# HealNut

# Digital Transformation Report

## Prepared by iLEAD on behalf of HealNut

# 1. Executive summary

HealNut has historically been a market leader in the food manufacturing industry, focusing on its artificial sweeteners and its incorporation of proprietary formulated ingredients into other businesses' products. However, in recent years, it has lost a substantial market share to its competitors due to Covid-19, suspected leak of competitive prices, its inefficiency among departments and lack of IT presence and investments in the company.

In analysing the industry and company, iLEAD has identified glaring problems in its current IT landscape and organisation. As such, to tackle the above-mentioned problems, iLEAD has proposed 2 clusters of recommendations in terms of Strategy & Organisational and IT, as laid out in this report. We believe these will set a stage for HealNut to regain its rightful place as a market leader in the food manufacturing industry.

# 2. Industry Analysis: Food Manufacturing Industry

Below is a cursory overview of the industry and its trends.

## 2.1. Overview of Singapore Food manufacturing industry

The food manufacturing industry has been thriving in Singapore, having grown at a compound annual rate of 6.1% in the last five years (Pek, 2017). With the industry contributing around $4.3 billion in annual revenue, which is about 1.1% of Singapore's GDP (Singapore Accreditation Council, n.d.), there is still immense potential waiting to be tapped.

The food manufacturing industry has an **oligopoly** market structure, with Cargill, Ingredion and HealNut being the dominant firms in the market. The huge market share enables them to have **price setting power, and long-term profit** in the industry.

Following are the key characteristics of the Oligopoly market and its respective analysis on the challenges concerning the industry:

### 2.1.1. High Barriers of Entry

Potential new competitors should be less of a concern as this industry has a high barrier of entry. **High set-up cost** is required for capital such as the implementation of plants, production machinery, labour, and research. **Legal barriers** such as food production licences are also required by Singapore and overseas governments to sell and export the final goods and services. There will also be **high switching costs** borne by the customers, the food and beverage brands, as they risk changing the flavour of their products by switching to another ingredient supplier.

### 2.1.2. Interdependence of Firms

Due to the high proportion of market share possessed by each dominant firm, firms are **highly influenced by each other**. This means that competitive firms will be aware and react to even the modest changes to the product prices, actions, and quality, in order to secure the market share.

### 2.1.3. Differentiated Products

Products in the food manufacturing industry are differentiable by their distinct flavours and ingredients. By reducing the similarity between the final goods and services, and

increasing novelty, their products are less substitutable by competitors. Thus, the pricing of goods would be more inelastic and leads to an increase in a firm's bargaining power.

## 2.2.  Industry Trends

Below are the industry trends that HealNut should be aware and take advantage of:

### 2.2.1.  Increase in Demand

Global demands are growing due to the increase in urban population. Thus, it is crucial that the company could deliver extraordinary goods with volume matching the growing demand. Automation during the product delivering process is key to expanding a firm's productive capacities.

### 2.2.2.  Changes in Consumer Taste & Preference

With the increase in income and purchasing power globally, there is a noticeable trend that consumers have a higher preference for quality and healthy food with increased desire for diverse food choices. Some shifts include organic foods, plant-based food, and zero-calorie sweeteners. This puts stress on the ecosystem for food innovation and R&D to research healthier food options such as lower sugar and salt options and greater variety in food without compromising on taste.

### 2.2.3.  Increase in Snacking, Home-Cooking and Online Shopping due to Covid-19

Covid-19 has changed food consumption habits world-wide. People are snacking more, regularly cooking at home, and doing more online shopping. People are also more health conscious about food intake. This increases the demand generated in the food and beverages industry, which subsequently requires the food manufacturing industry to produce more to match this demand.

## 2.3. Singapore Industry Transformation Trend

It is recommended that HealNut's transformation should follow the Singapore Industry transformation trend, such that the company is aligned with the national interest.

   a. Strengthening the ecosystem for food innovation and R&D

   b. Building globally competitive Singapore food companies and expanding their global footprint

   c. Driving productivity through automation

   d. Redesigning and creating quality jobs



Strengthening the ecosystem for food innovation and R&D

Building competitiveness and global footprint

Driving productivity through automation

Redesigning and creating quality jobs

Collaboration between research institutes and industry for food R&D

Explore untapped B2B & B2C channels such as direct retail and online retails (e.g. Shopee, Lazada)

Use technology to complete traditional task with efficiency and accuracy.

With increased productivity brought by automation, more PMET Jobs (professionals, managers, executives and technicians) will be created.
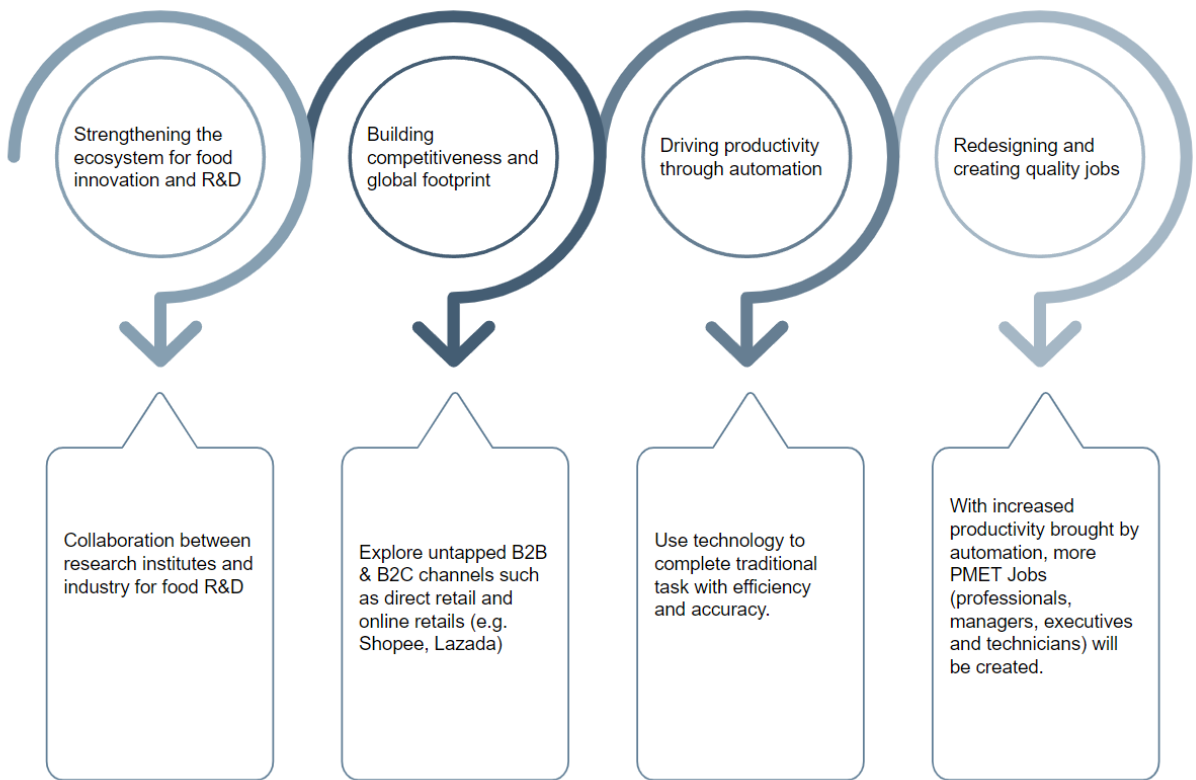
Figure 1: Productivity Goals in Singapore Food Industry

