



Price sensitivity on food application!



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AGENDA

01

Introduction

- Objective
- Research questions

02

Literature Review

03

Methodology

- Regression analysis

04

Data & Model specification

- Data collection
- Models & Variables

05

Results

- Interpretation
- Significant Variable

06

Conclusion

- Conclusion
- Limitation



01



Introduction



Background

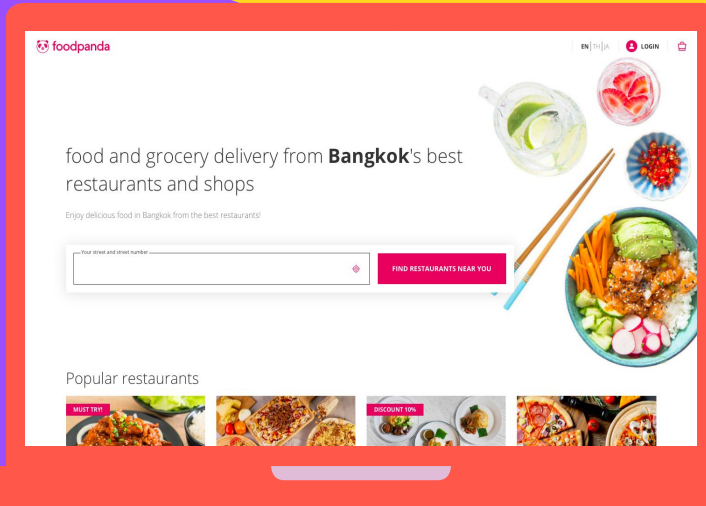
The growth in mobile communications is a significant reason attributed to the O2O commerce explosion in Thailand.

Mobile applications have seized this opportunity adapting it to restaurants and food delivery services, recognized as an alternative strategy to increase sales revenue and for consumers to conveniently receive products and services

According to an increasing usage of online food ordering, food delivery service is the main service which boost more revenues for both normal restaurants, chain restaurants as well as food delivery service providers

The food delivery market in Thailand is dominated by five main players: GrabFood, Foodpanda, Robinhood, Gojek and Line Man

Research Questions



Does the promotion coupon result a change in consumers behavior?



Which food categories do the consumers tend to wait for the promotion coupon?



Does the design on food application plays a significant role on user's perceived price sensitivity?

Objective

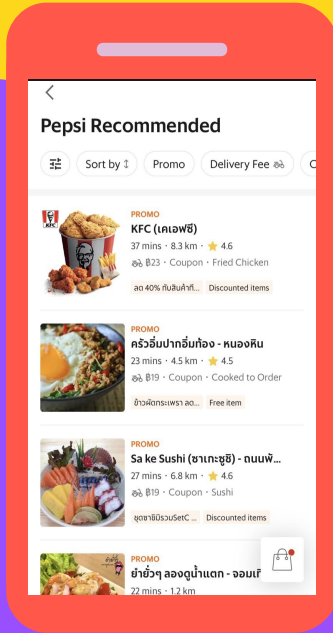
To study the impacts of launching promotion coupons and price sensitivity on consumer behavior



INTRODUCTION

OBJ

To study the impacts of launching promotion coupons and price sensitivity on consumer behavior



First

- To identify types of user-interface that whether play a significant role or not


Second

- To identify types of food that sensitive to customers' perceived value
- To explore characters
 - Food ordering behavior

Significant of the study

Guidance to the online food platforms on how they could find the right strategy moves response to sensitivity of consumers





02

Literature
Reviews

Effect of coupon on consumer behavior



S. Montazeri et al., 2020

People prefer discounts formatted in Dollar terms over those presented in percentage, as a percentage discount is believed to be a more computational format



Bawa, 1996; Neslin et al., 1985

Brand/Product-specific price-based promotion, coupon redemption leads to purchase acceleration



Heilman et al. (2002)

Coupons work as a stimulant that lift customers' mood, leading them to increase expenditure.

