

IN-STORE BRAND COMMUNICATION: WHEN SHELF-SPACE AND DISPLAY SEDUCE CONSUMERS

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Abstract

Purpose of the study: This study aims at analyzing the role of shelf-space and display in stimulating impulse buying. Further, this study also covers the comparison between all shelf positions (regular-shelf, Chiller, and wings-rack) to get insights deeper into which one is the most effective in stimulating impulse buying.

Methodology: By highlighting the case of a beverage brand in a hypermarket in Indonesia, the recent study uncovers the experiences and perceptions of 200 participants through an explanatory survey. The primary data collection has been done by distributing survey questionnaires to 200 target respondents located in Jakarta. The data collected have been analysed using SPSS software.

Main Findings: Both shelf-space and display factors are found to have a positive and significant effect on impulse buying, where the former is found dominant. Various constructs in shelf-space such as the spaciousness-of-shelf, highness-of-traffic, largeness-of-shelf, easiness in finding the shelf, and in-store display communications such as the attractiveness-of-color, cleanness-of-display, neatness-of-display arrangement, the blocking-space, and the attractiveness-of-product arrangement emerge validly. Of the three objects studied, the chiller had the highest effectiveness compared to the regular-shelf and wings-rack in arousing the impulsivity of consumer purchases. This fact shows that the appearance of cold drinks seems to have a significant effect on consumers in causing impulse buying, especially for consumers in tropical countries like Indonesia. The seller or brand owner should consider this finding.

Applications of this study: This study confirms the real, meaningful, and experiential visual power of in-store brand communications. So the brand can explore creatively and ergonomically as well as maximizing the potentials of visual communication, especially shelf-space and display in sales spaces as silent sellers.

Novelty/Originality of this study: Few studies still pay attention to the role of in-store brand communications in encouraging impulse buying, especially in an era where the virtual shopping world is increasingly distracting researchers and marketers from the spark of communication events in the actual shopping space. This article proves how the attractiveness of in-store brand communications through shelf-space and in-store displays has a significant impact on impulse buying.

Keywords: *Shelf-space Communication, Display Communication, In-store Branding, Retail Communication, Impulse Buying, Impulsive Consumer.*

INTRODUCTION

In marketing communications, the media plays an important role –regardless of its form, not only in conveying messages to the consumer audience, but also creating a supportive atmosphere for purchasing decisions. Space in the shop is no exception. Although online media is currently overgrowing and becoming a channel for many brands in stimulating purchases ([Westergaard, 2018](#)) and attracting millennials ([Hall, Towers & Shaw, 2017](#)) as well as online market places continue racing ([Basul, 2019](#)), the offline store and retail still have an allure. In addition to much inappropriate online media regarding their reputation and behaviour ([Wijaya, 2019](#)) so it is risky for brand communication, offline or physical shopping is considerably more 'comfortable' and 'safe' related to sensorial experiences, interpersonal communication, and after-sales service ([Vroom, 2016](#)). Wei-yu and Zhen in [Yu, Sun, and Guo \(2019\)](#) suggest some concerns regarding consumer preferences for in-store channels, including price, quality, comfort, accessibility, services provided, and product variations, while [Boardman and McCormick \(2018\)](#) suggest convenience and enjoyment as consumer preferences for physical store channel, and convenience, selection, adventure/ exploration and idea shopping for the e-commerce shopping channel.

This is a challenge for companies in selling and communicating their brands through shopping spaces, especially in retail stores, which currently still exist in Indonesia. One company that consistently implements in-store brand communication to increase sales is PT Amerta Indah Otsuka (AIO), particularly on its branded product, Pocari Sweat (PS). Achieving the Top Brand Award 2020 by Frontier Consulting Group of Research Institute and Marketing Magazine with TBI (Top Brand Index) 66,2% ([Frontier, 2020](#)), this to show that AIO is a concern to maintain its performance. The awarding was based on three parameters; top of mind share, top of market share, and top of commitment share. Those tops of shares are indicating that PS has already succeeded in gaining customer loyalty.

