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# IDEALOGY JOURNAL

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### INTRODUCTION

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# Preliminary Study of Supermarket's Mobile Application Needs for Indonesian Shopper

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## ABSTRACT

*The increasing interest in smart city development provides an opportunity for retail to enter into what is known as the smart retail concept. Smart retail is a smart shopping concept with the help of technology. One of the technologies that can be used in the implementation of smart retail is smartphones. In Indonesia, large supermarkets such as Yogya and Super Indo have implementing smartphone technology, into them of mobile applications. However, based on the results of user reviews in the App store/Playstore media, the application is still considered not very effective. This is what makes researchers interested in evaluating mobile applications for supermarkets. The method used in this research is mixed method by conducting Focus Group Discussions and Questionnaires. The results of the data were analyzed with the aim of finding problems commonly experienced by visitors. There were 6 FGD participants and 137 questionnaire respondents included in this study. Based on the results, it is found that the current applications do not meet consumer needs, this is because consumers prefer to shop directly at the supermarket. However, in the process of in-store shopping activity, problems are still often found, such as difficulty in finding the location of the product, the product is unavailable, there is no information on the price of the product on display, and so on. Thus, the type of application that has the potential as a solution to this problem is an application to help visitors in doing in-store shopping activity at the supermarket.*

**Keywords:** shopping activities, customer behaviour, mobile application



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## 1. INTRODUCTION

Shopping has become an activity that is most often done by everyone in daily life. One place that is often visited when you want to shop is a supermarket. Supermarkets are retailers that provide a variety of daily necessities in a larger size than convenience stores. Supermarkets provide a variety of daily needs, ranging from snacks, cooking ingredients, drinks, to household appliances. The complete range of household supplies is what makes supermarkets visited by people, every time. The spread of supermarkets in Indonesia today is also widespread. Almost all cities in Indonesia already have supermarkets. Starting from big cities, such as Jakarta, Bandung, Surabaya to small cities in Indonesia. This proves that the existence of supermarkets is important for the surrounding community because supermarkets help people fulfilling their daily needs.

The success of a supermarket can be attributed to the concept of shopping and choosing goods independently in it, with the aim of speeding up time and providing free space for visitors when shopping (Mishra, n.d.). However, the concept of independent shopping in supermarkets to date still provides obstacles to visitors. There are major problems that visitors still experience when shopping at supermarkets, such as difficulty in finding product availability and the lack of information about products. The impact of these problems makes visitors wasting more time spending more funds when they have to look for products elsewhere (Loong et al., 2016).

Nowadays, humans have become closer to technology in their daily lives. This is due to the influence of the rapid advancement and development of digital technology and the internet. In other words, we have entered the era of digitalization which make human life becoming more practical, sophisticated, and digital (Setiawan, 2017). The era of digitalization has made technology a part of shopping activities, such as the increasing of smartphones as an online shopping medium and based on electronic payments (Indrajaya, 2016). Although technological advances have given rise to various online shopping platforms, supermarkets are still able to survive to this day. This proves that in this modern era, the role of supermarkets is still needed in Indonesia. However, a supermarket will not be able to last long if it does not utilize existing technology, one of which is mobile applications. The use of technology in supermarkets is known as smart retail. Currently, large supermarkets such as Yogya and SuperIndo have implemented smart retail by developing their mobile applications. However, based on the results of reviews given by users through the App store and Google play store platforms, it is still quite low.

Therefore, the purpose of this research is to find out what problems are experienced by visitors when doing shopping activities in supermarkets. And evaluating the existing arket app to identify solutions for of features in future developed mobile applications.

## 1.1 Research Questions

From the explanation above, the problem can be identified as follows:

1. What are the habits of urbanites in shopping at supermarkets?
2. How does the current supermarket mobile application in Indonesia affect consumers?

## 1.2 Research Objectives

The objectives of this research are as follows:

1. Identify the habitual factors of visitors when shopping at supermarkets.
2. Knowing consumer views on supermarket mobile applications that exist in Indonesia today.

