Customer Relationship Management (CRM)
Definition	The measurement, gathering, analysis, and report generating	The process of measuring, analyzing, and understanding the	Specifically manage the relationship with your customer base

	of online data for the goal of comprehension and enhancing web usage.	family structure, social mobility, corporate dominance, international trade, and other relationships	through information collection and interaction with the customer, sales, supplier, and other departments.
Usage	Analyze the web traffic and screentime, enhance the UI and UX, find patterns in customer behavior, manage the website and provide holistic solutions to the decision-making process.	Content, people, and user interaction analysis.	Differentiate the business with other available competitors in the market through top-quality customer service.
Information process	Information can be interpreted from the server logs, which are activities recorded from the transaction system. There are free-to-use tools for Web Analysis, including Deep Log	Relationships are represented based on nodes, which cover many other related concepts (vertex, edges, degree, in-degree, out-degree, broker).	Information is obtained through feedback, contact, and the overall satisfaction of the customer.

	Analyzer, Google Analytics, and Piwik.		
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Question 5

Privacy laws and cybersecurity measures need to be covered by GDF to secure the information collected from the customer base?

When collecting customer data, businesses not only must worry about managing their storage but also protecting the data itself to maintain customers' privacy.

a. Privacy law

According to law policies from the Australian Government, where GDF is currently based, there are five laws that revolve around customer information.

1. Check your business annual earnings for compliance. If the business has an earning of more than \$3 million a year, you must comply with the Privacy Act. Other businesses must comply with the Act even if they earned \$3 million or less, but GDF does not fall into any of the required categories (health service, contractors working with the Australian Government, database operators, etc.)
2. Determine if the information is labeled as personal or not. Customer personal information will include name, address, phone number, credit card, medical reports, IP address, etc.
3. Learn how to keep customer information safe. If the business falls under the cover of the Privacy Act, you need to abide by the [Australian Privacy Principles](#). Other companies are also required to oversee customers' information properly.
4. Publish the company privacy policy. Outline the necessary procedures in which type of information is collected, how the information will be managed and

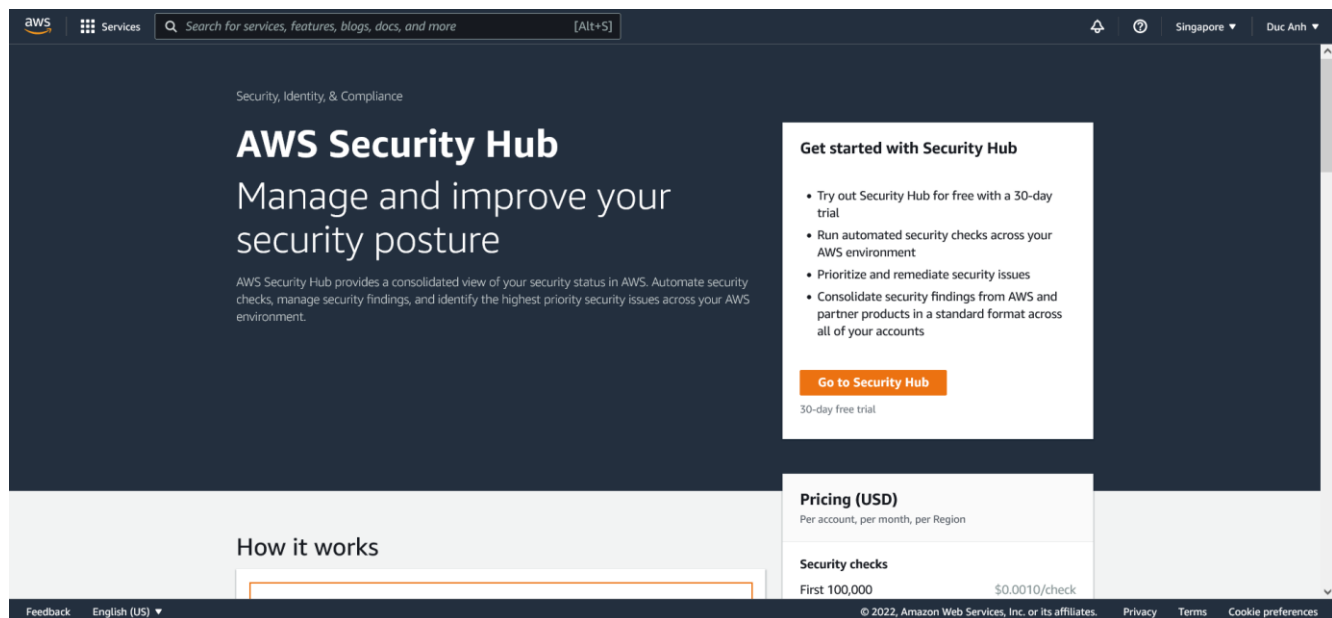
protected. This work should be assisted by a qualified lawyer or any available legal service.