Regarding in-store communication, [Bell and Ternus \(2017\)](#) argue that the spectacular growth of shelf-space makes merchandising as a critical element; it acts as the "silent seller" of the products in the stores. Merchandising is essential

due to its influence on product sales, especially in the mass commodity market, where self-service is the rule, and the store becomes the main decision-making centre in the selection of the products. Furthermore, [Johnen & Schnittka \(2020\)](#) see the proliferation of promotion activities nowadays has created a complicated situation. For some consumers, they felt boring about the promotion promises, coupons, and other media, which weakening the buying intention. [Johnen & Schnittka \(2020\)](#) suggest that retailers provide the point of purchase (POP), which is ideal for communicating its products to customers. The examples of POP are by displaying the products, arranged the products neatly on the shelves, keep the cleanliness, and give the product placement sign to make the customers quickly find the products.

Giving a brand more space on the shelf increases its visibility and the probabilities of being purchased ([Hübner and Schaal, 2017](#)). According to [Khare, Sadachar & Manchiraju \(2019\)](#), perceived product availability can be a stimulus to a purchase decision. That is why impulse purchases are more influenced by retail displays than are pre-planned purchases ([Akram et al., 2017](#)) and eye-catching display/ spectacle can significantly influence sales ([Parsad, Prashar & Sahay, 2017](#)). Impulse purchases occur when a shopper suddenly buys something in a store, because of a sudden urge she cannot refuse ([Solomon, 2016](#)), including encouragement by the in-store stimulus. This condition invites competition among companies, not only for the introduction of their brands into the retailer's product range but also for better positioning on the shelves ([Yang et al., 2019; Düsterhöft, Hübner & Schaal, 2020](#)). Companies are racing to get the best positioning on the shelves and a higher value for their brands, along with stronger consumer loyalty. They want to maximize the sales and profits of their products, and as such, always want more and better shelf-space only for their products. Thus, displayed inventory has a positive effect on the sales of many retail items ([Yang et al., 2019](#)).

As one type of retail store, hypermarkets provide displays, which, if designed attractively, can change the purchase plan. Therefore, display and shelf-space are crucial for brands. No matter how great the brands with mindshare, market share, and even high heart-share ([Wijaya, 2013](#)), in hypermarkets, they are dealing with impulsive consumers who quickly change their plans. [Kartika, Rofiaty, and Rohman \(2017\)](#) found that, in their study at a retail store in Indonesia, there is a significant influence of hedonic shopping value on impulsive buying decisions and impulsive reaction, while atmospheric outlets affect the impulse reaction and impulsive buying decisions. Hedonic consumers are low on need-based buying, high on idea shopping, and have high-un-planned purchases. [Yudiatantri & Nora \(2019\)](#) also revealed that a retailer could create an impulsive purchase by the store atmospheres, while [Barros, et al. \(2019\)](#)'s study showed the effect of emotions on impulse purchase behaviour is stronger among collectivist consumers than among individualists. However, those who can implement and set the retail atmospheres are the retailers themselves. Many companies only have little control over the retail atmospheres because all of the retail atmospheres follow each retailer's policies. Therefore, the ability of companies who want to involve in hypermarket is obviously by renting the provided shelves and choosing the appropriate display.

In contrast, hypermarket also plays a vital role in distributing products to the final customers. Thus, observing the shelf-space and other brand communication tools in hypermarket becomes crucial. This research focused on analysing brand communication tools in Carrefour Hypermarket (CH) as the most significant contribution to PS sales among other hypermarkets. This study was conducted in Jakarta, Indonesia, and took 200 respondents who purchase PS under impulse buying behaviour in CH, to answer the following questions:

RQ1. Is the impulse buying behaviour could be stimulated with shelf-space communications by maximizing the spaciousness of shelf, the highness of traffic, the largeness of shelf, and the easiness in finding the shelf?

RQ2. Is the impulse buying behaviour could be stimulated with the POP (display) communications through the attractiveness of colour, the cleanness of display, the neatness of display arrangement, the blocking space of display arrangement, and the attractiveness of product arrangement?

RQ3. What kind of (PS) shelf is the most influential in the in-store communication: regular shelf, Chiller, or wings-rack?