# 3.    Company analysis: HealNut

## 3.1.    Overview of the Company

HealNut is a Singapore-headquartered, global supplier of food and beverage ingredients to industrial markets. It specialises in healthier sugar options without compromising on the taste of the final goods. HealNut creates business values through two main channels: **Food & Beverage Solutions** and **Primary Products**. Its goal is to heal the world with nutrition, through its offering of healthier alternatives to food products.
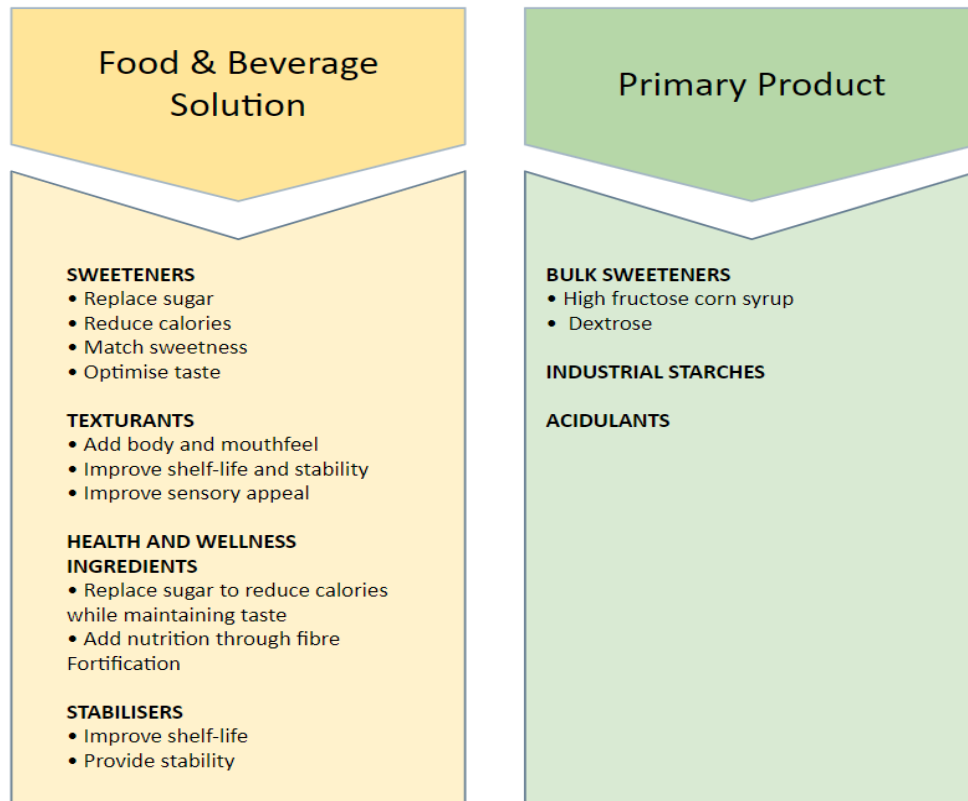


Figure 2: HealNut creating values through two main channels

HealNut has excelled in the industry due to the following Business advantages:
- **Mature Innovation and Commercial Development** enables HealNut to innovate and create diversity in its products.
- **Large-scale Manufacturing Operations** ensure the products could be in huge volumes and at cost advantages.
- **Talented Human Resources** help HealNut to deliver excellent products and services.
- **Long-term relationships with stakeholders** create a stable business-to-business relationship and thus promising long-term development.

## 3.2.    Business Challenge - Losing Market Dominance

HealNut has been losing its market dominance over the years due to several factors. While HealNut has the third highest market share currently, this is significantly less as compared to 2010 when it was on par with Cargill and Ingredion.
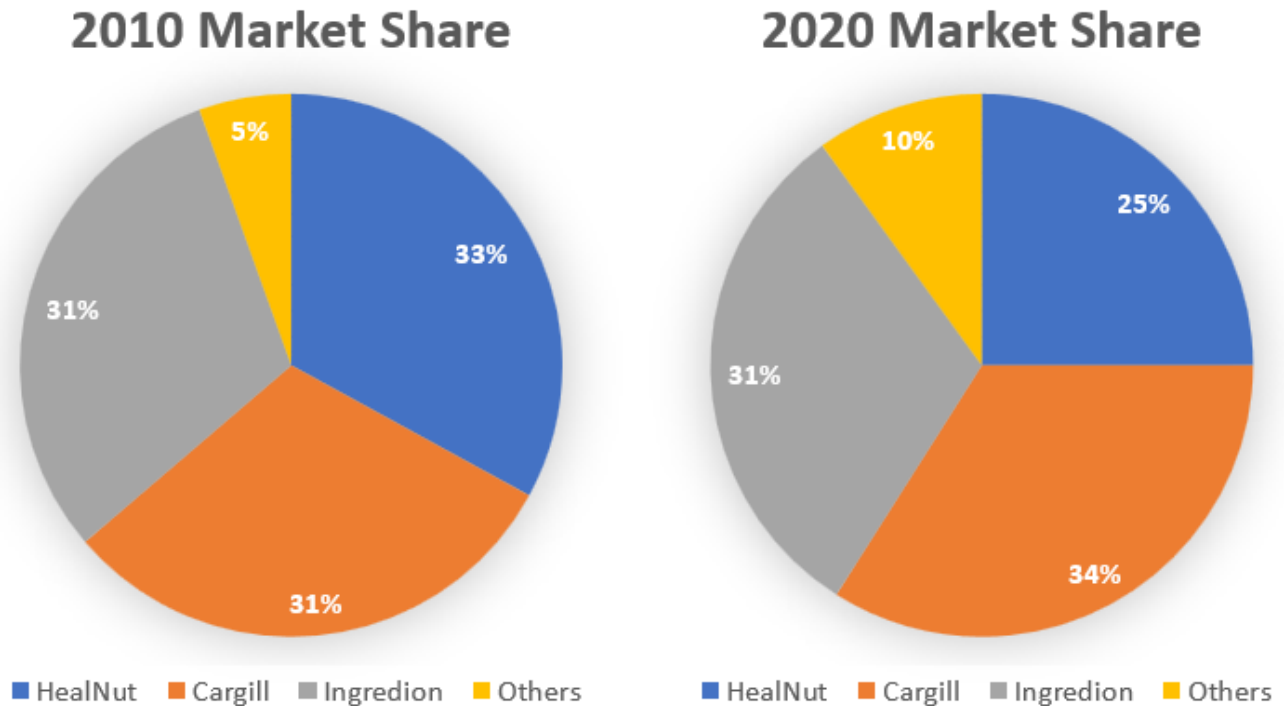


Figure 3: Food Manufacturing Industry's Market Share

### 3.2.1.    Factor: Covid-19 stresses supply chain

As mentioned in <u>section 2.2</u>, Covid-19 has resulted in an increasing trend of healthier food choice. As HealNut has high-quality and reputable health-friendly solutions, there has been an increase in interest for HealNut ingredients to be incorporated in business customers' products. This however is hindered by the **inability of HealNut supply to meet the growing demand**.

Covid-19 has also caused supply chain issues for companies across the globe including HealNut. As raw resources for HealNut production are mainly import-based, the supply chain fluctuates across the globe depending on the regional Covid-19 situation. Some plants in certain countries may have tighter restrictions, leading to lower output. Also, due to safe distancing measures, the total manpower working at a given time was significantly reduced compared to pre-pandemic times. With pressure on supply chains, retailers faced the trouble of keeping their stocks full. With Covid-19 affecting businesses

economically, many HealNut's partner food companies rationalised by reducing the variety and halting of new product offerings. This consequently led to the **slow adoption of the HealNut's ingredients by its customers.**

As a result of both increased health awareness among consumers and unreliable supply of ingredients, food retailers pivoted towards competitors who can forecast impending shortages, allocate resources, and meet the demands due to their state-of-the-art IT systems. As such, HealNut has been losing market share to its competitors and has posed a worrying problem for its company sales and a burgeoning concern for its top management.

## 3.2.2. Factor: Inefficient coordination between departments

HealNut is threatened by its inefficient inventory management caused by bad coordination. The use of Customer Relationship Managements (CRMs) in silos for individual departments has resulted in many **discrepancies in the inventory data**. This results in **poor information sharing and management between the departments**. Messages may not be conveyed with speed and accuracy among departments, which has led to **overstocking or shortage of supplies** for the market.

Affected by the Covid-19 situation, supply at each inventory plant is significantly affected by several unstable factors, such as government restrictions, safe distancing measures, increased manpower costs and freight prices. The situation of increasing demand and resource scarcity also puts stress on the supply chain. A lot of **time is wasted in the communication process** between departments when changes occur since different departments use different CRMs.

## 3.3. State of IT and its Challenges

### 3.3.1. Poor IT Utilisation by departments

The **presence of IT as an enabler is scarce** in HealNut. IT is currently utilised to maintain the current infrastructure and sustain the business. This is in the form of servers to store data (internal SharePoint for the intranet), use of Microsoft Excel for the numerous spreadsheets, and IT helpdesk services in the event of a company laptop or server failure. While there are some forms of CRMs available, the current systems are 10 years old and standalone with limited functionalities.

Moreover, the **volume of data has been accumulating** for the past ten years and HealNut's current IT infrastructure cannot keep up with the large amount of data. Therefore, the sales team face an increased difficulty to adjust prices and strategies, due to failure of noticing the current trends and predicting the future demands. Subsequently, HealNut faces **the risk of losing its competence** in the market and customers will tend to choose other companies that provide better and relevant solutions.