Food Types that is sensitive to sales promotion



Some kind of product, consumers are more **psychologically**



Some kind of product consumer behave **rationally**
(Luong and Slegh, 2014)



Product suitable promotional strategy is required
(Kempf, 1999)

Food delivery application user interface attributes and the effects upon the user-experience



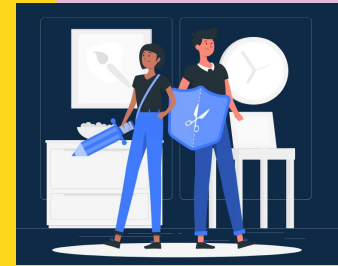
Yang et al., 2004

A Quality attribute, “**design**” represents **logical structures of mobile apps** involving usability, understandability, and operability that users need to put effort into in order to use



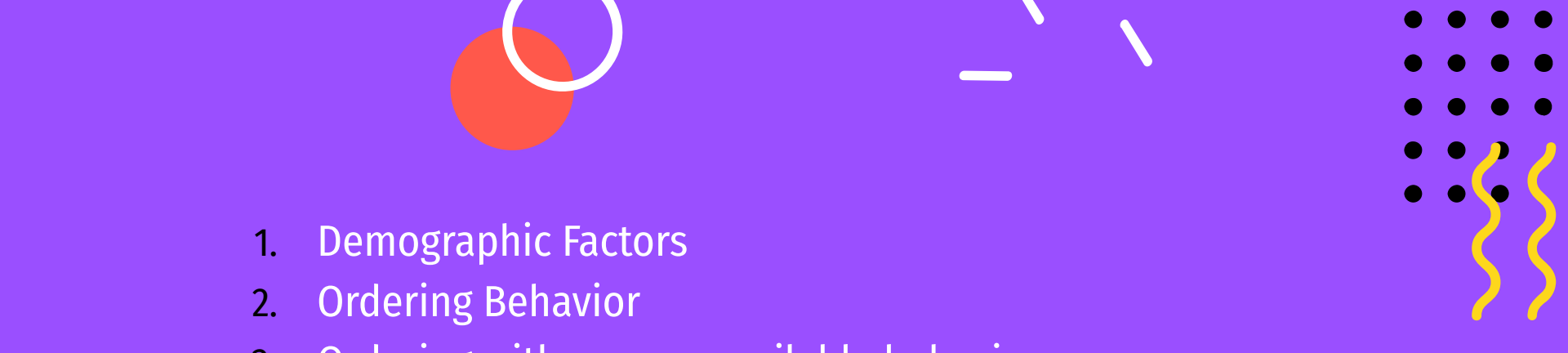
Handelm,2011

Identified **5 essential application quality attributes** included ease of use, reliability,information quality, information scope and aesthetics based upon user ratings of well-being mobile apps



Kim and Hwang, 2012

The importance of mobile app design especially in the e-commerce environment where users expect to finalize all searching, ordering and purchasing processes in a few clicks.

- 
1. Demographic Factors
 2. Ordering Behavior
 3. Ordering with coupon available behavior
 4. Food Categories with willingness to wait
 5. Promotion tools behavior (Five Type Likert scale)
 - a. Minimum spend
 - b. User-interface on application

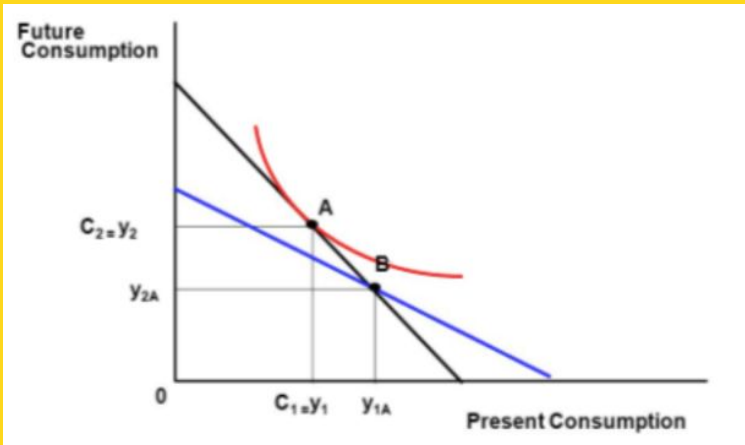


Questionnaire

Theoretical framework

Intertemporal Choice

Intertemporal choice is the process by which people make decisions about what and how much to do at various points in time when choices at one time influence the possibilities available at other points in time. Intertemporal choice refers to decisions, such as spending habits, made in the near-term that can affect future financial opportunities. These choices are influenced by the relative value people assign to two or more payoffs at different points in time. Most choices require decision-makers to trade-off costs and benefits at different points in time.



4Ps Marketing Mix Theory

Use as a strategy for marketing decision-making which comprises Product, Price, Place, Promotion. In order to analyze the whole waiting decision behavior.