LITERATURE REVIEW

Shelf-Space Communication

It can be considering shelf-space as a form of advertising in putting products on top of consumer's minds and generally suggesting product popularity levels ([Belch & Belch, 2017; Sevilla & Townsend, 2016; Valenzuela & Raghubir, 2015](#)). Shelf-space may also affect demand by reducing consumer search costs. According to [Flamand, Ghoniem & Maddah, \(2016\)](#), giving a product category or a particular brand more space on the shelf increases its visibility and, therefore, the probabilities of purchasable. From the definitions above, shelf visibility in this research is defined as the degree of shelf placement to be seen. Furthermore, based on [Mothersbaugh, Hawkins, & Kleiser \(2019\)](#), research generally supports the idea that more shelf-space and in-store displays increase sales. Shelf-space and display under in-store stimuli divided into three categories, namely: 1) normal-display, regular shelf-space, 2) expanded display, double the regular shelf-space allocation, and 3) special-display, regular shelf-space plus special end-of-aisle or within-aisle product arrangement.

Nielsen's research, as cited by [Thompson \(2017\)](#), confirms that "distribution has a near-perfect correlation with sales volume and there is a lot of pressure for your product to be on the right retailer's shelves across channels while maximizing presence in the store" (p.1). Not surprising, because shelf facings impact the effects of price and case pack

quantity on market share (Kwak, et al., 2020). Therefore, retailers can increase sales by reducing costs through proper product management on the shelf (Karampatsa et al., 2017). Shelf-space in a retail environment is an important strategic tool that increases the likelihood of products to be seen and sold (Pizzi & Scarpi, 2016). Optimization of shelf-space also results in an estimate of elasticity that is greater than the reduction in shelf-space, thereby emphasizing the application of shelf-space variations as a useful marketing tool (Sevilla & Townsend, 2016; Andrews & Shimp (2017)).

Both retailers and manufacturers must realize that the number of product brands and trade promotions is increasing day by day. Still, the shelf-space remains the same; thus, products that are not noticed will certainly not be sold (Wastlund, Shams & Otterbring, 2018). Therefore, retailers can optimize shelf-space allocation across stores to maximize product visibility to consumers, thereby stimulating impulsive purchases. Nielsen advises suppliers (and also manufacturers) to continually monitor consumer preferences regarding shelf space in the store (Thompson, 2017). Because manufacturers/suppliers depend on retailers for shelf-space (Witek-Hajduk & Zaborek, 2020), cooperation and good relations between suppliers/ manufacturers and retailers are needed (Maelen, Breugelmans & Cleeren, 2017). In addition to increasing the level of customer satisfaction (Danmei, 2016), the integration of marketing activities and supply chain processes both within and throughout the company also increase market share (Zhao, et al., 2020).

It is also essential to pay attention to the shelf-space layout. Usually, each rack is partitioned into adjacent rack segments that have different customer traffic densities. Retailers seek to assign each group of product categories to the shelf, to determine the total rack space allocated within the given lower/ upper limit (Flamand, et al., 2016). Previous research shows there is a correlation between position and layout of shelf-space with consumer perception. Consumers believe popular products place on middle shelves, expensive products on top shelves, and promoted products on the extremes of a display (Valenzuela, Raghbir & Mitakakis, 2013). This vertical placement implies that the product at the top is considered to have a higher value than the product at the bottom (Valenzuela & Raghbir, 2015). Thus, if customers are looking for premium products, visual attention is often directed upward (Deng, et al., 2016).

There are on-shelf and off-shelf merchandising space (Andrews & Shimp, 2017). On-shelf is the regular shelf-space, while off-shelf-space is in a gondola or an end-of-aisle display. In this research, the terminology applied by PS Key Account Management has slightly different from Andrews & Shimp (2017). They divide shelf-space terminology in CH into two categories: 1) regular display; regular shelf-space --for example, regular shelf and chiller, 2) extra-display; additional shelf-space (it is more visible and accessible) --for instance, wings-rack, gondola shelf, and cashier shelf. PS occupies three types of shelf-space in CH, which is a regular shelf, Chiller, and wings-rack. Each shelf position has its characteristics and benefits to stimulate impulse buying. The regular shelf is located in the drinks category, especially in the isotonic drinks category. CH provides 50% of the total regular shelf-space of isotonic drinks to PS. PS displayed the whole complete product range on a regular shelf and occupied a larger shelf than the standard given size by CH. Usually, people who want to stock up PS can take the product from a regular shelf because it is offering full sizes and product bundling or in a box package.



