A Review On Food Delivery Solutions For Small Medium Restaurants in Jaffna Region

Hirishegan Karuneswaran
Department of Business Management
Informatics Institute of Technology
Colombo, Sri Lanka
karuneswarn.2016351@iit.ac.lk

Gayashini Ratnayake
Department of Business Management
Informatics Institute of Technology
Colombo, Sri Lanka
mailto:gayashini.r@iit.ac.lk

Abstract

This study will discuss the Sri Lankan consumer's perceptions towards healthy food consumption, pre-order based food delivery solution for small-medium scale restaurants in the city, Jaffna. Although the city Jaffna was highly affected by the prevailed civil war in the country, at present Jaffna is immerging as one of the fast-developing cities with various infrastructure projects like highways, airports, ports etc. The scope of the project is to pave a digital platform and to introduce the digital business approach for the small-medium scale restaurant businesses which run in Jaffna. This proposed solution will support and automate the manual tasks carried out by the major stakeholders with minimal energy wastage with an ecofriendly, digital business approach. The research demonstrates the theoretical background of the topic, and it shows the present situation of the small-medium restaurants in Jaffna with primary and secondary data. The primary research contains, the result of the conducted questionnaire with a sample of 14 small, medium scale restaurants and from 172 potential customers. Also, this study contains 6 in-depth interviews with selected restaurant managers, who elaborated their opinions about the importance of healthy food consumption and the social responsibility towards eco-friendly delivery system.

Keywords
Mobile platform, Review management, Business forecasting, Digital transformation and Business approach.

1. Introduction

Technology has played a big role in revolutionizing the food delivery service from phone-based to online ordering to satisfying consumers' demands. Technology has also contributed to the changes in consumer preference to perform everything online including getting cooked meals delivered to their doorstep (See-Kwong, 2017). Food is the basic need for survival (Vootla, 2018) and the food consumption method differs from culture to culture. Small medium scale restaurants are a part of the food business which mostly operates from home. Also with technology and connectivity evolving, ordering foods through mobile apps or online has become the most favorite mode to order food (Saratha, 2017) and with the initial pilot study, the consumers from the Northern region are lacking a technically strong delivery service. In the Sri Lankan context, the majority of the delivery services are not focusing on the empowerment of small medium scale food businesses, reduction of energy wastage and eco-friendly delivery green business approaches.

2. Literature review

2.1 Introduction to online food delivery

Food delivery is a courier service in which a restaurant, store, or independent food delivery company delivers food to a customer. An order is typically made either through a restaurant or grocer's website or phone or through a food ordering company. According to Alagoz (Alagoz and Hekimoglu, 2012), e-commerce is rapidly growing worldwide, the food industry is also showing steady growth. Also, it's stated that the attitude towards online ordering varies according to the ease and usefulness of the online ordering process. The online food ordering system sets up a food menu online and customers can easily place the order. Besides, online customers can easily track orders. The management maintains the customer's database and improves the food delivery service. The restaurant management systems keep track of the food orders and act as a centralized data center. Increasing the use of smart-phones is also considered as a strength. Another strength is the users can track their food items through geo- positioning services, users can provide feedback and recommendations and can give ratings, it will give appropriate feed-backs to meal providers. According to Chavan (Chavan, 2005), the use of a smart device based interface for customers to view, order and navigate has helped the restaurants in managing orders from customers immediately. The capabilities of wireless communication and smart-phone technology in fulfilling and improving business management and service delivery. Their analysis states that this system is convenient, effective and easy to use, which is expected to improve the overall restaurant business in the coming times. Hong mentioned that (Hong, 2016), the use of an online food delivery system is believed that it can lead the restaurant's business to grow from time to time and will help the restaurants to facilitate major business online.

2.2 Existing food delivery models

According to the initial pilot and as per the literature ("4 Successful Business models for On-demand food delivery apps," 2019) below are the commonly used delivery models in the restaurant industry.

Order only model - models the business let restaurant owners handle the delivery services by themselves. The only responsibility of the on-demand food delivery business is to take the orders from the users and share those orders with the respective restaurants. The restaurant prepares the meal and delivers that meal to the user through its own team of delivery drivers.

Order and delivery model - Order and delivery model have to handle the logistics for the restaurants. Since restaurants don't have to invest for delivery service and food delivery companies can create more revenue streams by letting restaurants to utilize its delivery service. They allow anyone to be the delivery driver by just registering. When a user orders the food, a nearby driver is also notified to pick up and deliver the food. Business pay the drivers based on the distance they travel to complete a delivery.

Cloud restaurant model - Cloud restaurant is the most efficient way of running the on-demand food delivery business. With this model, the business can start on-demand food delivery business even from a house as it doesn't require a proper restaurant to fulfil the need for dining services. When a user orders the food, a central kitchen prepares the food and an own team of delivery drivers delivers the food.