With IT seen as just a support, people are not invested in seeing ways to utilise its potential use cases and may not be using the current solutions and tools to their best ability, resulting in **low productivity**.

### 3.3.2. Poor Cyber Security Posture

With the increasing frequency of cyber-attacks, there is a need to equip the staff with the basics of Cyber Security knowledge. Another issue recently brought up by the top management was that HealNut's prices might have been leaked. We posit that HealNut's proprietary information such as strategic prices and bidding plans were accessed by other business competitors before the actual bidding and bargaining. As a result, their competitors can lower their prices strategically and provide more competitive deal plans to their customers. This could be due to a **lack of data governance frameworks and IT policies** for employees to follow.

Furthermore, the firewalls in HealNut are outdated since 2017 and having reached its end of support, has many known vulnerabilities that can be easily exploited in that version. This is worrying as HealNut is weak against a wide array of cyber-attacks.

### 3.3.3. Poor IT organisation

Currently, the company has a lean IT helpdesk team of only five people who perform all the IT support roles. This could stress on the employee's wellbeing as this is considerably a small manpower for a huge company's IT needs. Furthermore, the lack of specialisation also results in inefficiency when performing IT tasks.

A notable observation was also that there is **little IT representation available in the top management**, with no Chief Technology Officer (CTO) or Chief Information Officer (CIO). This is potentially worrying when trying to keep up to date with the rapidly changing digital trends and is also hindering an organisation wide adoption of IT as a tool to amplify business goals. Such a non-tech situated strategic management team could prove challenging in moving towards digital transformation.

# 4. Recommended solutions

A key step moving forward with Digital Transformation would require the adoption of an IT accepting mindset. IT should be first preached and accepted as an enabler and a catalyst for business growth, starting with the C-Suite team. Such a top-down change in mindset will help ripple down to the other employees of the organisation and thus aids in easier transformation. This direction will then need to be communicated with department heads and collectively will help improve communication between departments.

To solve the business and IT problems listed above and in light of digitally transforming HealNut, we have proposed 2 distinct types of recommendations, namely **strategy & Organisational and IT**. As a whole, there needs to be more IT representation in the C-Suite and more technological solutions need to be implemented to propel the company's overall growth.

Below contains an overview of which recommendations address the challenges and trends identified previously. The details will be elaborated in the subsequent sections.

| Challenges / Trends | Recommendations | |
|---|---|---|
| | Strategy & Organisational | IT |
| Industry trend of increased Healthy Snacking | Venturing into a new B2C market | |
| Losing Market Dominance + Poor IT organisation | Change In Organisational Structure | |
| Inefficient coordination between departments + Poor IT Utilisation by departments | | Integrated CRM with Inventory Management |
| HealNut's Poor Cyber Security Posture | | Cyber Security Overhaul |
| Supply Chain Fluctuations | | Supply Chain Optimisation |

Table 1: Summary of Recommendations proposed

## 4.1. Strategic and Organisational recommendations

### 4.1.1. Venturing into a new B2C market

Having agreed on aligning IT with its business goals, a strategic direction worth heading would be to enter the Business-to-Consumer (B2C) market with health-related products such as snacks and nutrition drinks. By venturing into B2C market, the potential benefits are listed below:

- Align with Singapore's Industry Transformation trend in **increasing competitiveness and global footprint**
- Increased outreach of products generates awareness of HealNut and **enhances their brand image** and could lead to more companies seeking our B2B services too
- Tapping into a new market allows HealNut to reach out to a bigger consumer base and **help more customers snack healthily**, which is in line with HealNut's goals
- Increase in revenue

This requires a substantial change in organisational structure which will be subsequently described in section 4.1.2.

This venture is a viable strategy for HealNut as it already has the ingredients supply and mature factory for manufacturing. In terms of retail channels, HealNut can sell products at convenience stores and through e-commerce platforms which help customers find products easily.
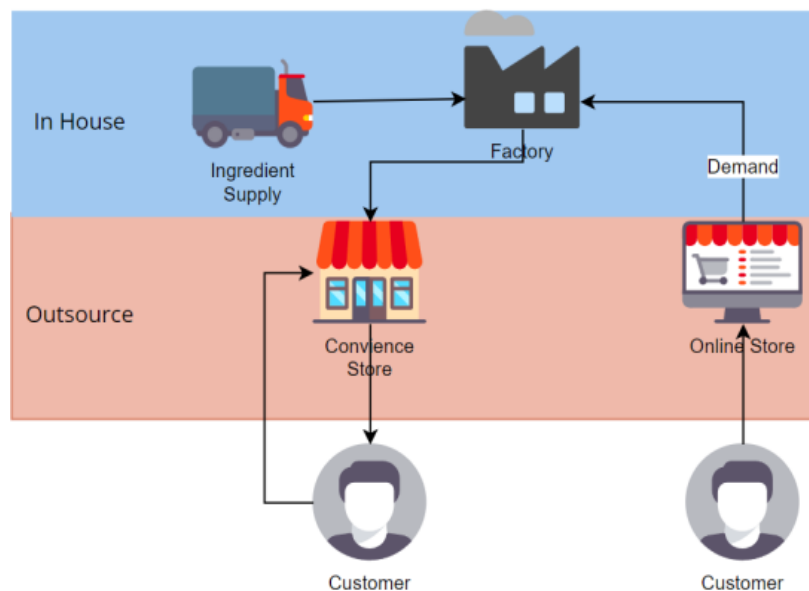


Figure 4: HealNut's venture structure in the new B2C market

### 4.1.1.1.    Implementation plan

We propose the entering of the B2C market in two phases, each spanning one year.

Phase 1: 2023 - 2024

Main goal:
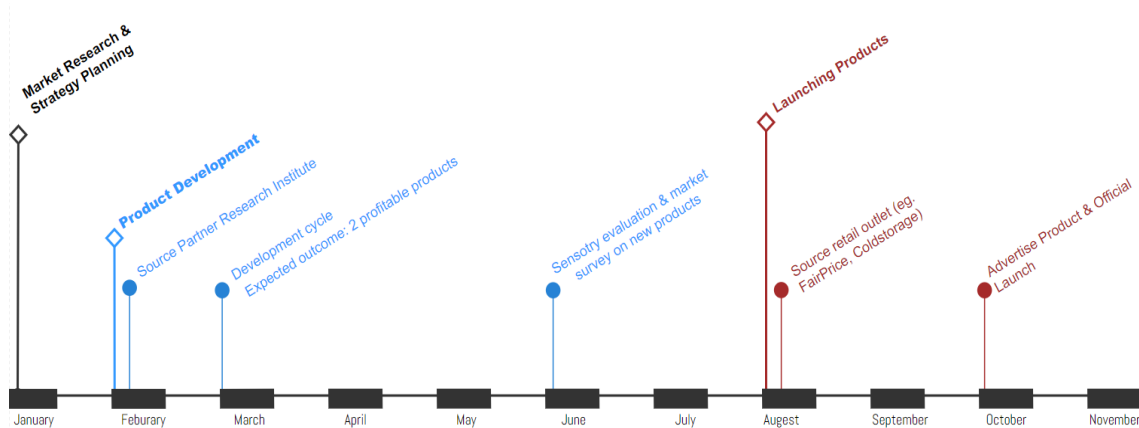- Product line creation
- Launch products in retail channels



Figure 5: Venturing into a new B2C market timeline for phase 1

Phase 2: 2024 - 2025

Main goal:
- Launch online retail channels
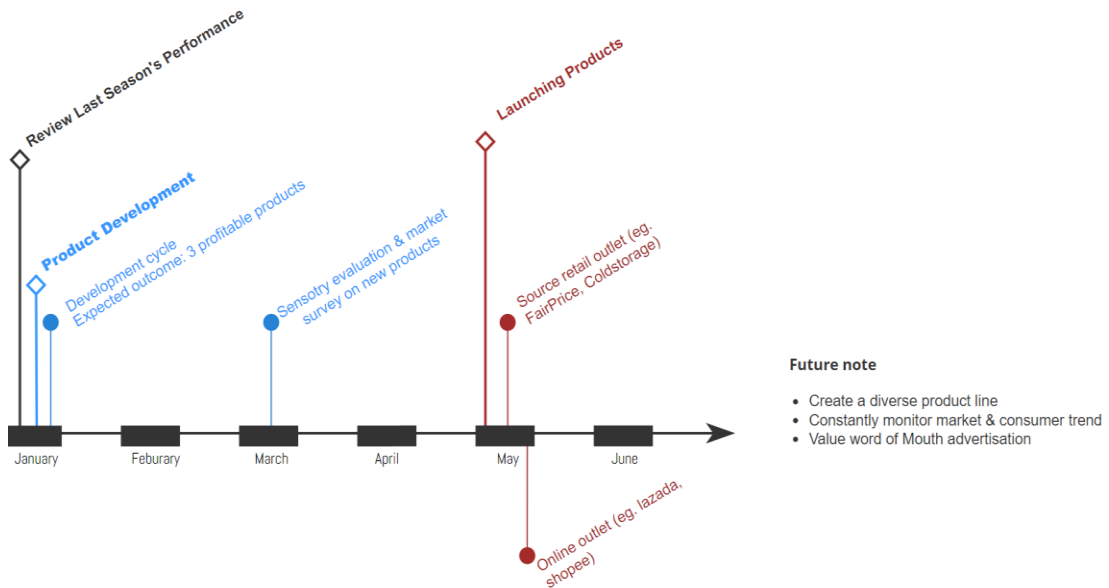- Maintain and improve market share