Figure 1: Regular Shelf of PS in CH

Source: research doc.

The second type of shelf is the Chiller. This type of shelf is displaying the product for those who are looking for cool drinks. PS is placed together with other drinks brands inside the Chiller.



Figure 2: PS inside the Chiller in CH

Source: research doc.

Last, the wings-rack is the extra display, which is hanging on the regular shelf next to the cash register. PS is available in 1 wings-rack position in each CH. Wings-rack is especially only offering PS and only providing the bottle 500ml.



Figure 3: PS Wings-rack in CH

Source: research doc.

PS Key Account Management uses merchandise concepts to describe shelf-space management. Merchandising, according to them, is all activities at the new account outlet to make the best possible display of moving the product faster. Besides, merchandising is also defined as all activities related to the structuring of products and accessories at the outlet. It influences consumers to buy products, creates impulse buying, and the easiness of finding the products, as well as provides a lot of alternative products to be chosen by consumers. Merchandising also helps in getting a good position, minimizes out of stock, increases brand share, increases sales, and, finally, increases new store profit.

The empirical study by Drèze et al. (in [Gidlöf et al., 2017](#)) concluded that shelf-space management in the consumer goods industry shows there are several non-price factors that influence the demand for a displayed product item. They include the thing as 1) the item's shelf-location within a display, 2) shelf facing area is showy, 3) aesthetic elements of its array such as size and colour coordination, related to display orientations of its packaging.

Meanwhile, regarding the effect of in-store marketing on both attention and choice, the best way to sell products at that vital point-of-purchase interface is to be sure that the product is in the consumer's face ([Chandon et al. in Kumar, Anand & Song, 2017](#)). If the products placed at the top of the shelf, it increases the percentage of people who see the products 20%. It also maximizes (the likelihood of) consumers by the same amount to choose the brand. They also found that products are more seeable and buyable when they are in the middle of a shelf placement and when the number of facing the product increased. The statistic rely on the real evaluation of human shoppers making purchase decisions while the

location of their eyes is trackable. If the product is bright and visible, people will see it, but people also make inferences about a brand relative to where it places on the shelf. In other words, shelf placement can have an impact on the way customers perceive a brand. They also found that shelf placement can attract new customers to a brand. If a company is targeting young people or educated people with an open mind who do not buy just based on brand or based on price, shelf placement will increase the effectiveness of this 'visual equity.' Spending some of the marketing money at the point in the store where people decide will help increase brand awareness and visibility and perhaps even brand image. The point-of-purchase is not just a distribution tool; it is a communication tool. The finding indicates that companies are going to get a better return on marketing investment when they try to make their brand more visible.

POP (Display) Communication

POP (Point-of-Purchase) is the display that allows a retailer to remind customers and stimulate impulse purchases. Not always being supplied by retailers, sometimes the displays are provided by manufacturers. POP promotion consists of in-store displays designed to lift sales. The display may remind customers, stimulate impulse behaviour, and facilitate self-service (Akram et al., 2017). According to Andrews & Shimp (2017), POP materials influence consumers in three general ways, that are by 1) informing (POP's most basic communications function. Signs, posters, displays, in-store advertisements, and other POP materials alert consumers to specific items and provide potentially useful information), 2) reminding (this role serves to complement the job already performed by advertising before the consumer enters a store), and 3) encouraging (effective POP materials influence product and brand choices at the point of purchase and encourage impulse buying).

Attractive store displays are an essential determinant of impulse buying among consumers (Ali and Hasnu, 2013). There is a significant relationship between attractive store displays and impulse buying. It shows that visuals of product displays develop impressions at the first sight-pushing shopper to buy that product. In other words, attractive store displays create an image in the minds of shoppers, thus making them buy that product emotionally. Moreover, these displays make the shopping environment exciting for shoppers to purchase things with pleasant experiences.