5. Notify government agencies when your system is under attack if any sign of data breach is visible. Both the owner(customer) of the information and OAIC (Office of the Australian Information Commissioner) need to be notified.

b. Cybersecurity measures

Depending on how your system is generated and monitored, different measures can be implemented in securing the website.

- If you are using the AWS package, AWS Security Hub is strong and efficient, with automated scans, immediate actions, and responses to the data breach.
- If you are using WordPress, installing a plugin for malware protection is critical for page security. Some of the best plugins can be found [here](#).

The image is a screenshot of the AWS Security Hub console. At the top, there's a navigation bar with the AWS logo, a search bar, and user information (Singapore, Duc Anh). The main heading is "Security, Identity, & Compliance" followed by "AWS Security Hub" and the subheading "Manage and improve your security posture". Below this, a brief description states: "AWS Security Hub provides a consolidated view of your security status in AWS. Automate security checks, manage security findings, and identify the highest priority security issues across your AWS environment." To the right, a box titled "Get started with Security Hub" lists four bullet points: "Try out Security Hub for free with a 30-day trial", "Run automated security checks across your AWS environment", "Prioritize and remediate security issues", and "Consolidate security findings from AWS and partner products in a standard format across all of your accounts". Below the list is an orange button labeled "Go to Security Hub" and the text "30-day free trial". Further down, a "Pricing (USD)" section indicates "Per account, per month, per Region". A "Security checks" table shows "First 100,000" and "\$0.0010/check". The footer contains "Feedback", "English (US)", and copyright information for 2022 Amazon Web Services, Inc. or its affiliates, along with links for "Privacy", "Terms", and "Cookie preferences".

AWS Security Hub

In general, there are some standard protocols when it comes to shielding your business from cyber-attacks. Some of which are:

- Schedule your data backup (consider automated backup systems and adjust the time, together with a selection of important data to minimize the disk space needed for this process)
- Securing devices that share access to your system, therefore curbing the threat penetration externally.
- Consider proxy VPN for your company staff at work, therefore encrypting the connections between servers.
- Create necessary documentation and policies for working employees to follow.
- Register for cyber security insurance in addition to the company's physical assets.
- Hire professionals for system monitoring, maintenance, and protection.

Conclusion

In conclusion, the report aims to examine the GDF business potential growth through speculations and strategic recommendations after examining the datasets from the Excel Spreadsheet and insights from the case study. In addition to the recommendations already presented in the report, the company should also consider making collaborations with competitors (co-opetition), as this approach for growth and promotion can assist companies to save expenses by allowing them to pool resources, avoid duplicating work, and bring in new clients.

Appendix

Screenshots of the completed spreadsheet:

Ordering raw data						
Date of Order (W2)	Product Code	No. units per crate/carton	Equiv Litres per crate/carton.	Customer	Supplier Price Per Unit	Retail Sale Price Per Unit
3/2/2020	WM	9	45	BP	\$ 2.14	\$ 2.34
3/3/2020	WM	9	45	BP	\$ 2.14	\$ 2.34
3/6/2020	WM	9	45	BP	\$ 2.14	\$ 2.34
3/2/2020	WM	9	45	Coles Express	\$ 2.14	\$ 2.37
3/3/2020	WM	9	45	Coles Express	\$ 2.14	\$ 2.37
3/5/2020	WM	9	45	Coles Express	\$ 2.14	\$ 2.37
3/7/2020	WM	9	45	Coles Express	\$ 2.14	\$ 2.37
3/8/2020	WM	9	45	Coles Express	\$ 2.14	\$ 2.37
3/3/2020	WM	9	45	7eleven	\$ 2.14	\$ 2.38
3/4/2020	WM	9	45	7eleven	\$ 2.14	\$ 2.38
3/6/2020	WM	9	45	7eleven	\$ 2.14	\$ 2.38
3/4/2020	WM	9	45	Uncle Bob's milkbar	\$ 2.14	\$ 2.52
3/7/2020	WM	9	45	Uncle Bob's milkbar	\$ 2.14	\$ 2.52
3/4/2020	RF	9	36	BP	\$ 2.56	\$ 2.80
3/5/2020	RF	9	36	BP	\$ 2.56	\$ 2.80
3/8/2020	RF	9	36	BP	\$ 2.56	\$ 2.80
3/2/2020	RF	9	36	Coles Express	\$ 2.56	\$ 2.84
3/3/2020	RF	9	36	Coles Express	\$ 2.56	\$ 2.84
3/5/2020	RF	9	36	Coles Express	\$ 2.56	\$ 2.84