Figure 6: Venturing into a new B2C market timeline for phase 2

4.1.1.2.  Feasibility plan

- An initial start-up cost will be incurred in restructuring and the hiring of people. To offset it, HealNut can initially hire interns first and two main staff to oversee initial development. Subsequently expand more staff members and expand product manufacturing to overseas such as Indonesia.
- While the initial start-up cost might be hefty, the potential profits are estimated to be net positive and thus beneficial to the company in the long run.
- Innovation and R&D are done by collaboration with research institutes such as A*Star. The cost will be further reduced as the facilities are shared among the industry.
- The setup of a new department will aid this venture into the B2C market



**Strength**
- Technical expertise in healthier ingredients
- A good reputation as the market leader
- Potential cost saving from own proprietary ingredients
- Offer healthy snacks at more competitive price
- Lower barrier of entry

**Weakness**
- Need initial startup capital in formulating first few products and doing product testing and tasting with consumers
- Steep learning curve for employees in dealing with new market

**Threats**
- Compete with pre-existing market players such as Nestle
- Unfamiliarity with B2C market would Might take a while to gain market share

**Opportunities**
- Able to benefit from Singapore policies and grants for aligning with Singapore's industry transformation trend (food innovation, R&D)
- Increase competitiveness and global awareness

Figure 7: SWOT analysis of venturing into a new B2C market

## 4.1.2. Change In Organisational Structure

Overall, we propose **three significant changes** to the current organisational structure.
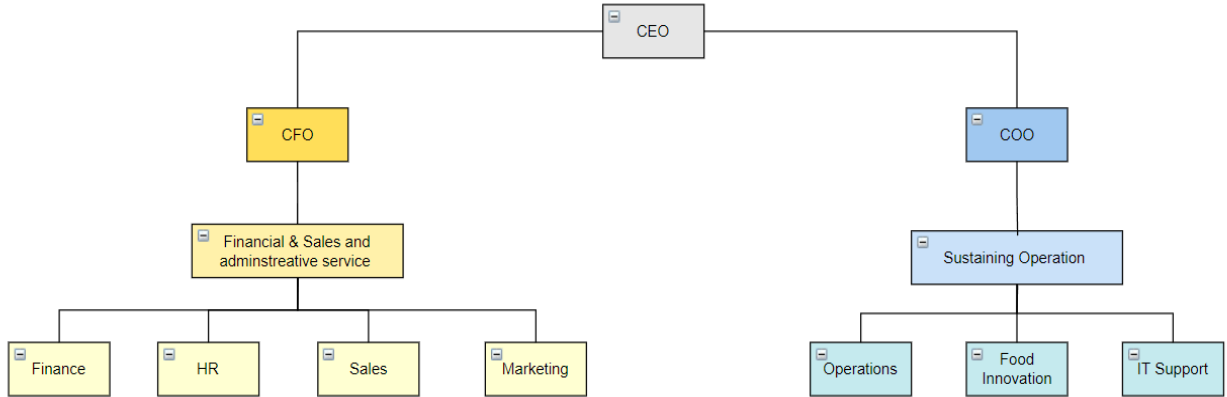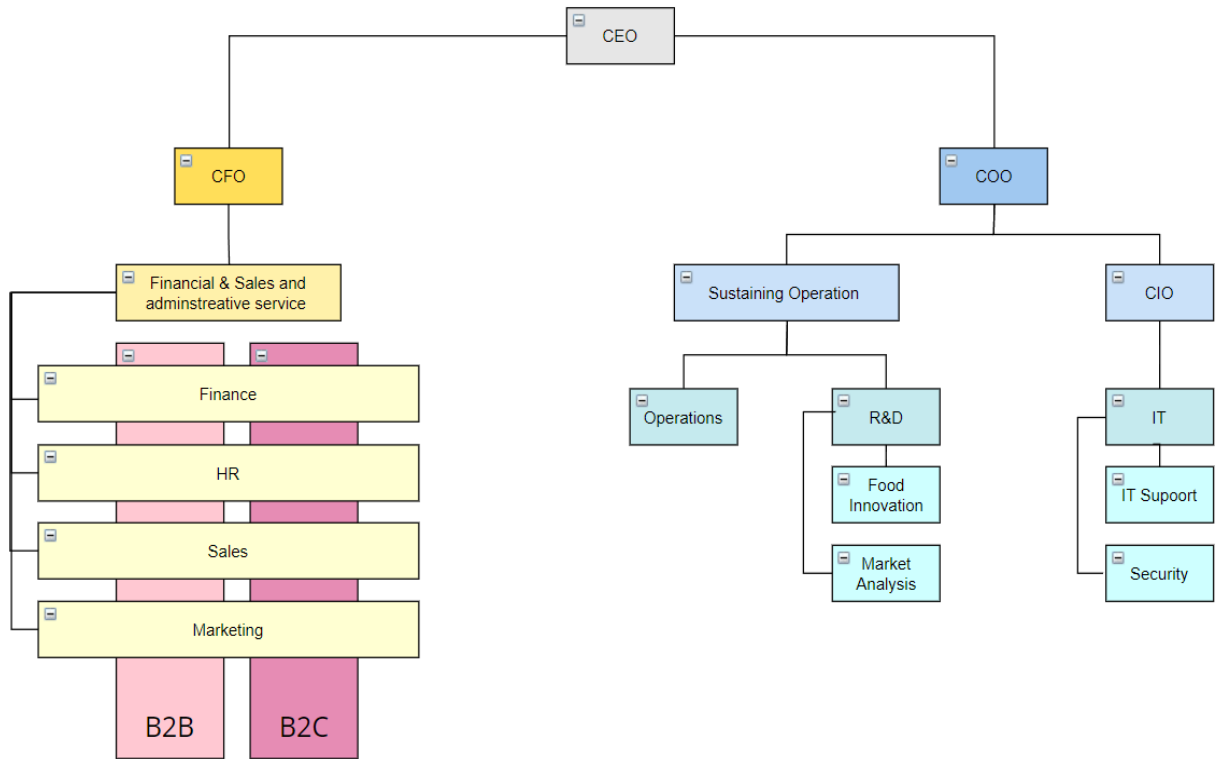


Figure 8: Original Organisational Structure



Figure 9: New Proposed Organisational Structure

*Change 1: B2C related organisational change*

By introducing a B2C segment in each department, it supports the administrative process when venturing into the B2C market. Having the administrative departments serve both the B2B and B2C divisions of the company, saves cost on the human resources required.

The R&D will have sub departments that focus on market trend analysis and the use of technologies in catching up with the market demand and enhancing their food innovation capabilities.

*Change 2: Introducing CIO*

Introduction of a CIO with IT expertise, who reports to the COO and complement the digital transformation process, helps with IT related automation. The CIO and COO will facilitate digital transformation and pivot into the B2C focusing on harnessing IT to enable enhanced innovation.

*Change 3: Increased communication between departments*

There will be a need to increase communication and information transparency between departments. We believe that more regular cross-department meetups that utilise the team bonding funds would help. We also propose regular job rotation between departments and sub departments following the training of HealNut's employees to be multi-skilled as this will increase rapport between the employees on an individual and departmental level. This will further **increase the quality of jobs** that employees can undertake.