Meanwhile, Bhatt, Sarkar & Sarkar (2020) revealed attractive store stimuli predict affective and sensory store brand experiences, whereas the facilitating store stimuli moderate the effects of attractive store stimuli on affective and sensory store brand experiences. Meanwhile, the affective and sensory store brand experiences predict store satisfaction. Attractive stimuli –were those cues that attracted attention, exciting the participant, and eliciting approach behaviours. The specific signals in this category were lighting, sound, space, colour, layout, product display features, and design features. However, on the company's perspective, only colour, product display features, and design features that could be applied. The others are from the retailer's policies.

Impulse Buying Behaviour

Sharma et al. in Aragoncillo and Orus (2018) define impulse buying as a sudden, attractive, and hedonic purchasing behavior in which the speed of impulsive buying decisions precludes thoughtful and deliberate judgment of alternatives or future implications. The impulse buying is a spontaneous desire to act, accompanied by urgency. It is a state of psychological disequilibrium in which a person can feel temporarily out of control, the onset of conflict and struggle that is resolved by immediate action, minimal objective evaluation exists –emotional considerations dominate, and lack of regard for consequences. Meanwhile, Rook in Kartika et al. (2017) identifies some characteristics of impulse buying, namely: a) spontaneity, since the impulse buying is unexpected; it arises spontaneously and urges the consumer to buy now, b) power, compulsive, and intensity, where psychological motivation stimulates the needs to act quickly, compulsive, and intense, c) desire and stimulation since the motivation to buy can be a source of personal happiness and under several levels each consumer. The sudden compulsive to buy is usually attached to consumer emotion, for example, desirable, arousal, or wild.

Impulse purchases arise when consumers buy products they had not planned on buying before entering a store (Akram et al., 2017). There are three kinds of impulse shopping: 1) completely un-planned (before coming into contact with a retailer, a consumer has no intention of purchasing a goods or service category), 2) partially un-planned (before coming into contact with a retailer, a consumer has decided to buy in a product category but has not chosen a brand), 3) un-planned substitution (a consumer intends to buy a specific brand of goods or service but changes his or her mind about the brand after coming into contact with a retailer). Retail displays are influencing more impulse purchases than pre-planned purchases (Akram et al., 2017) so that consumers may make un-planned or impulse purchases. Large percentages of consumers do not look at ads before shopping, do not prepare shopping lists one in stores, and make wholly un-planned purchases. Hence, it can be assumed that:

H1. The shelf-space (indicated by the spaciousness of the shelf, the highness of traffic, the largeness of shelf, and the easiness to find the shelf) significantly and positively drive the impulse buying behaviour (of PS in the CH)

H2. The display (indicated by the attractiveness of colour, the cleanness of display, the neatness of display arrangement, the blocking space of display arrangement, and the attractiveness of product arrangement) significantly and positively urge the impulse buying behaviour (of PS in the CH)

METHODOLOGY

Sampling and data collection

Self-administered questionnaire is employed in the study for its various benefits such as efficiency, and low-cost. To collect the data, the questionnaire were distributed to the target respondents who met the researchers' criteria. A total of 200 respondents were obtained. According to Roscoe in [Bougie & Sekaran \(2019\)](#), sample sizes larger than 30 and less than 500 are appropriate for most research. Further, there is a sample size formula from Tabachnick and Fidel in [Malhotra \(2018\)](#): $n > 50 + 8m$, where n = amount of sample, and m = a number of the independent variable. Thus, by using the formula, while the independent variable is 2 ($n > 50 + (8 \times 2)$), this research needs more than 66 respondents. Hence 200 respondents regarded as a sufficient number to be the sample.

Using the Indonesian language (since all respondents are Indonesians), the statements in the questionnaire are constructed to identify the shelf-space, display, and shelf position abilities, as well as respondents' characteristics. Due to this research aims at revealing the effects on impulse buying so that the questions opened with 2 (two) screening questions. The first is, "Have you ever bought PS in CH Jakarta?"

If the respondents filled "Yes," they could continue to the next questions, if not, they should stop filling the questionnaire. This research will be valid if the respondents have the experience of buying PS in CH Jakarta. The second screening question is, "Did you plan to buy PS before you go to CH Jakarta?"