Category

Definition

Product

A product refers to an item that satisfies the consumer's needs or wants which may be tangible or intangible

Price

Price refers to the amount a customer pays for a product

Place

Refers to providing customer access (food application platform)

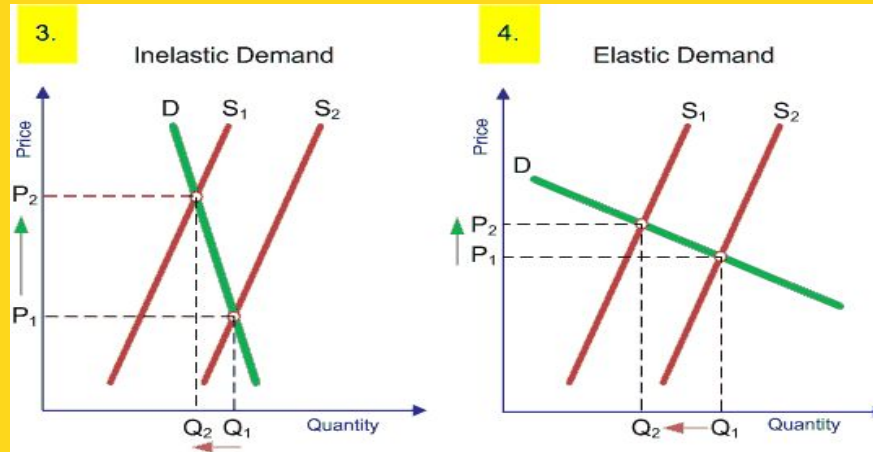
Promotion

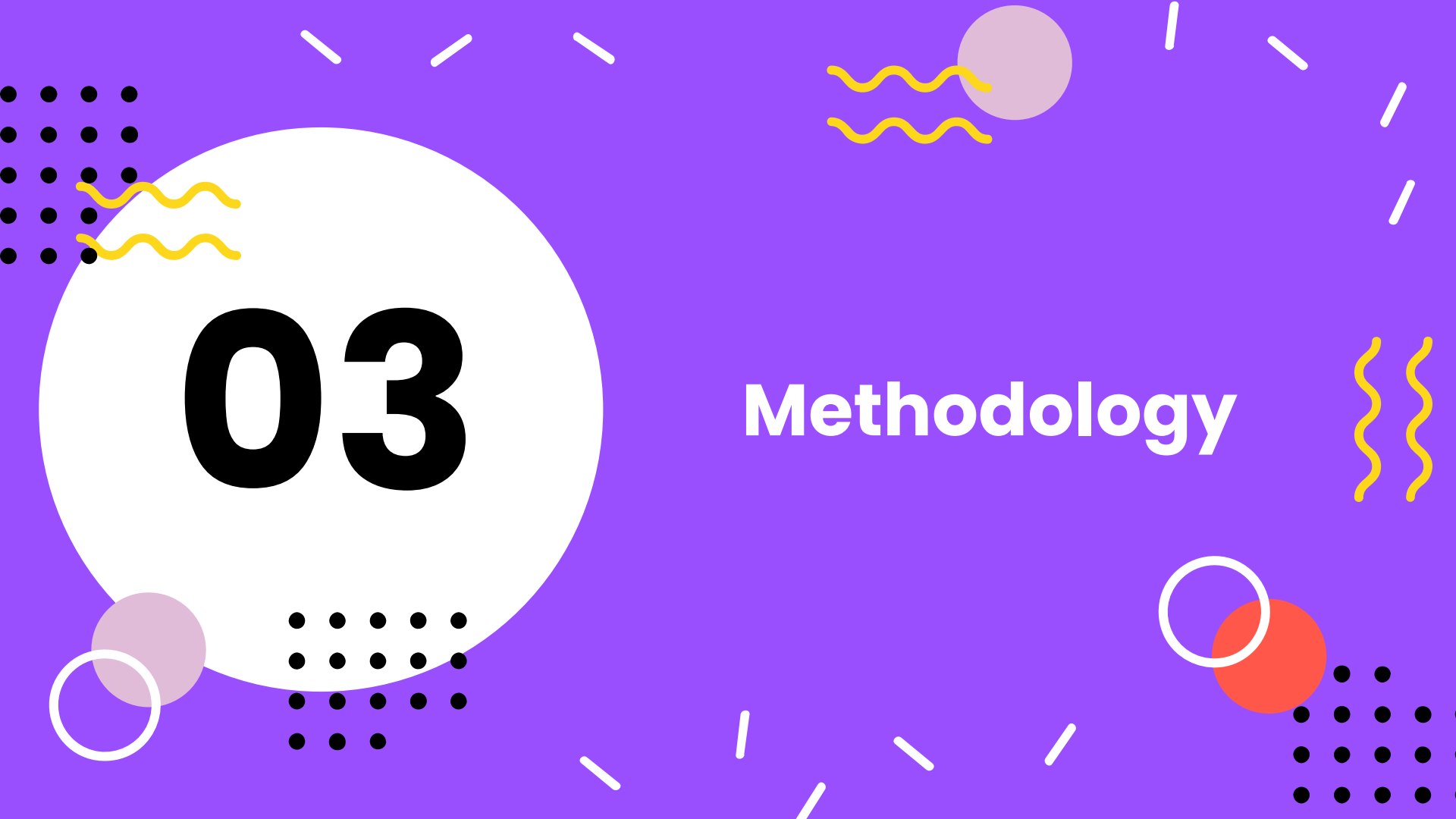
Promotion refers to marketing communication