## 2. THEORETICAL REVIEWS

### 2.1 Shopping Models

Along with the times, in this modern era shopping is not only done to fulfill needs, but also to release stress by buying products that a person likes or wants. With the internet that opens up market opportunities to be wider and more attractive to consumers. In general, shopping models are divided into two types, namely offline shopping and online shopping (Kaur & Kaur, 2018). Sukhwinder Kaur and Vikramjit Kaur (2018) define that online shopping or e-shopping is an activity of buying products with electronic media that allows consumers to directly buy goods or services from sellers via the internet using an application / web browser, while offline shopping is an activity of purchasing products or services by going directly to the store has the advantage that a person can see the product physically to check the condition of the product directly.



## 2.2 Consumers Satisfaction

Consumers play an important role in the running of a retailer. Consumers are people who visit a retailer to buy products with the aim of meeting their needs (Chaniago, 2021). There are several factors that can affect the level of consumer satisfaction when shopping at supermarkets, namely Customer Service, Store Environment, Brand variety, Convenient Location, and Shopping Convenience (Basariya, 2019).

## 2.3 Previous Studies

There are three previous studies that are used as the basis for application features, as follows. Beacon-based Shopping Apps in the study *Mobile and Interactive Media in the Store? Design Case Study on Bluetooth Beacon Concepts for Food Retail*, is a mobile application combined with a bluetooth technology called Beacon (Reuter & Leopold, 2018). This application is designed with the aim of improving the user experience when shopping at convenience stores in Germany by utilizing existing technology.

Ma\$\$iv€ App in the research *Ma\$\$iv€ - An Intelligent Mobile Grocery Assistant*, is an application designed in 2012 (Battacharya et al, 2012). The app focuses on assisting shoppers while shopping at convenience stores. There is a division of features into 3 groups, which are features that can manage funds and time, basic features that facilitate shopping, and additional features.

ISA App in ISA research: *An Intelligent Shopping Assistant*, is an application designed in 2020 and is intended to improve the visitor experience in a shopping center (Lai et al, 2020). This application has a concept called the mobile client communicate concept. The ISA application is integrated with speech recognition features and speech synthesis capabilities that can assist users in asking questions without having to type first.

Based on these three previous studies, supermarket applications as a medium to support consumers when shopping directly at supermarkets are still only found outside Indonesia. This is because there are still no similar applications in Indonesian supermarkets. Therefore, the three applications can be used as guidelines in determining solutions in the form of features that are expected to be tailored to the needs of consumers in Indonesia.

## 3. METHODOLOGY

The type of methodology used in this research is mixed method, namely qualitative and quantitative. According to (Mulyadi, 2011), quantitative and qualitative research can be combined, this is because each research is considered to still have weaknesses. Therefore, research can be combined so that each approach can produce complementary data.

### 3.1 Research Instrument

The qualitative approach taken in this research is to conduct a Focus Group Discussion. FGD activities were conducted online on March 5, 2022 using supporting media such as Zoom and Powerpoint. There were 2 sessions carried out in this activity, namely a question-and-answer session totaling 13 open questions and an existing application review session by providing 4 different video links regarding supermarket shopping applications abroad. Four existing applications were used as review materials, namely Hema App, Scan & go, Kroger, and Wegmand. The FGD process took approximately 1 hour and 34 minutes.

The quantitative approach in this research was carried out by distributing digital questionnaires in the form of Google Forms. There is a total of 20 questions consisting of 15 closed questions and 5 open questions. The 15 close or a scale that provides 2 answer options (Bahrun et al., 2017).

## 4. FINDINGS

The following is a summary of the data results obtained through FGDs and questionnaires.

### 4.1 FGD Results

There were 6 people who agreed to participate in the FGD. The participants in this FGD ranged in age from 18-48 years old with different backgrounds, as follows:

**Table 1.** Data of FGD Participants

Name	Age	Domicile	Jobs
MP	18	Tangerang	Student
FV	21	Bandung	Student
MG	25	Jakarta	Employee
RN	26	Jakarta	Employee
HS	48	Sukabumi	Housewife
IG	48	Sukabumi	Entrepreneur

In participants' experience of shopping at supermarkets, there are positive and negative reviews. In the positive assessment, participants felt that supermarkets were tidier, more comfortable, the buying process was much faster than in traditional markets, and there was quality control of the products sold. However, from these positive aspects, there are also negative assessments. The following is a list of problems that participants have encountered when shopping directly at supermarkets.