## 4.2.   IT recommendations
### 4.2.1.   Integrated CRM with Inventory Management



Figure 10. Approach for integrating CRM with inventory management
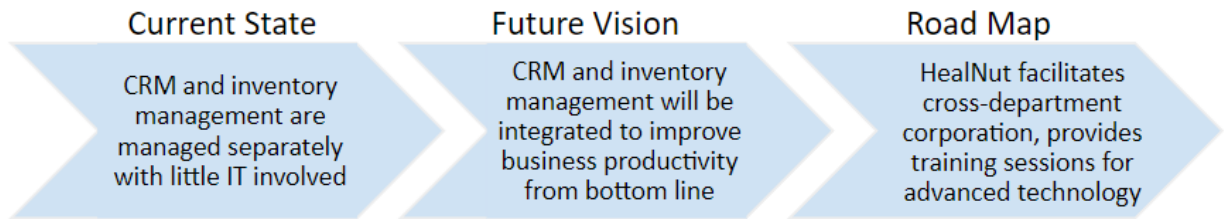
Given the current in-silo implementation of CRMs and inventory management, we propose an integrated CRM that consolidates the inventory management and all systems into one. This will complement HealNut's venture into the B2C market.



Figure 11. Model of an integrated CRM

In essence, the CRM integration for inventory management will help:
- Integrate the sales, marketing and operations department's Business processes and solutions into one central system
- Allow operations team to **better manage supply and demand** through higher transparency
- Allow sales team to **provide better product offerings** to the customers
- **Enhance customer's journey** with HealNut through consolidation into one portal and streamlining of processes
- **Improves productivity of employees** through automation of tasks and thus they **can focus on more management tasks**, especially as HealNut moves into the B2C space.

### 4.2.1.1.  Feasibility plan

Among the many CRM solutions out there, iLEAD recommends the use of Zoho CRM for the following reasons:

- Its features meet HealNut business requirements.
- It is cost effective and cheaper than other solutions such as SAP CRM.
- The absence of installation and upgrade fee helps save cost in the long run.
- User-friendly interface (Appendix A) which allows easy collaboration between departments in the system.
- The implementation and onboarding process is simple and thus allows better scalability for future potential growth.

| Recommendation | Priority | Upfront Cost | Long-Term Cost | Complexity |
|---|---|---|---|---|
| Implementation of integrated Zoho CRM | High | Medium | Medium | Low |

Table 2: Feasibility analysis of implementing Zoho CRM system

We believe that this solution is of **high priority** and the productivity that can be realised from integrating all the departments will **translate into cost savings** which will eventually offset the licence and set up fees. Also, this nascent stage of setting up will allow HealNut's B2C venture to take off on the right foot in **converting savings to customer benefits** and thus an expansion in business. This will **reinstate HealNut's reputation** in the B2B market and **increase HealNut's standing** in the B2C market as a formidable new entry and threat to existing competitors.
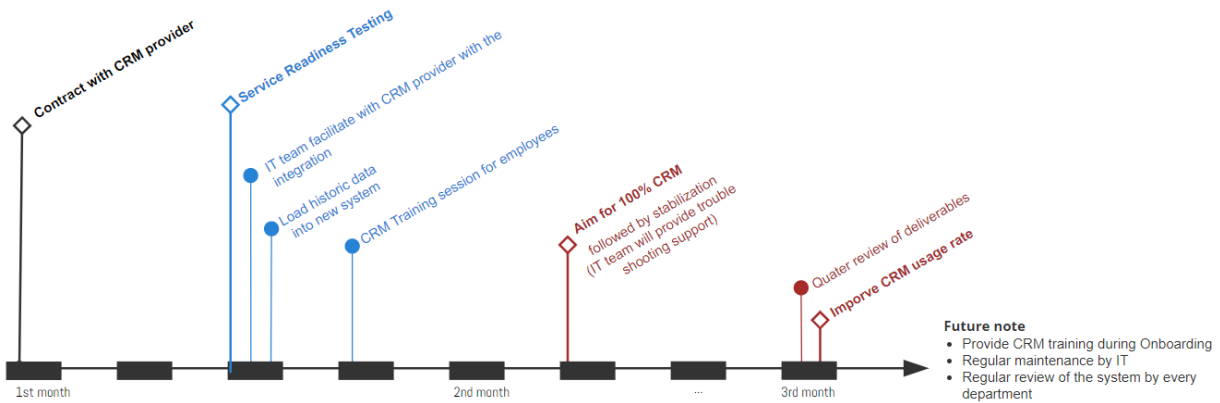
## 4.2.1.2. Implementation plan



Figure 12: Integrating CRM with inventory management

1. HealNut's employees will need to be trained with the new CRM on how to effectively utilise it for daily operations.
2. The migration of data from existing systems to the Zoho CRM without compromising current operations should be done systematically and incrementally.
3. Regular review meetings should be conducted for employees to identify pain points in adoption and performance of their daily tasks to remediate them early in the adoption process
4. HealNut should aim for 100% adoption of work processes over a course of 3 months which includes the training of employees and the refining for the system.

## 4.2.2.    Supply Chain Optimisation

A shortage of resources in a location can severely impact the supply chain. This inability to accurately estimate ingredient stocks propagates and affects HealNut's customers and their businesses, which is undesirable. Therefore, iLEAD proposes the use of a digital twin model to predict the supply chain productivity.

A digital twin refers to a virtual model designed to accurately reflect a physical object. By creating a digital twin of every HealNut's global plants and supply chains, HealNut is able to visualise and stress-test its supply chain and adequately gauge supply issues. The stability of HealNut's supply combined with a proper end-to-end workflow provided by the integrated CRM, can improve its current service to its customers. This strengthens HealNut's position as a re-emerging leader with improving its image as an outstanding service provider among customers.
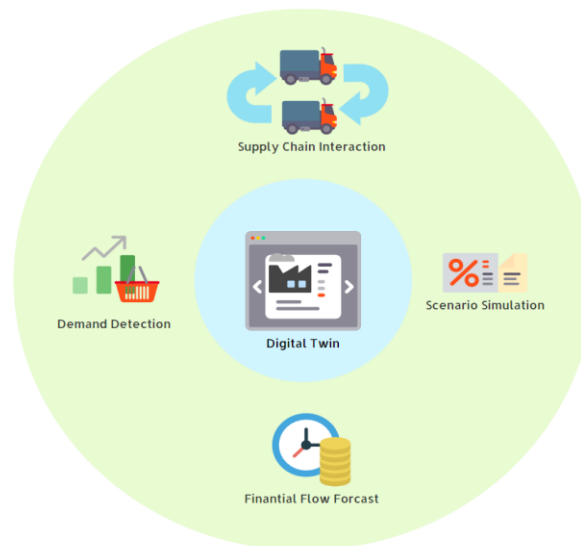


Figure 13: Digital Twin model benefits

The use of digital twin is favoured compared to a regular supply chain simulation model for the following reasons:
- More detailed and accurate, in turn, enables the software to analyse supply chain interactions.
- Able to account for a wide variety of situations, with the help of AI and machine learning, in demand for the activities in individual factories.
- Allows forecasting of financial and inventory flows with predictive analysis, identification of variability in demand and scenario testing, hence increasing the resilience of HealNut.

By implementing the Digital Twin model, we estimate HealNut to enjoy **benefits** such as
1) **Operating cost reduction** in transportation of **over 10%.**
2) Improved customer services through shorter and **more accurate shipping time.**
3) A **reduction in total inventory level** by up to **40%** due to optimised stocking.
4) **Increased visibility and transparency** through the use of in-built data analytics and visualisations will **diminish the effects of supply chain disruptions**.
5) Optimisation and cost savings in production will enable HealNut to offer competitive prices for B2C products, reducing the entry barrier.

We recommend HealNut to enlist anyLogistix[1] company in helping to build a digital twin model. The company also provides integration with existing enterprise software such as the proposed Zoho CRM. Thus, it omits the need of a separate software for predicting supply chain issues and simplifies the management process for the employees.

4.2.2.1.    Feasibility Plan

| Recommendation | Priority | Upfront Cost | Long-Term Cost | Complexity |
|---|---|---|---|---|
| Supply Chain Optimisation | Low | High | Medium | High |

Table 3: Feasibility analysis of implementing Supply Chain Optimisation

● The proposed anyLogistix's Digital Twin model has an upfront cost of around S$50,000 and a yearly maintenance cost is $20,000.
● High initial complexity due to the required manpower and expertise in migration of HealNut's current data to the Digital Twin.

Despite the high initial cost, the long-term cost savings will cover the initial cost and exceed the sustenance costs.