If the respondents filled "No," they could continue to the next questions, if they filled "Yes," they should stop filling the questionnaire. This research will be valid and per the research objective if the respondents are those who buy impulsively. There was one respondent who answers "No" for the first question, and 17 respondents were answering "Yes" for the second question. In total, 18 questionnaires were not proper to continue, which not passed the screening questions. Further, before respondents filled the next questionnaires, they were being shown the shelf's pictures (regular-shelf, Chiller, and wings-rack) as the explanation of shelf type in purpose to limit any misunderstanding.

Measurement

The questionnaire is composed based on five-point Likert scale, which is ranged from strongly disagree (1), to strongly agree (5) in the questionnaire. The following table shows the details of operationalizing the concept of variables describing indicators or constructs measured, and the units of measurement.

Table 1: Operationalizing Variables

Variable	Variable Concept	Indicator/ Construct	Unit of Measure	Questionnaire Codes
Shelf-Space (X1)	Giving a product category or a particular brand more space on the shelf increases its visibility and, therefore, the probabilities of it being purchased (Flamand et al., 2016)	• More space available	• Available in a variety of shelves	X.1.1
		• High traffic areas	• Shelves located in high traffic areas	X.1.2
		• Large shelf	• Shelves are large	X.1.3
		• Easiness to find a product in the shelves	• Easy to find a product in the shelves	X.1.4
Display (X2)	Attractive stimuli – were those cues that attracted attention, exciting the participant, and eliciting approach behaviours (Bhatt, Sarkar & Sarkar, 2020; Ali and Hasnu, 2013; Noor, 2020)	• Catchy colour	• The display shows an eye-catching color	X.2.1
		• Clean display	• The display looks Clean	X.2.2
		• Blocking space	• The display is arranged in a blocking space	X.2.3
		• Neat product arrangement	• The display is arranged neatly	X.2.4
		• Attractive product arrangement	• The display has an attractive product arrangement	X.2.5

Impulse Buying (Y1)	As a sudden, compelling, and hedonic purchase behaviour (Sharma et al. in Aragoncillo and Orus, 2018), Rook in Kartika et al. (2017) identifies some characteristics of impulse buying, namely spontaneity, power, compulsive, and intensity, as well as desire and stimulation	• Spontaneously	• I buy spontaneously	Y.1.1
		• Without thinking	• I buy without thinking	Y.1.2
		• Just do it	• "Just do it" describes the way I buy things	Y.1.3
		• I see it, I buy it	• " I see it, I buy it" describes the way I buy things	Y.1.4
		▪ The emotion attached to the product	• I buy things by what I feel at the moment	Y.1.5

Source: Research doc.

Reliability and Validity

Reliability refers to the extent to which a scale produces consistent results if making repeated measurements (Malhotra, 2018). This research will use the coefficient alpha or Cronbach's alpha. Cronbach's alpha is the average of all possible split-half coefficients resulting from different ways of splitting the scale items; good results are between 0.6 and 1.0. An essential property of coefficient alpha is that the value tends to increase with an increase in the number of scale items.

Prior to distributing the questionnaire to the total respondents, validity and reliability tests were employed using statistical tools. It was found that the Cronbach's Alpha of shelf-space variable was 0.340, lower than 0.6. This is due to some items in this variable had lower values less than 0.3494.

After deleting three questions, the shelf-space variable becomes reliable and the items in the questionnaire is valid, as shown in Table 2 and Table 3. Three such issues are 1) X.1.2 "I easily find PS in line with my eye-level," 2) X.1.3 "PS shelves locate in line with my eye-level," and 3) X. 14 "PS shelves locate in reachable areas even they are not in line with my eye-level."

Table 2: Shelf-Space Reliability Statistics after Deleting 3 Questions

Cronbach's Alpha	N of Items
.616	4

Source: Research doc.

Table 3: Shelf-Space's Construct-Total Statistics after Deleting 3 Questions

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X.1.1	11.4375	2.060	.424	.545
X.1.5	10.8750	3.145	.402	.563
X.1.6	11.0938	2.475	.417	.529
X.1.7	10.7500	2.839	.407	.542

Source: Research doc.