**Table 2.** List of Problems When Shopping

Problems
Confusion in finding products
No price information
Lack of product detail information
Price difference in the cashier system
Difficult to find employees
Finding employees who do not know about product information
Lack of information on promos/discounts and usually listed on receipts
Usually if the point collection is still in the form of paper / stamp
Not shopping because of the long queue
Difficult to find car parking when crowded
Lack of knowledge about complaint media
Difficulty carrying groceries when vehicles are insufficient

Based on the results of the FGD data collection, the following results were obtained:

1. The majority of participants choose supermarkets as a place to shop because of the convenience and completeness factor in one stop shopping;
2. The majority of female participants tend to make shopping lists. The use of shopping lists is also considered to help save time and money;

3. All participants preferred to shop directly at the supermarket, especially if they wanted to buy fresh food;
4. Female participants tended to be more meticulous in looking at the purchase price on the receipts, but participants with vision problems (old eyes) found it difficult to read the receipts.
5. In general, all participants prefer the features provided in the Hema Farm App because they are considered to make it easier to shop online and offline.
6. The use of applications as a supporting medium when shopping at supermarket can be applied in supermarkets located in big cities, such as Jakarta and Bandung.

## 4.2 Questionnaire Results

The questionnaire was distributed to people who have shopped at supermarkets in Bandung City. The questionnaire began to be distributed on May 3, 2022 and closed on May 14, 2022 with 137 respondents.

**Table 3.** Questionnaire respondent demographics profile

<b>Gender</b>	<b>Respondents</b>
Male	70
Female	67
<b>Age</b>	<b>Respondents</b>
17-25	35
26-35	10
36-45	14
>45	78
<b>Domicile</b>	<b>Respondents</b>
Bandung	98
Outside Bandung	39

Based on the results of the questionnaire, there are 65 respondents out of a total of 137 respondents (jelasin kalau dapat memilih jawaban lebih dari 1) who have experienced obstacles / problems when shopping which are described as follows:

**Table 4:** Problems found when shopping at supermarkets

<b>Problem</b>	<b>Have experienced</b>	<b>Never experienced</b>
Difficulty finding products	63	2
Items not in stock	61	4
Difficult to find employees	46	19
Different display prices	47	18
Don't know the media to complain	38	27
Scattered points	36	29
Product has no price	61	4
Not shopping because it's crowded	54	11

In addition to the above problems, there are also several other problems that have been experienced by the 65 respondents, including difficulty finding parking, cashiers who scan the wrong number of products and find employees who do not understand/know about the product being asked. From this it can be concluded that the data obtained from the qualitative approach is in accordance with the problems that have been experienced by the public when shopping at supermarkets.

Based on the questionnaire results, 105 out of a total of 137 respondents use smartphones when shopping. Smartphones are commonly used by the majority of respondents with an age range of 17-45 years, while the majority of respondents aged more than 45 years or 46 out of a total of 78 respondents are not accustomed to using smartphones when shopping. Nowadays, the use of smartphones has become part of shopping activities. There are several kinds of activities that can be done using a smartphone, such as making a shopping list, searching for detailed product information, looking for price comparisons, calling/chatting, looking for food recipes, product photos, and looking for fresh food benefits (fruits, vegetables, meat, and seafood). Below are the results of the questionnaire about activities carried out with smartphones while shopping.

**Table 5. Activities when shopping with smartphone**

<b>Activities</b>	<b>Respondents</b>
Making a shopping list	68
Search for product information	60
Search for price comparison	54
Phone/Chatting	49
Search for food recipes	16
Product photos	48
Search for benefits of fresh food	13

In addition to these activities, there are other activities that respondents usually do using smartphones, namely for the QR code scanning process when making digital payments.