Theoretical framework

Price elasticity

The law of demand says that consumers will respond to decrease or increase in prices of goods and services. (other things remaining constant), but law of demand explains only the concept of change in prices of goods and services effects its demand, but does not explain to what extent demand changes if prices of goods increase or decrease. The degree of responsiveness or sensitivity of consumers to a change in price is measured by the concept of price elasticity of demand. If a small change in price is accompanied by a large change in quantity demanded, the product is said to be elastic (or responsive to price changes). The opposite also applies; a product is inelastic if a large change in price is accompanied by a small amount of change in demand.





03

Methodology

Methodology

$$\Pr(Y=p) = D_{pi}\beta_p^* + F_{pi}\delta_p^* + C_{pi}\eta_p^* + P_{pi}\kappa_p^* + \varepsilon_i$$

$$; i = 1, \dots, 342, p = 0, 1$$

- $\Pr(Y = p)$ is the probability of consumer who ordering food via online food application , where $p=0$ when respondents don't wait , $p=1$ when respondents are waiting for promotion coupon.
- D_{pi} is the demographic factors that are consisted of gender, age income, occupation
- S_{pi} is the ordering food behavior that are consisted of online ordering frequency and spending amount
- C_{pi} is the food categories preference which we categorise into 39 types of food
- P_{pi} is the promotional tools



04

Data & Variable

DATA & VARIABLE

DEPENDENT VARIABLES

Factors	Variable	Definition
Waiting Decision	Y_p	Have you ever waited for promotion coupon, when you've already known what to buy? (Waiting = 1, Not Waiting = 0)

DATA & VARIABLE

INDEPENDENT VARIABLES : DEMOGRAPHIC FACTORS

Variables	Variables Title	Definition
Demographic Factors (D _i)	Gender	(Male = 0, Female = 1, Alternative gender = 2)
	Age	Age of the respondents (Less than 20 years old = age_zero, 20-25 years old = age_one, 26-30 years old = age_two, 31-35 years old = age_three, 36-40 = age_four, 41-45 = age_five, More than 45 years old = age_six) (If one is being that age range = 1, otherwise = 0)
	Income	Income of respondents (Less than 15,000 = income_zero, 15,001 - 30,000 = income_one, 30,001 - 45,000 = income_two, 45,001 - 60,000 = income_three, 60,001 - 75,000 = income_four, more than 75,000 = income_five) (If one is being that income range = 1, otherwise = 0)
	Occupation	Occupation of respondents ; Students, Private Employees, Government Officer, Business Owners, Wifehouse, Freelancers, Etc. (If one is being that particular occupation = 1, otherwise = 0)