Table 2 show that the Cronbach's alpha of shelf-space variable is 0.616 > 0.6. Table 3 shows that all of the items in the questionnaire are found valid; (see column Corrected item-total Correlation in Table 3; each item is > 0.3494. Meanwhile, the display and impulse buying variables have no problem with the validity and reliability tests or have already passed the validity and reliability tests Cronbach's alpha of display variable is 0.673, while Cronbach's alpha of impulse buying is 0.742).

FINDINGS AND DISCUSSIONS

Descriptive Analysis

Based on Table 4, for the first character, female respondents are 64% (128 respondents), and male respondents are 36% (72 respondents). In this research, the female is dominating the respondents' characteristics; this could be due to the habit of females to shop for the family, household, and personal needs. It is natural for females where they buy more than males. It is in line with Skoloda (2009) that women control 85% of all consumer purchases. It is also in line with Saleem (2012) that a female dominates people who hang out in the virtual world.

Table 4: Description of respondents

Description	Sex (%)	Age (%)	Edu. Level (%)	Freq. of purchase	Freq. of visit (%)	Size purchased	Source of awareness	Product Knowledge
Gender								
Male	36.0							
Female	64.0							
Age								
15-24		63.5						
25-34		28.5						
> 35		8.0						
Education level								
Senior High School			56.5					
Diploma			4.0					
Bachelor degree			37.0					
Master/Doctoral			2.5					
Frequency of Purchase PS per Visit to CH								
1 bottle				58.0				
2-3 bottles				34.5				
4-6 bottles				5.0				
> 6 bottles				2.5				
Frequency of Visit to Carrefour								
1 week					14.0			
2 weeks					23.5			
1 month					45.0			
2 months					17.5			
Size Most Frequently Purchased								
Can 330ml						21.5		
Bottle 350ml						32.0		
Bottle 500ml						40.5		
Bottle 900ml						2.0		
Bottle 2L						4.0		
Sachet 15gr						0.0		
Source of Product Awareness								
Friend(s)							11.9	
Television							42.0	
Billboard							8.4	
Print media							10.3	
Online media							5.9	
Stores (hypermarket)							21.5	
Product benefit Knowledge								
Isotonic drink for all activities								79.5
Isotonic drink for sick people								1.0
Drinks for sport activity								7.0
General drinks for thirsty								12.5

Source: Research doc.

For the second character, the table demonstrates that 63.5% of respondents aged 15–24 years, 28.5% of respondents aged 25–34 years, and 8% of respondents aged ≥ 35 years. The questionnaires were mostly distributed online, where the significant respondents' segment from the internet is young people. This finding is consistent with [Geromel \(2012\)](#) that young people are spending disproportional time online. [Geromel \(2012\)](#) argued that people aged 15–24 spent their 33.1% total time online, while people aged 25–34 spent their 29.5% whole time online.

The third character is the education level. The table shows that 56.5% of the respondents' education level is Senior High School, 4% of the respondents' education level is Diploma, 37% of the respondents' education level is Bachelor's Degree, and 2.5% of the respondents' education level is Master/Doctoral Degree. The highest number of respondents' education level is Senior High School. This fact is reasonable that most young people are still studying at University. Furthermore,

the second-highest number of respondents' education level is in the Bachelor's Degree. This insight is in line with [Saleem \(2012\)](#) that the education level of people who hang out in the virtual world is dominated by some college and then a college degree.

In the fourth character, the study indicates 58% of respondents bought one bottle PS when they visited CH, 34.5% of respondents bought 2-3 bottles, 10% of respondents bought 4-6 bottles, and 2.5% of respondents bought > 6 bottles. This phenomenon is reasonable because, under impulse buying behaviour, people tended to satisfy their needs at that time and did not intend to stock the product at home. There are 10% of respondents who bought 4-6 bottles. The cause could be by a promotion event where PS offers product bundling packaging with four and six bottles.

The fifth character is the frequency of visits to CH. The table denotes that 14% of respondents usually visit CH every week, 23.5% of respondents typically visit CH every two weeks, 45% of respondents generally visit CH every month, and 17.5% of respondents usually visit CH every two months. The trend has shown that respondents visit CH monthly for their household shopping, especially for family and personal needs.