4.2.2.2.    Implementation plan

● We propose Implementing this following the integrated CRM and security overhaul due to its slightly lower priority.
● It could go parallel with the B2C venture as the company would need more support on supply chain optimization when the business grows. As the Digital Twin requires a longer start-up time, beginning in parallel would facilitate this and ensure that the cost savings can be realised when the B2C gains traction.

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[1] https://www.anylogistix.com

## 4.2.3. Cyber Security Overhaul



Figure 14: Road Map approach for cyber security infrastructure

To retain the benefits of implementing the new IT systems recommended above, iLEAD recommends a holistic and multi-pronged approach to improve the security posture in HealNut due to the security concern regarding data leak mentioned in 3.3.2. The approach entails three aspects, People, Technology and Process.
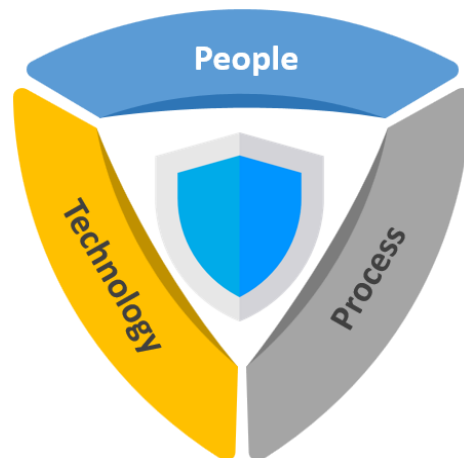


Figure 15:  Three aspects of the recommended approach to improve security posture

### 4.2.3.1. People

HealNut's security is in a dangerous state partly due to the lack of specialised staff. Currently, HealNut's IT department handles everything from technical support to cyber security. For HealNut's to be a more secure company, investment into creating a specialised security department is necessary.

***Recommendation 1: Creation of Cyber Security Operations Centre***

iLEAD recommends creating a Cyber Security Operations Centre (CSOC) that specialises in security. This consists of a Senior Cyber Security Specialist, Network Security Engineer, and an Information Security Analyst. They will work closely with the IT department and will solely focus on improving the security landscape of HealNut. Their responsibilities are as follows:
- Senior Cyber Security Specialist: Responsible for enhancing HealNut's security posture to ensure HealNut's systems are secure.
- Network Security Engineer: Responsible for deployment, configuration, and administration of network and security related hardware and software.
- Information Security Analyst: Responsible for researching the industry, finding security threats, and developing strategies to ensure HealNut remains secure.
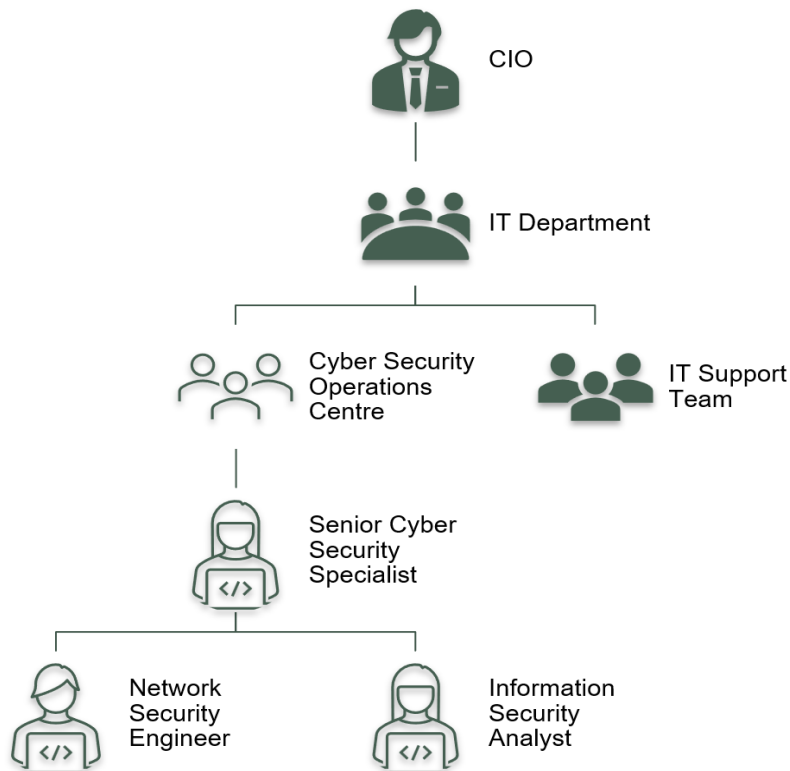


Figure 16: New IT department structure after implementing the cyber security operations centre

***Recommendation 2: Increasing Cyber Literacy education of employees***

HealNut's security is only as strong as its weakest link, its employees. To prevent being susceptible to social engineering attacks and price leaks, a cyber security awareness campaign is needed to educate its employees. iLEAD recommends 3 ways as below.
- Weekly newsletters
    - HealNut can update the employees on the latest Cyber Attacks and give simple and easy to follow tips for employees.



Figure 17: An example of a newsletter (Sobers, 2019)

- Enforcement of a mandatory Cyber Security training for all new employees and yearly refresher courses due to the evolving threat landscape.

- Simulated phishing attack campaign to gauge cyber readiness of employees
    - According to Cisco (2021), phishing attacks account for 90% of the data breaches. Thus, going through controlled phishing attacks will allow employees to learn the tell-tale signs which could prevent a potential attack.
    - It will also serve as a good training ground to stress test employees and assess how ready they are against attacks.

## 4.2.3.2. Technology

***Recommendation 3: Refurbishing our current security products***

iLEAD recommends a cloud-based Next-Generation Firewall (NGFW) to replace the existing outdated security system, to provide protection against external threats.
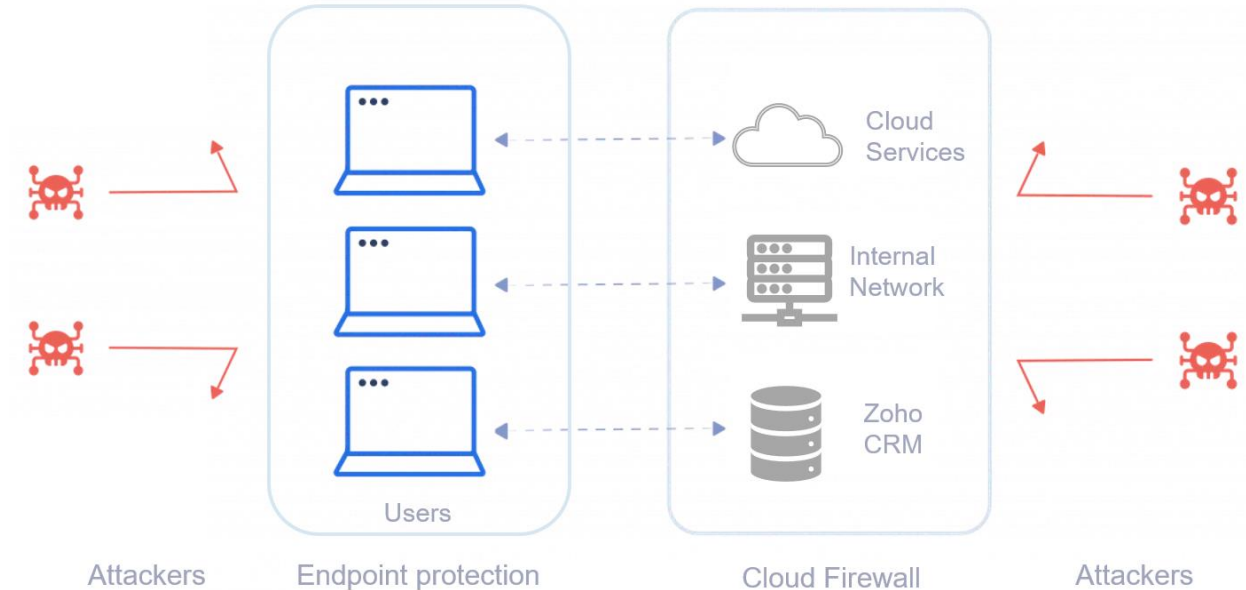


Figure 18: Model of the NGFW security system

The use of a cloud-based solution is preferred as compared to a physical appliance for the following reasons:

|  | Cloud | Physical |
|---|---|---|
| Simplicity | Easy to configure and implement resources | Complicated set up requiring technical expertise |
| Scalability | Easier to procure new resources | Hard to scale up due to physical constraints |
| Availability | Redundancy and protection against environmental conditions provided by Cloud Provider | Higher chance of site failure |

Table 4: Comparison between Cloud and Physical solutions

Having compared the popular cloud based NGFW available in the market, iLEAD recommends that HealNut adopts Fortinet's Secure Access Service Edge (SASE) Solution for the following reasons:
- Fortinet is a top NGFW provider and was ranked as the Customer's Choice for the Year of 2021 (Gartner, 2022).