DATA & VARIABLE

INDEPENDENT VARIABLES : ORDERING FOOD BEHAVIOR

Variables	Variables Title	Definition
Ordering food Behavior (S _i)	Online ordering Frequency	Respondent's ordering frequency via food application ; 1-2 times a year = freq_zero, 3-6 times a year = freq_one, 1-2 times a month = freq_two, 1-2 times a week = freq_three 3-6 times a week = freq_four, Everyday = freq_five. (If one has ordering behavior at that particular frequency = 1, otherwise = 0)
	Spending Amount	The average spending of respondents (Less than 100 Baht = spend_zero, 101 - 300 Baht = spend_one, 301 - 500 Baht = spend_two, 501 - 700 Baht = spend_three, 701 - 900 Baht = spend_four, 901 - 1,100 Baht = spend_five, 1,101 - 1,300 baht = spend_six, more than 1,301 = spend_seven (If one has ordering behavior at that particular frequency = 1, otherwise = 0)
	Flash deal Frequency	Respondent's ordering from flash deal via food application ; Respondent has ever bought food from flash deal ; never bought = flash_zero, at least one time = flash_one (If one has ordering behavior at that particular frequency = 1, otherwise = 0)

DATA & VARIABLE

INDEPENDENT VARIABLES : FOOD CATEGORIES PREFERENCE

Variables	Variables Title	Definition
Food Category Preference Factors (C_i)	Food Categories	Respondent is interested in/ normally buy that particular food category through online food delivery platform ; total number is 39

DATA & VARIABLE

INDEPENDENT VARIABLES : PROMOTION TOOLS

Variables	Variables Title	Definition
Promotional Tools Factors (P _i)	Minspend	"I think the small minimum spend influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	Reward	"I think Reward influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	UiTime	"I think if the application tells accurate time when food arrived influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	UiProcess	"I think if the application has a banner that tells exactly the time when food arrived influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	UiPic	"I think if the application has a picture for each menu influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	UiCancel	"I think if the application has a cancel button influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)
	UiCoupon	"I think if the application has a coupon banner that tells the available coupon you can use influence you to wait for coupon" Opinion (Mostly disagree = 0, Disagree = 1, neutral = 2, Agree = 3, Mostly agree = 4)

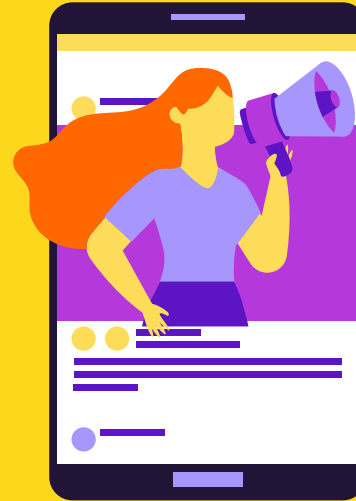
DATA & VARIABLE

DATA COLLECTIONS



400 obs.

With 342 ordering food online people
who use food delivery application



By using **Google survey** and **offline survey**



05

Result

Result

```
. margins, dydx(*)
```

```
Average marginal effects      Number of obs   =       342
Model VCE      : OIM
```

```
Expression      : Pr(WAIT), predict()
```

```
dy/dx w.r.t. : Gender age_zero age_one age_two age_three age_four inc_zero inc_one inc_two inc_three inc_four Student
PrivComp GovtOfficer BizOwner Wifehouse Freelance Unemp Etc spend_zero spend_one spend_two spend_three
spend_four spend_five spend_six spend_seven freq_zero freq_one freq_two flash_zero flash_one AssortedMeat
BakeryandPastries YakiniikuBBQ BreakfastBrunch BubbleTea Burgers Catering Chinese CoffeeTea Cookedtoorder
DimSum Drinks Esan FastFood FriedChicken FriedFood FrozenYogurtIcecream Healthyfood HotPot Indian
International Italian Japanese JuiceSmoothies Korean Noodles Northern Pizza Ramen Ricebowls Seafood Shavedice
SmallBitesSnacks Southern Steak StreetFood Sushi Western Other Minspend Reward UiTime Uiprocess UiPic UiCancel
UiCoupon
```