Figure 1

Raw Data | User Controls

Sort by Customer

Sort by Date old - > new

Sort by Product Code

Sort by Supplier Price Per Unit (smallest to biggest)

Sort by number of units per crate (smallest to biggest)

Milk Products (Supplier)

Product Code	Product Description	Units per Crate/Carton	Unit Packaging (Litre)	Wholesale Cost per Unit	Total No# Sales	Supplier % Overhead costs	Supplier Price Per Unit	Supplier Price Per Crate/Carton
WM	Whole Milk	9	5	\$ 2.03	13	5.5	\$ 2.14	\$ 19.27
RF	Reduce Fat Milk	9	4	\$ 2.43	10	5.5	\$ 2.56	\$ 23.07
A2	Special Milk	9	3	\$ 3.77	5	8	\$ 4.07	\$ 36.64
FM	Flavoured Milk	24	0.5	\$ 2.45	9	11.5	\$ 2.73	\$ 65.56
SM	Skim milk	12	3	\$ 2.63	4	9	\$ 2.87	\$ 34.40
UM	UHT Milk	12	1.5	\$ 1.97	4	12	\$ 2.21	\$ 26.48
LF	Lactose Free Milk	18	1.5	\$ 2.98	3	16	\$ 3.46	\$ 62.22
OM	Organic Milk	18	0.75	\$ 3.66	2	19.5	\$ 4.37	\$ 78.73
Totals								

Figure 2

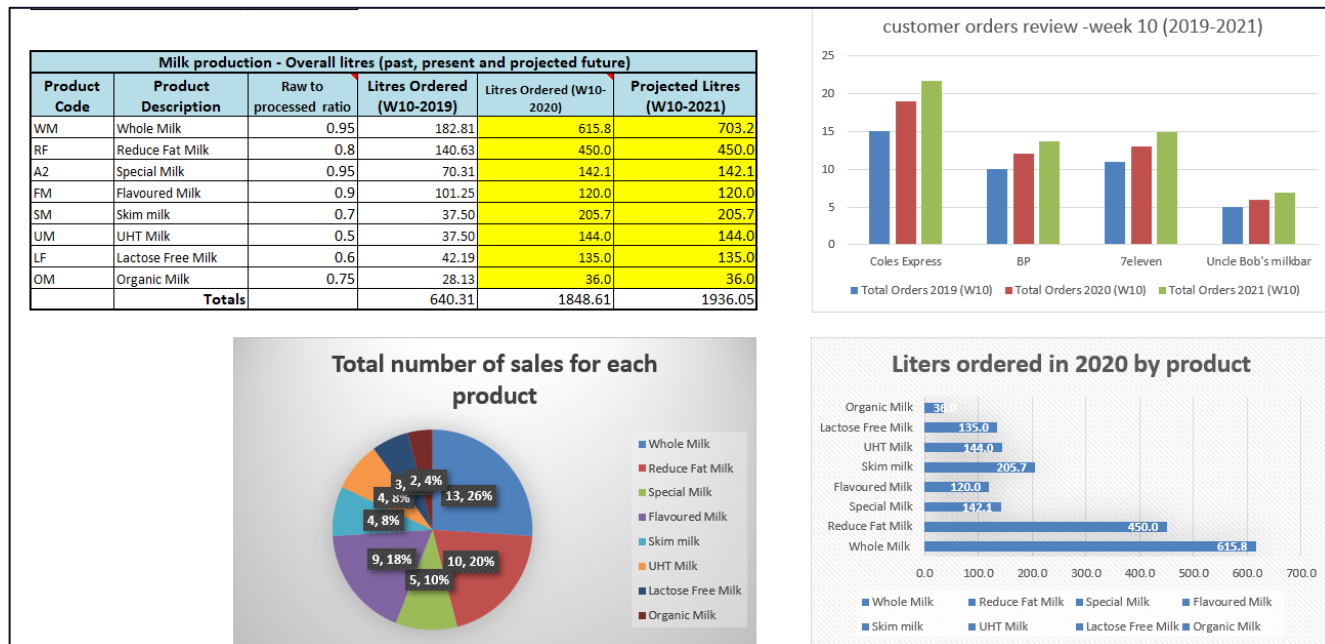


Figure 3

Customer Orders (week 10) review			
Customers	Total Orders 2019 (W10)	Total Orders 2020 (W10)	Total Orders 2021 (W10)
Coles Express	15	19	22
BP	10	12	14
7eleven	11	13	15
Uncle Bob's milkbar	5	6	7
Totals	41	50	57

Projected 2021 Increase %	14.2
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Figure 4

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