- **Secures staff's endpoint devices** by preventing data leakage and malware protection.
- Provides several top-of-the-line industry-grade security features in addition to providing a Cloud-based solution.
- Provides a comprehensive security solution that suits the needs and vision of HealNut.
- Simple onboarding process and ease of adoption while not compromising on security.

### 4.2.3.3. Process

***Recommendation 4: The implementation of IT Security framework***

We recommend following a recent and renowned Information Security framework by the International Organisation for Standardisation (ISO). We implore the use of ISO/IEC 27002:2022 which contains Cyber Security best practices, which in the form of a set of security controls can be implemented to reinforce HealNut's security.

Among the comprehensive 93 security controls ISO27002 offers, we recommend primarily the 6 controls that are immediately relevant in enhancing HealNut's security posture in the following table.

| Security Control | Category | Remarks |
|---|---|---|
| Policies for information security | Organisational | There should be Information Security policies and procedures in place directed and set by the CIO and IT team that govern the cyber hygiene that the company and its stakeholders need to adhere to. |
| Management responsibilities | Organisational | Management should enforce all employees, contractors, and stakeholders to be compliant with the established policies and procedures. |
| Information security awareness, education, and training | People | As humans are the weakest link in security, cyber literacy campaigns as we have recommended combined with yearly refreshers will serve to reduce the occurrences of cyber-attacks targeting HealNut's employees. |
| User endpoint devices | Technological | From our analysis and interviews with staff and stakeholders, we understand that one of the most probable causes of data leakage was due to improper Network security and endpoint security. |
| Networks security | Technological | With IT now an enabler and not solely as a support, HealNut will be more reliant on anyLogistix supply chain and Zoho CRM for sustaining daily operations. This warrants better network security against cyber-attacks that could induce downtime or manipulation of software data.<br><br>The security solutions we have suggested to procure will also adequately detect and prevent such cyber-attacks. |
| Logging | Technological | The Zoho CRM logs could be monitored for any suspicious or unauthorised activity by the IT team and flagged for |

| | | investigation to stop potential data leakages. |
| --- | --- | --- |

<p align="center">Table 5: Security Controls recommended by HealNut</p>
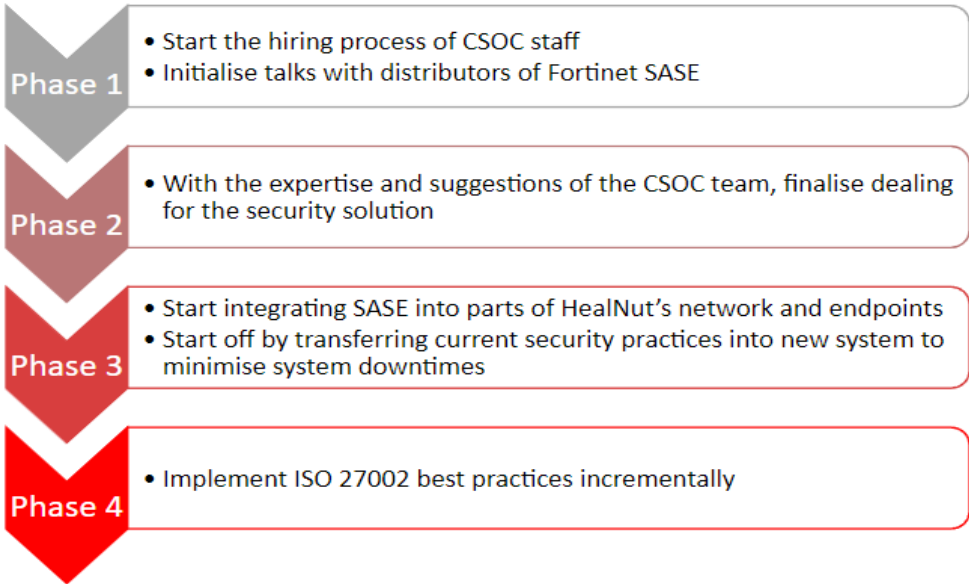
### 4.2.3.4. Implementation plan



**Phase 1**
- Start the hiring process of CSOC staff
- Initialise talks with distributors of Fortinet SASE

**Phase 2**
- With the expertise and suggestions of the CSOC team, finalise dealing for the security solution

**Phase 3**
- Start integrating SASE into parts of HealNut's network and endpoints
- Start off by transferring current security practices into new system to minimise system downtimes

**Phase 4**
- Implement ISO 27002 best practices incrementally

<p align="center">Figure 19: Phases of implementation</p>

### 4.2.3.5. Feasibility plan

The main costs of Security recommendations arise from personnel and security solutions.

| Recommendations | Priority | Upfront Cost | Long-Term Cost | Complexity |
| --- | --- | --- | --- | --- |
| Creation of SOC team | High | High | Medium | High |
| Purchasing SASE solution | High | Medium | Medium | Low |
| Integration of SASE into HealNut network | High | High | Low | High |
| Implementation of ISO 27002 best practices | Medium | Low | Low | Medium |

<p align="center">Table 6: Feasibility study of security recommendations</p>

While the start-up implementation costs may be high, the eventual benefits reaped through the improved security posture and its consequent security of competitive prices

will allow HealNut to retain its customers. Also, entry into the B2C space will increase the amount of customer data handled by HealNut. As such, a security-first approach will improve the perception of HealNut as a trusted company by customers in both spaces.

## 4.3. Summary of Implementation timeline

This is a proposed implementation plan over the next 3 years for the 5 distinct recommendations presented in this report.
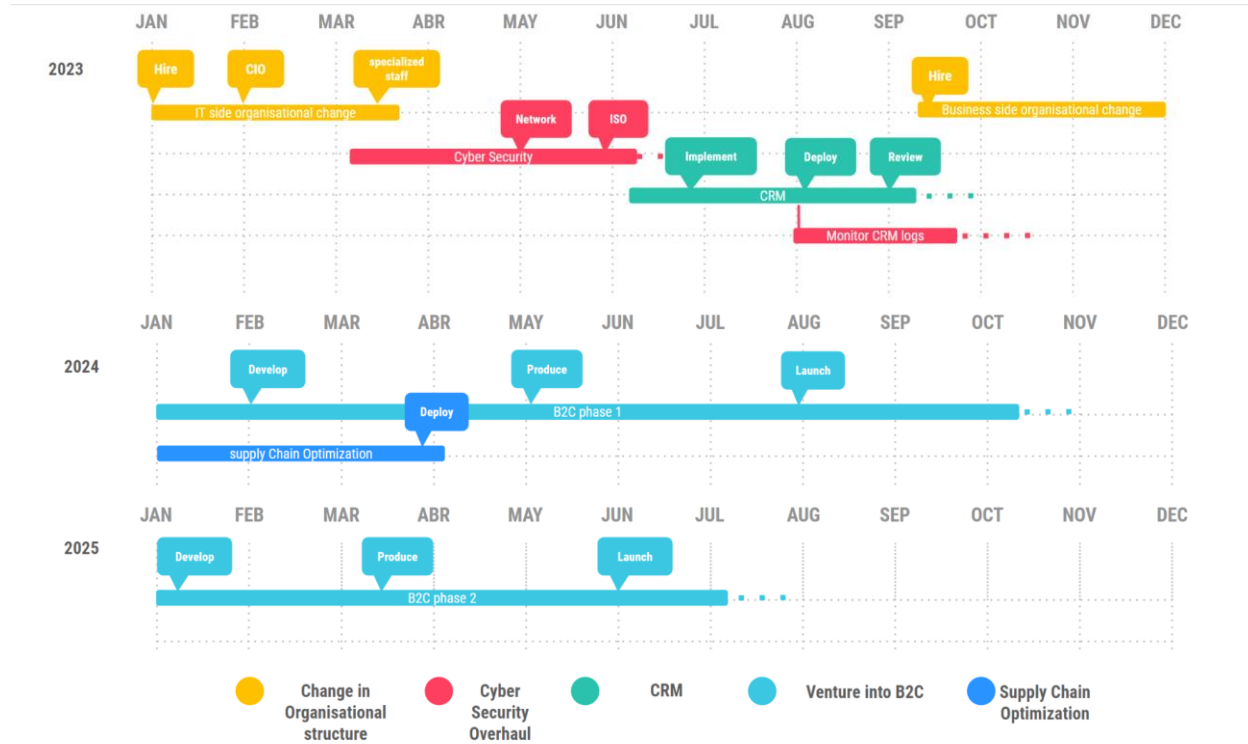