	Delta-method				[95% Conf. Interval]	
	dy/dx	Std. Err.	z	P> z		
Gender	1.663633	.3432575	4.85	0.000	.9908603	2.336405
age_zero	.0544978	.2012608	0.27	0.787	-.3399662	.4489618
age_one	1.49382	.3291188	4.54	0.000	.8487594	2.138881
age_two	.6832418	.2173493	3.14	0.002	.2572449	1.109239
age_three	1.304606	.3027239	4.31	0.000	.7112779	1.897934
age_four	1.59334	22.30682	0.07	0.943	-42.12722	45.3139
inc_zero	-.0649334	.1277107	-0.51	0.611	-.3152416	.1853749
inc_one	-.000771	.105494	-0.01	0.994	-.2075354	.2059935
inc_two	-.1637929	.1267428	-1.29	0.196	-.4122041	.0846184
inc_three	-.0805569	.1137347	-0.71	0.479	-.3034728	.142359
inc_four	.2921879	25.84816	0.01	0.991	-50.36927	50.95365
Student	.5863024	.3014922	1.94	0.052	-.0046114	1.177216
PrivComp	-1.313698	.3918777	-3.35	0.001	-2.081764	-.5456318
GovtOfficer	-1.256846	.4335086	-2.90	0.004	-2.106115	-.4075767
BizOwner	-1.057605	.374617	-2.82	0.005	-1.791841	-.323369
Wifehouse	-.259561	.3091133	-0.84	0.401	-.8654119	.3462898
Freelance	-.0551496	.2620642	-0.21	0.833	-.568786	.4584868
Unemp	-.4168288	.2987614	-1.40	0.163	-1.00239	.1687328
Etc	-.1279262	.0393579	3.25	0.001	.0507861	-.2050662

Result

spend_zero	1.268398	.3585801	3.54	0.000	.5655939	1.971202
spend_one	1.196447	.320843	3.73	0.000	.5676062	1.825288
spend_two	1.170936	.3036182	3.86	0.000	.5758549	1.766016
spend_three	.9086466	.2926383	3.11	0.002	.3350861	1.482207
spend_four	.770072	.2411544	3.19	0.001	.297418	1.242726
spend_five	2.601461	.5975209	4.35	0.000	1.430341	3.77258
spend_six	3.340922	1.540187	2.17	0.030	.3222109	6.359633
spend_seven	.8628375	71.60983	0.01	0.990	-139.4899	141.2155
freq_zero	.2011987	.144015	1.40	0.162	-.0810656	.483463
freq_one	-.3807469	.1185243	-3.21	0.001	-.6130503	-.1484435
freq_two	.7988785	.1771144	4.51	0.000	.4517406	1.146016
flash_zero	-.1311975	.0926279	-1.42	0.157	-.3127449	.0503499
flash_one	-.5381208	.1685545	-3.19	0.001	-.8684816	-.2077601
AssortedMeat	1.190943	.2850321	4.18	0.000	.6322906	1.749596
BakeryandPastries	.6041952	.1715631	3.52	0.000	.2679377	.9404527
YakinikuBBQ	1.58068	.4484101	3.53	0.000	.7018121	2.459547
BreakfastBrunch	.2219945	.2191528	1.01	0.311	-.2075372	.6515262
BubbleTea	-.5918429	.1737832	-3.41	0.001	-.9324518	-.251234
Burgers	-.0008221	.0920104	-0.01	0.993	-.181159	.1795149
Catering	.0963612	.0816266	1.18	0.238	-.063624	.2563465
Chinese	.6493803	.2103912	3.09	0.002	.2370211	1.06174
CoffeeTea	-.8075027	.2324884	-3.47	0.001	-1.263172	-.351834
Cookedtoorder	-2.26033	.5373675	-4.21	0.000	-3.313551	-1.207109
DimSum	.4066106	.1597076	2.55	0.011	.0935896	.7196317
Drinks	.1312611	.0841933	1.56	0.119	-.0337547	.296277

