

Fakulti Sains Komputer Dan Matematik

TECHNICAL REPORT
FINAL YEAR PROJECT
CS249
MARCH 2022 – AUGUST 2022

NEUTROSOPHIC SOFT SET WITH APPLICATION IN
DECISION MAKING: A CASE STUDY ON THE ONLINE
FOOD DELIVERY SERVICE

NURUL BALQIS BINTI RAMLI 2019415212
SITI HAJAR AISYAH BINTI MOHAMED SAEDAN 2019230034



Fakulti Sains Komputer dan Matematik
Faculty of Computer and Mathematical Sciences

ZON D

• Teknologi Maklumat
& Sains Kuantitatif
• Pengiraan
• Grafik Persegi

ACKNOWLEDGEMENTS

In the Name of Allah, The most Gracious, The most Merciful. First and foremost, we would like to praise and thank the Almighty God for giving us the strength and because of His blessing, we finally managed to accomplish this Final Year Project. Without His blessing, we wouldn't have gone this far. This project cannot complete without effort and cooperation from our group member, which are Nurul Balqis binti Ramli and Siti Hajar Aisyah binti Mohamed Saedan. We always work hard to produce a good project with our full commitment and responsibility.

Therefore, we would like to a knowledge with thanks to our supervisor Madam Firdawati Mohamed because without her guide our project cannot be done properly like this. She always give us guide in completing this project in purpose to produce excellent outcome. We also like to thank our beloved family for their courage and supports physically and mentally.

Last but not least, we would like to express our thankfulness to University Technology Mara (UiTM) campus Machang for giving us opportunity to conduct this writing research report. Finally, an honorable mention goes to our friends and respondents for the support and willingness to spend some times with us to fill in the questionnaire.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
ABSTRACT	vi
1 INTRODUCTION	1
1.1 Research Backgroud	1
1.2 Problem Statement	4
1.3 Research Objective	5
1.4 Significant Of Project	5
1.5 Scope Of Project	5
2 LITERATURE REVIEW	7
2.1 NEUTROSOPHIC	7
2.2 NEUTROSOPHIC SOFT SET	8
2.3 ONLINE FOOD DELIVERY	9
3 METHODOLOGY	12
3.1 PRELIMINARIES	12
3.2 STEP IN METHODOLOGY	17
4 IMPLEMENTATION	22
5 RESULTS AND DISCUSSION	30
6 CONCLUSIONS AND RECOMMENDATIONS	31

ABSTRACT

The global market for online food delivery (OFD) has grown significantly as a result of the COVID-19 pandemic. In recent years, according to Dospinescu et al. (2020), the worldwide online food delivery market has grown at an exponential rate since consumers can order meals online and delivered to their homes on a daily basis. Extra services have proven to be useful in maintaining social distance during the COVID-19 pandemic, expanding service reach, and reducing the time and distance between sales and usage processes. In Malaysia, the online food delivery services has increase rapidly and creating a big door of opportunity for a variety of OFD platforms, as well as making it a competitive commercial sector in this country. Thus, to sustain the development and keep up with the ever-changing market dynamics, there are many measures and dimensions need to be considered by the OFD entrepreneurs. The objectives of this study are to identify the preferable of OFD companies among the UiTM Kelantan Branch students and to determine the best parameter that will influenced students to buy through OFD using neutrosophic soft set. To achieve these objectives, the neutrosophic soft set is applied to translate the linguistic evaluation statements of the experts. The parameters that being evaluated in this study are delivery cost, delivery speed, convenience of payment, web design, marketing techniques and order fulfillment. From the final result, GrabFood is the preferable OFD company as it obtained optimal decision compared to FoodPanda as the alternatives. Hence, convenience of payment is the best parameter that influenced students to buy through OFD as it has the highest weight than the other parameter.

1 INTRODUCTION

1.1 Research Background

1.1 (a) *Online Food Delivery*

Online food delivery (OFD) grow rapidly during the pandemic Covid-19. As stated by Nguyen et al. (2021), OFD was already benefiting from more widespread digitalization before the worrisome Covid-19 began to make headlines throughout the world. Urban lifestyle in cities in each country had increase the growth rate of OFD. Eating now is not just take-away or eating out but OFD is a modern eating out. The OFD services are being focused ar Kuala Lumpur, Johor Bharu, Klang Valley and Penang as they are the urban cities in Malaysia. As stated by Chai & Yat (2019), OFD services are facing difficulties in terms of the coverage boundary and location unlike the e-commerce services which are possible to scale with the help of third-party logistic delivery. According to Yeo et al. (2017), in 2012, the Kentucky Fried Chicken (KFC) was the major players in delivery services. Nevertheless, the smaller food retailers also passionate to offer delivery services with the aid of food delivery intermediaries. By 2025, it is expected to reach USD 200 billion in the global output value.

OFD usually give benefits to the customer by giving the great deals, rewards and discounts when using their applications. Customer can get wide range of restaurants with variety of choices and receive it at their home. Meal orders from restaurants can be placed over the phone, using websites or mobile applications or directly through the restaurant's own online ordering systems. Customer often pay flat delivery price, which may occasionally be waived depending on the amount of their purchases. Since the pandemic outbreak, contactless delivery has become widespread. The changing market is becoming increasingly competitive and difficult for the landscape's current participants as more and more people choose to purchase food online. Considering service quality, technological advancements, and risk considerations, the expansion of online meal delivery has changed how online food delivery businesses interact