Meal kit delivery model - Meal kit delivery model is the very unusual but profitable business model of the on- demand food delivery industry. In this business model, business deliver high-quality ingredients to the customers. Customers can select a plan and number of recipes per week to get delivered the different recipes and ingredients according to their selected plan to prepare those recipes.

2.3 Issues with the current restaurant models

Time and delivery - According to Harvard Business review (Frei, 2008), time is the most important factor in any form of business or service as time and delivery go hand in hand. on-time delivery is a frequently used key performance Index to take account of a supplier's delivery performance based on commitment. Early delivery equals less time waste, getting food delivered within few minutes depicts the relation of time and delivery as how important these to the consumer as well as the seller.

Convenience - Convenience is the biggest factor driving online food ordering, followed by affordability, a new study by primary research firm chrome data analytics ("Home furnishing: Convenience, the biggest factor driving online shopping: Study - The Economic Times," 2007) said, Consumers do not have to leave their home nor travel to find and obtain food online. This factor plays a vital role in influencing the consumer in using online food services, as improper convenience becomes the major bane which hinders the consumers into actually going and buying food.

Easy accessibility - Perceived ease of use, refers to the degree to which a person believes that using a particular system would be free of effort. Also the major importance of online food ordering is that due to its easy accessibility (Rathore and Chaudhary, 2018) in nature, within just a few clicks you get what you want onto your door step, Opening the application in the mobile phone or browsing through the browser on your laptop and order in no less than 2 minutes. Though some areas still do not contribute much to online food ordering due to some reasons which may include, improper internet availability in rural areas (Anderson, 2018).

Flexibility - All of the applications and web browsers are being designed with adjustments according to the consumer's needs and making their experience as flexible as possible. The introduction of various features in the concept of online food ordering like that of cash on delivery, door delivery, customized food order is adding to the context of the food ordering. Consumer attitude towards online purchasing is defined as the extent to which a consumer makes a positive or negative evaluation of buying food online and providing flexibility helps in inclining on to the positive side (Rathore and Chaudhary, 2018).

Ease of payment - People avoid using online services is mainly because they do not want to get entangled in the conundrum of payments (Rathore and Chaudhary, 2018). Introducing various method of payment has led in getting people's trust and thus enhancing the business of a lot of companies. Methods such as Cash on delivery, Payment by online money wallets, by debit and credit cards etc.

Technology integration - Technology can be used in sales promotion which includes tools for consumer promotion in the form of coupons, cash refund offers prices off, premiums and prizes. Offers and discounts are the ones which attracts the consumer to get indulge in online food ordering regularly (Kanagal, 2013) Price has operated as a major determinant of buyer's choice of Low pricing observed in online food services acts as an influencer to shop from the online food services (Rathore and Chaudhary, 2018).

With modern innovation in information, It is technology take over what people used to do for market researches and analysis (Washington, 2013). Using different mechanisms and logics people create computing models for computers to use and perform specific tasks effectively with high accuracy without human interactions. Hence, gathering customer data, analyze and finding patterns between customer behavior and come for conclusions automatically perform by computing models. Creating Algorithms to analyze past data and probability between incidents can be used to motivate them and retain customers (Seyed Mohammad Hossein Hasheminejad, 2018).

3. Proposed solution

To address the above issue the proposed solution will be having three different applications to automate the food ordering and delivery process.

Customer application- This application will act as a main platform for customer vendor interaction. This platform will allow the customer to view, browse, schedule order and track food delivery from the listed food menus. The notable technologies to be used in this platform will be a sentimental analysis based food review system, to rate the vendors depending on the reviews generated from customers. Vendor profile ratings based on review engagement will be using natural language processing for local languages such as Tamil, Sinhala and English. In addition, the proposed application will maintain a virtual leader board to list the top zero-carbon contributors to encourage their engagement. This application will communicate with both vendor and administrator application.

Food vendor application- This application will be designed for food management whereas the vendor gets a visibility on their daily, weekly and monthly online sales and income reports using data analytics. This application will be useful for the restaurant vendors to manage their online menu and orders with-out the traditional book keeping. Also the vendors using recyclable, reusable products will be featured in the user application.

Administrator application- This application will act as the super admin panel for both customer and vendor application. Administrator platform enables to create, delete and edit vendor profile and verifies the reviews upon verification. Also this application will address the food wastage occurring within the restaurant by a food wastage prediction system which will estimate the number of orders per day using a forecasting algorithm. The portal too supports the business owner to generate weekly, monthly and annual report about the overall performance of partnered vendors and achieved business sales.

4. Conclusion

The proposed solution will be a pre-order based food ordering and delivering system which will encourage and automate the manual tasks carried out by the major stakeholders in small medium scale restaurants with minimal energy wastage and eco-friendly delivery with digital business approaches using the techniques of sentimental analysis and business forecasting. The system will empower the small medium scale vendors to find their potential target audience. Also from the consumers end this platform will act as an online market place to consume traditional, healthy home cooked foods. The proposed solution will encourage both the food vendors and food consumers to follow environmental friendly measures to minimize carbon footprint and polythene usage.