Result

Drinks	.1312611	.0841933	1.56	0.119	-.0337547	.296277
Esan	-1.887015	.4425816	-4.26	0.000	-2.75446	-1.019571
FastFood	.1405995	.1043231	1.35	0.178	-.0638701	.3450691
FriedChicken	-.1169411	.0752347	-1.55	0.120	-.2643985	.0305162
FriedFood	.177998	.0709365	2.51	0.012	.038965	.3170309
FrozenYogurtIcecream	-1.345269	.2981822	-4.51	0.000	-1.929696	-.7608428
Healthyfood	-.2176953	.1231709	-1.77	0.077	-.4591058	.0237153
HotPot	2.762889	.5770181	4.79	0.000	1.631954	3.893823
Indian	1.025641	.4140982	2.48	0.013	.2140229	1.837258
International	.2098827	.2029238	1.03	0.301	-.1878405	.607606
Italian	-1.338292	.2982272	-4.49	0.000	-1.922807	-.7537778
Japanese	1.866811	.3742167	4.99	0.000	1.13336	2.600263
JuiceSmoothies	-.4543391	.2094624	-2.17	0.030	-.8648779	-.0438004
Korean	.7607922	.3060279	2.49	0.013	.1609885	1.360596
Noodles	-.4138602	.1307292	-3.17	0.002	-.6700847	-.1576357
Northern	-.5460415	.2057909	-2.65	0.008	-.9493841	-.1426988
Pizza	1.120508	.3489642	3.21	0.001	.4365506	1.804465
Ramen	1.042441	.2354007	4.43	0.000	.5810637	1.503818
Ricebowls	-.2872079	.0976262	-2.94	0.003	-.4785517	-.095864
Seafood	.6524898	.2001672	3.26	0.001	.2601692	1.04481
Shavedice	-1.839605	.4552048	-4.04	0.000	-2.73179	-.9474198
SmallBitesSnacks	-.8016504	.2801143	-2.86	0.004	-1.350664	-.2526364
Southern	-.2305219	.1161453	-1.98	0.047	-.4581624	-.0028813
Steak	.3193628	.1190419	2.68	0.007	.0860449	.5526806
StreetFood	-.1167885	.1171365	-1.00	0.319	-.3463718	.1127948
Sushi	1.449493	.3352357	4.32	0.000	.7924428	2.106543
Western	.1300514	.1965762	0.66	0.508	-.255231	.5153337
Other	-.972776	.2760879	-3.52	0.000	-1.513898	-.4316536

Sr

Result

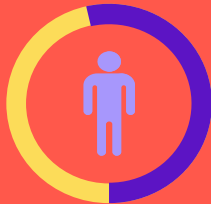
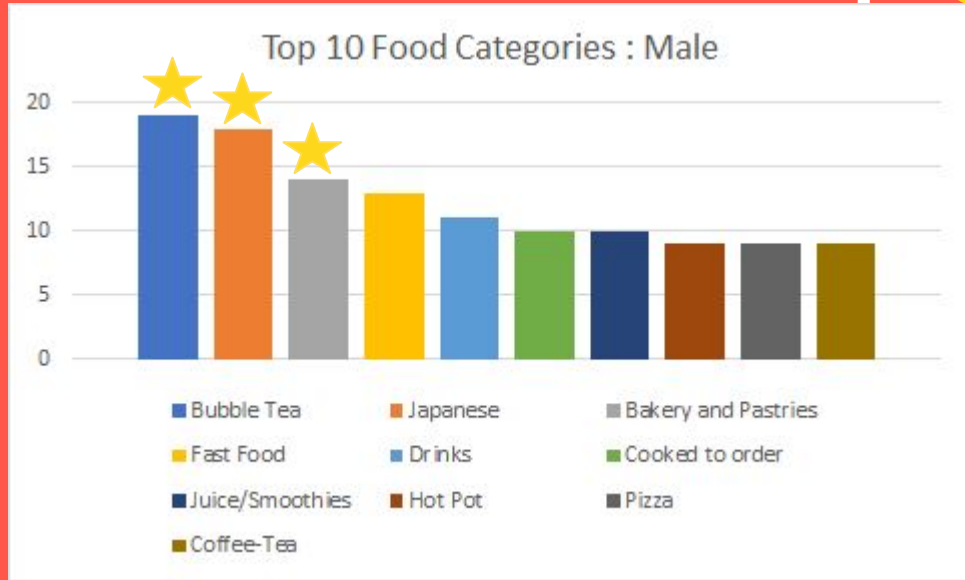
Minspend	-.1214573	.0399795	-3.04	0.002	-.1998158	-.0430989
Reward	-.0313392	.0543909	-0.58	0.564	-.1379435	.0752651
UiTime	-.2859299	.0783237	-3.65	0.000	-.4394414	-.1324183
Uiprocess	-.3385631	.0707476	-4.79	0.000	-.4772258	-.1999003
UiPic	-.1865153	.0519759	-3.59	0.000	-.2883862	-.0846443
UiCancel	.3091611	.0700978	4.41	0.000	.171772	.4465503
UiCoupon	.3053439	.091396	3.34	0.001	.126211	.4844768