Figure 20: Implementation timeline for all the recommendations

# 5. Change Management

The changes proposed might face resistance from the agents of change listed below and thus we have provided suggestions on how to engage them to be active, supporting figures in the change process.

| Stakeholders | Impact | Influence | What is important to the stakeholder? | How could the stakeholder contribute to the project? | How could the stakeholder block the project? | Strategy for engaging the stakeholder |
|---|---|---|---|---|---|---|
| Senior Management (C-Suite) | High | High | Realising business growth and regaining market share. Improving brand image. Profit maximisation. | Convince to rally the employees to adopt the impending changes<br><br>Make decision and provide strategic plan for the company | By vetoing against the adoption of IT<br><br>Do not support IT investment | Showcase the overall benefit-cost of digital transformation and successful industry examples such as how digital transformation has propelled other food companies such as Nestle |
| Business customers | Medium | Medium | Better Customer service | Their positive input would entice HealNut employees that the new IT transformation is beneficial and worth sustaining. | By moving to our competitors | Explaining proposed benefits of the new CRM and seek their input in improving the customer service HealNut can provide for them |
| Operations, Sales & Marketing department | High | Medium | Ability to do a job seamlessly Being able to keep up with the increased workload | Reduce food wastage Improve inventory management Enhance and streamline the processes we have | Refusal to adopt CRM usage | Establishing the urgency for change creating a climate for change Convince them how the use of CRM will result in reduced workload |
| IT department | High | Medium | Ease of IT operation<br><br>Higher reputation in company | Enhance security posture of HealNut holistically and safeguard against cyber attacks | The IT team may want to leave as the increased technical role might be too daunting for them. | Provide tangible examples of how Digital Transformation is embraced by many companies and it is inevitable wherever they go due to the changing demands of the current world. |

Table 7: Stakeholder Matrix

# 6.  Conclusion

In conclusion, iLEAD has outlined the business and IT challenges faced by HealNut and detailed how it has been hindering them. In doing so, we have listed 5 main solutions, out of which two are strategic and the remaining are technical recommendations that we believe will aid HealNut to digitally transform itself and regain its place as a market leader. Doing so however requires a change in mindset in adopting IT and the courage to enter a new market, particularly by its senior management. This more accepting mindset will pave the way for digital transformation but might be faced with resistance by the employees who are afraid of the change. We hope that the suggested solutions to this resistance would prove useful for HealNut to collectively reassure all the employees to come on board and be part of a pivotal period of change towards its reinstatement as a market leader in the food manufacturing industry.

Word Count: 4896 Words (Excluding Headers, Executive Summary, References and Appendix)

# 7. References

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# 8. Appendix: Detailed analysis of Zoho CRM



CRM is customer relationship management. It includes marketing, sales, customer feedback and support team. People in charge of CRM need to use calls, messages, and emails to contact their customers and provide customized services for the customers. They also need to integrate with lead management, project management, sales management and inventory management. These integrations facilitate the consistency of the process and reduce the risks of stockouts and deadstock.



Inventory management is responsible for taking in the sales orders and recording the changes in the inventory. By analysing the inventory changes, management team will decide stocks changes to manage them in balance. CRM and inventory management can be integrated on sales orders and inventory.
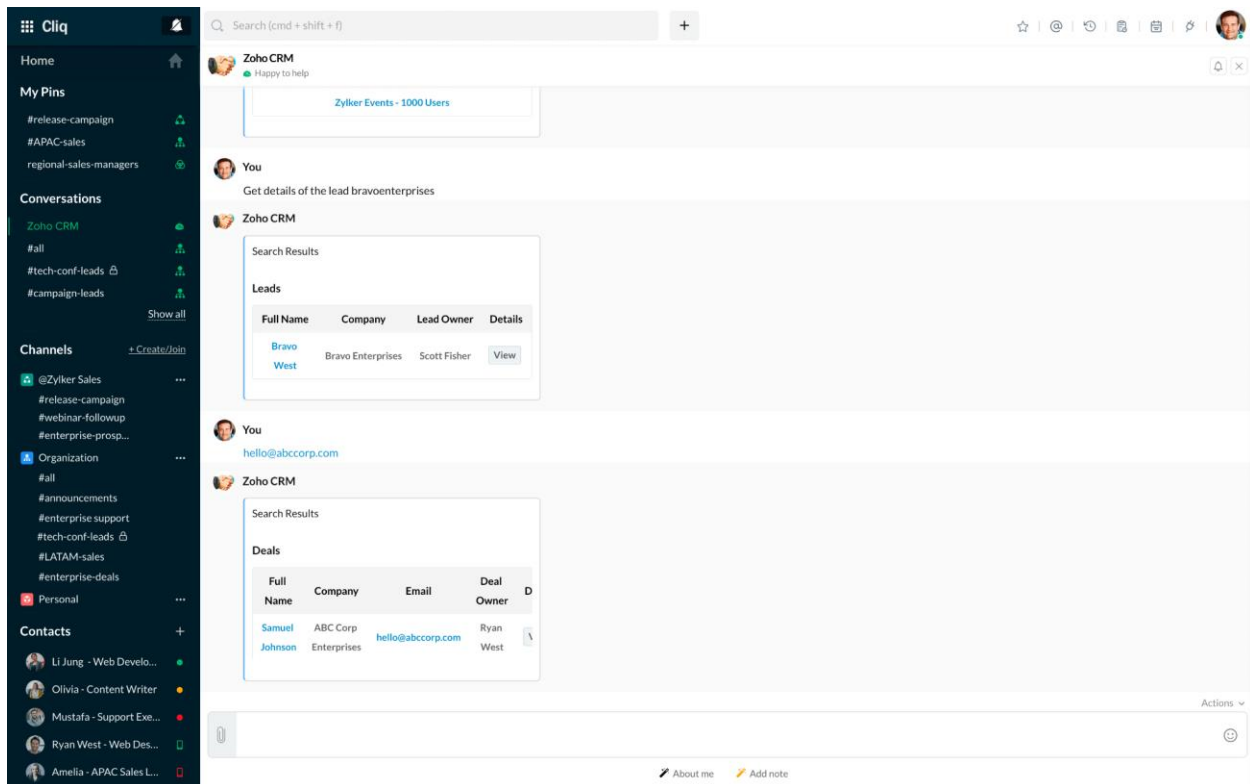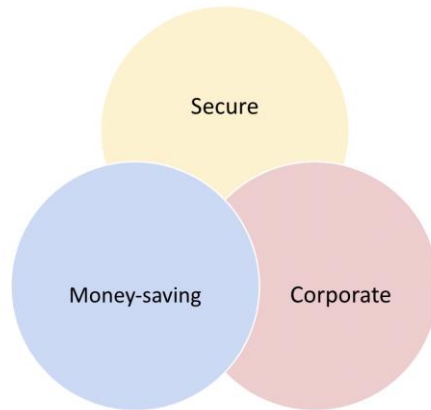
As the above shows the Zoho CRM UI interface. The left bar of the page shows clearly about conversations, channels, and contacts, where the CRM team can conveniently access related customers and clients. They can also switch and share files between different conversations and channels easily. The important pinned conversations can be conspicuously noticed. As a result, the relationships with different customers can be managed and improved.

The Zoho inventory page clearly demonstrates all records of sales and inventory changes. The management team can also filter these records with each attribute, like invoice date, invoice number. They also provide three separate forms for invoices, sales orders, and purchase orders.

How it works?



Using Zoho CRM and Zoho inventory management is recommended because they are from the same company and can be easily synchronised. HealNut can import their previous records into Zoho. From either Zoho CRM or Zoho inventory pages, there is an integration choice to synchronize the data from these two platforms. Moreover, credential information like product orders, sale orders, invoices, accounts, contacts, vendors can be synchronised instantaneously. Management efficiency and security can be boosted.

Although the Zoho software implementation is easy to start and has instructions, HealNut should train its staff on proper and safe procedures to utilize them. They also should be trained about higher data analysis skills to handle the large amount of data retrieved from the integration. The staff in charge of CRM and in charge of inventory management should be told to cooperate closely with each other. HealNut should also hold weekly meetings with them to keep close contact and share weekly updates.