References

4 Successful Business models for On-demand food delivery apps: 2019. https://www.coruscatesolution.com/4-successful-on-demand-food-delivery-app-business-models/. Accessed: 2019-11-11.

5 Ways Technology Has Changed Market Research: 2013. https://blog.marketresearch.com/blog-home-page/bid/339928/5-ways-technology-has-changed-market-research. Accessed: 2019-11-11.

Alagoz, S. and Hekimoglu, H. 2012. A Study on Tam: Analysis of Customer Attitudes in Online Food Ordering System. Procedia - Social and Behavioral Sciences. 62, (Oct. 2012), 1138–1143. DOI:https://doi.org/10.1016/j.sbspro.2012.09.195.

Chavan, V. et al. 2005. Implementing Customizable Online Food Ordering System Using Web Based Application. 2, 4 (2005), 6.

Frei, F.X. 2008. The Four Things a Service Business Must Get Right. Harvard Business Review.

G, S.-K. et al. 2017. Outsourcing to Online Food Delivery Services: Perspective of F&B Business Owners. The Journal of Internet Banking and Commerce. 22, 2 (Jul. 2017), 1–18.

high-speed internet is a major problem: 2018. https://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem/. Accessed: 2019-11-11.

Home furnishing: Convenience, the biggest factor driving online shopping: Study - The Economic Times: 2007. https://economictimes.indiatimes.com/small-biz/startups/convenience-the-biggest-factor-driving-online-shopping-study/articleshow/61039383.cms?from=mdr. Accessed: 2019-11-11.

Hong, L.W. 2016. Food Ordering System Using Mobile Phone. Information Systems Engineering. (2016), 105.

Kanagal, N.B. 2013. Promotions as market transactions. (2013), 13.

(PDF) Data mining techniques for analyzing bank customers: A survey: 2018. https://www.researchgate.net/publication/322611443_Data_mining_techniques_for_analyzing_bank_customers_A_survey. Accessed: 2019-11-11.

Rathore, S.S. and Chaudhary, M. 2018. Consumer's Perception on Online Food Ordering. 8, 4 (2018), 6.

Saratha, P. et al. 2017. Formal Specification for Online Food Ordering System Using Z Language. 2017 Second International Conference on Recent Trends and Challenges in Computational Models (ICRTCCM) (Feb. 2017), 343–348.

Vootla, P. et al. 2018. Food waste #x2014; A global challenge to sustainability. 2018 Advances in Science and Engineering Technology International Conferences (ASET) (Feb. 2018), 1–5.

Biographies

Hirishegan Karuneswaran, a digital innovator, intrapreneur, and a passionate tech-startup enthusiast who is a graduate in Business Information Systems from the University of Westminster, United Kingdom/ Informatics Institute of Technology, Colombo. Currently, he is working with Cookoo eats (Pvt) Ltd. the first food tech and an on-demand home/restaurant food delivery platform of Northern Sri Lanka as a Business Partner/ Strategist. Hirishegan is also one of the co-founders of the Dezign Agency, a creative platform that creates opportunities for freelancing individuals to work with personals and business profiles. As a part of his academics, he has successfully completed his one-year industrial placement at Zone24x7 (Pvt) Ltd. Colombo, a technical outsource center of Zone24x7 Inc San Jose, California. as a Trainee Associate Business Analyst where he got placed in the innovation team which catered to the digital transformation for a tier-one clothing retailer and for well-known clothing brands of the United States of America. His passion for tech and new business has shoved Hirishegan to deliver inspirational talks as a guest speaker for a couple of local tech events. Moreover, Hirishegan is one of the very few students at the Informatics Institute of Technology who holds Prof. Andrew Linn and Dr. Peter Bonfield Student Volunteering Appreciation under the CSR category from the University of Westminster for the year 2017. His research interests include Digital transformation, Entrepreneurship, Strategic planning and Digital businesses.

Gayashini Ratnayake is a Senior Lecturer attached to the Department of Business Management at Informatics Institute of Technology, Sri Lanka. She has been teaching University students for the past fifteen years and has a good track record of student performance and student satisfaction. She completed her first degree at the University of London and graduated with a Second Class Upper degree in Information Systems & Management. She subsequently secured a Graduate Merit Award to study at the London School of Economics and Political Science (LSE) in UK and graduated with a MSc in Analysis, Design and Management of Information Systems securing distinctions for many taught modules. She has published in many international conferences and was the youngest presenter at SEARCC'2006 (South East Asian Regional Computer Confederation) at the age of 25. She is currently reading for her PhD. Her research interests include IT Outsourcing, Entrepreneurship, Family Businesses, Strategic HR, E-commerce and Digital businesses.
.