The example of GrabFood Coupon



Result

Top 10 Food Categories Respondents Willingness To wait

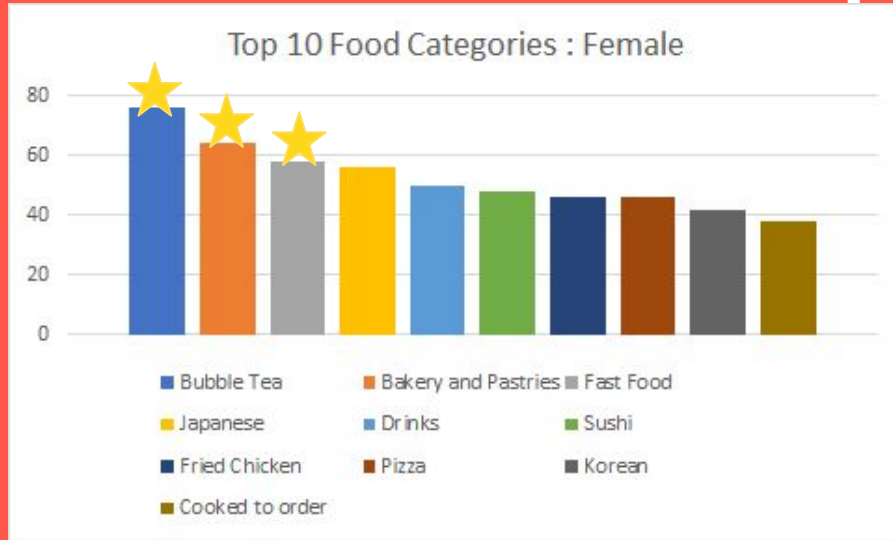


36.36%

Of male respondents have ordered food due to promotion even they're not hungry

Result

Top 10 Food Categories Respondents Willingness To wait



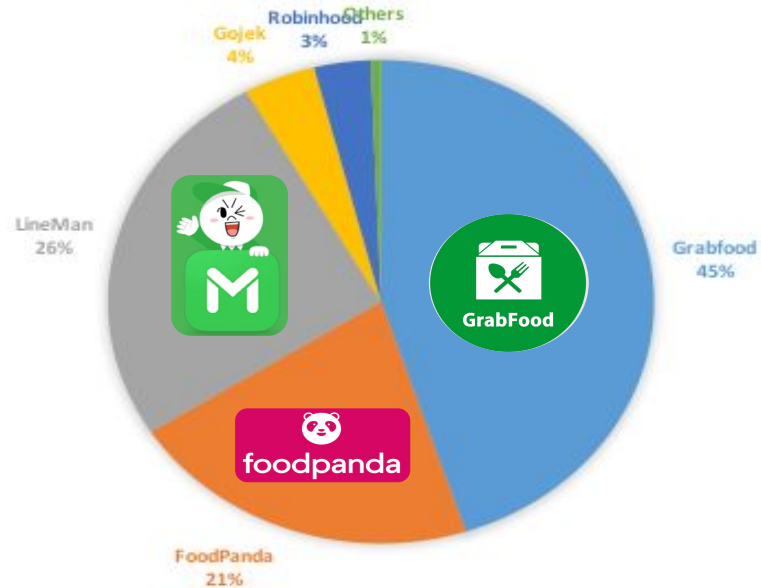
44.79%

Of female respondents have ordered food due to promotion even they're not hungry

Result


Most Used Food Application

NUMBER OF USERS FROM VARIOUS PLATFORMS



34.01%

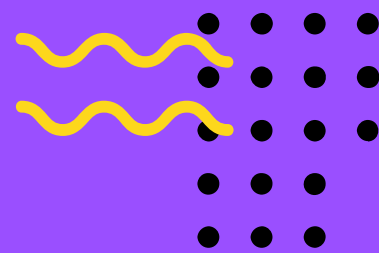
Of respondents from platform "Grab" have ever chosen restaurants from coupon conditions



06

Conclusion

Suggestions



Launching promotion coupon with small minimum spend could attract consumers for using coupon and also encourage consumers to order from partner restaurant (the group of restaurants that join campaign)



Improving fundamental user interface such as time, picture and process telling for reducing price sensitivity of users as well as increase customer experience



Increasing flash deal promotion and promotion coupons that match consumer waiting behavior or the right target options with the right food categories to attract both new and existing customers



Limitation Of Study



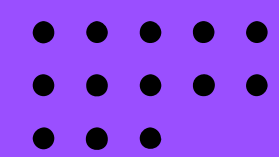
Uncertain ordering behavior during COVID-19 situation

Led to deviated results from
the normal situation



Time Constraint

Led to deviated results from
the normal situation



THANKS!