In Indonesia, there are already supermarkets that provide facilities in the form of applications for consumers to shop online or as a source of discount/promo information, but there are still several problems experienced by users, such as the long shopping process, expensive shipping costs, and still felt less helpful. In addition, there are still 87 respondents who have never used the supermarket application. The following are the reasons for respondents who do not use supermarket applications.

**Table 6. Reasons for not using the supermarket app**

<b>Reasons</b>	<b>Respondenta</b>
Not necessary yet	30
Prefer offline shopping	26
Didn't know there was an app	17
Fear of not meeting expectation	10
Using third party app	4

## 5. DISCUSSION

Based on the data previously presented regarding the results of FGDs and questionnaires, it has been found that the majority of respondents have used smartphones when shopping directly at supermarkets, so that the media that can be provided in overcoming this problem can be mobile applications. In the shopping process, it turns out that there are still some problems experienced by visitors when shopping at supermarkets. These problems are analyzed and grouped as solutions that can be solved in the form of application features. This grouping is done so that the solutions offered are in accordance with what is needed by users, thus creating effectiveness and efficiency in their use (Ahmad et al., 2018). The following below is the result of the grouping.

**Table 7.** Reasons for not using the supermarket app

<b>Problems</b>	<b>Features that can be used as solutions</b>
Unavailable roduct price information.	Barcode scanning feature to check either on display shelves or on products.
Long queues.	Information on the level of crowd in the supermarket (number of visitors).
Confusion when searching for product positions.	Map feature that can direct visitors to the position of the product they want to find. The map can be 2D or Augmented Reality (AR).
No information on available stock.	There is information in the form of the amount of stock available on the product display, during offline shopping.
Lack of complete product information.	Additional information such as ingredients, benefits, date of entry (especially for fresh products, such as vegetables, fruits, and meat).
Difficulty finding parking.	Online booking system by adding a drive-thru pick-up method.
Difficulty carrying a lot of groceries.	An additional choice of delivery service method for visitors when shopping onsite.
Paper receipts that are immediately discarded.	The availability of e-receipts.
Difficulty finding employees.	Chat features, such as live chat with customer service.
The cleanliness of the supermarket and product quality is not guaranteed.	A review/feedback feature.
Point, promo, and voucher information that still uses paper receipts or stickers.	Membership features, promo/discount information, and digital vouchers.
Creating shopping lists using paper.	A shopping list feature that is dir rated with the products in the supermarket.

## 6. CONCLUSION

According to Mishra (n.d) the success of a supermarket can be attributed to the concept of shopping and choosing goods independently in it, with the aim of shortening time and providing freedom for visitors while shopping. One way is to provide a supporting medium for in-store shopping activity at the supermarket. Nowadays, smartphones are the media that are closest to the community. Therefore, the application can be used as a solution.

Based on the results of the research, it was concluded that there are several problems which affect in-store shopping activity in Indonesia, such as the absence of price information on the product, long queues, confusion when looking for the location of the product, no product stock information, incomplete product information, difficulty in finding parking, difficulty in carrying many items, points and promo information that is still in the form of paper receipts, lack of interaction / socialization, supermarket infrastructure problems and employees, and accustomed to recording shopping lists using

paper. The problems that are commonly found can be to be overcome by designing an application that focuses on consumers who want to shop directly at the supermarket. The content of the application can use solutions in the form of features from the problems that have appeared. There are nine problems found that can be supported by features in mobile applications, namely barcode scanning, maps, shopping lists, member points, chat, and detailed information.

This research can be used as a reference for future study as a basis for understanding in-store shopper in supermarket. As there have been no in-store supermarket app founded yet for Indonesian market, this can be a good opportunity for developer to create ones which focus on customer's need.

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## AUTHOR CONTRIBUTIONS

Shania Jiehan Geraldine as the main author played a role in data search, analysis, and writing, while Dianing Ratri as the second author acted as a supervisor.

## CONFLICT OF INTEREST

There are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Sekian, terima kasih.

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