Sixth, the table points out 21.5% of respondents frequently bought 330ml can packaging, 32% of respondents frequently bought 350ml bottle, 40.5% of respondents frequently bought 500ml bottle, 2% of respondents frequently bought 900ml bottle, 4% of respondents frequently bought 2Litre, and no respondent who frequently bought 15gr sachet. The highest number of often purchase size is 500ml bottle, second is a 350ml bottle, and then 330ml can. The majority of respondents choose the 500ml bottle because it is enough to satisfy their needs; also, the price is more competitive than 350ml bottle or 330ml can. People will be more advantaged with the bigger size from price value, but probably people will not convenient carrying the bigger size, so the most frequently purchased is 500ml. Moreover, the bottle 500ml also placed in the wings-rack, so its probability to choose higher than another size. No respondent was picking 15gr sachet. Under impulse buying behaviour, people tend to satisfy their needs at the moment, so they want to drink PS at that time after they bought it, then they have to mix it at home.

Meanwhile, for the seventh character, respondents were allowed to fill more than one answer. The result is, 11.9% of respondents know PS from their friends, 42% of respondents know PS from television, 8.4% of respondents know PS from the billboard, 10.3% of respondents know PS from print media (newspaper and magazine), 5.9% of respondents know PS from online media (internet, Facebook, Twitter, and blog), and 21.5% of respondents know PS from stores which sell PS (modern market and traditional market). The highest number of sources of product awareness is television. It is reasonable that in Indonesia, TV has the most influential source of information. While a family gathers at home, mostly they turn on the television as an entertainment or just to fulfil the voice emptiness. So, the most significant probability of spreading product awareness information is from TV. It corresponds to Nielsen research about Indonesian advertising expenditure during 2018-2019 in [Wuryasti \(2019\)](#) article that television is still being the media that has the most significant portion of advertising expenditure, which is about 83%. The second source of product awareness is from stores. It is reasonable that when people go to CH, they will have a probability to see PS on the shelves. It is in line with Bell & Ternus (2017) that shelf-space makes merchandising as a critical element, it acts as the "silent seller" of the products in the stores, especially in markets like the mass commodity, where shelf-space is the rule. The store atmosphere becomes the main decision-making trigger in the selection of the products.

Last, this study uncovers 79.5% of respondents agreed that PS benefit is to replenish body liquid for all activities, and 1% of respondents answered that PS benefit is to replace body liquid for sick people. Meanwhile, 7% of respondents answered that PS benefit is to replenish body liquid for sport, and 12.5% of respondents answered that PS benefit is as a standard drinks brand to relieve thirstily. The major of respondents replied that the PS benefit is to replenish body liquid for all activities. This finding indicates that the respondents have learned the information about product benefits from the PS Promotion Team and Advertising Division. The next significant respondents answered that PS benefit is as a standard drink brand to relieve thirstily. According to the second answer, it indicates that the respondents who are highly buying under impulsive behaviour because they did not know the real product benefit, and they just buy the product for relieving thirsty.

Shelf-Space, Display and Impulse Buying

On the other hand, this study reveals 54.5% of respondents agreed that PS is available in a variety of shelves and 6.5% of respondents answered strongly agree. It indicates that they were acknowledging that PS is available on various shelves. In other words, this is in line with Flamand et al. (2016) that giving a product category or a particular brand more space on the shelf increases its visibility and, therefore, the probabilities of purchasing. Meanwhile, there is 13.5% of respondents who answered disagree, and 2.5% of respondents who responded strongly disagree. The rest 23% of respondents have a neutral answer. This study also points out 61.5% of respondents agreed that PS shelves locate in high traffic areas, and 13% of respondents answered strongly agree. This insight indicates that they decided that PS shelves find in high traffic areas. Meanwhile, there is only 6% of respondents who answered disagree, and only 0.5% of respondents who responded strongly disagree. The rest 19% of respondents have a neutral answer.

Table 5: Description of responses

No.	Construct	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly disagree (%)
<i>Shelf-space</i>						
1.	More space available	2.5	13.5	23.0	54.5	6.5
2.	High traffic area	0.5	6.0	19.0	61.5	13.0
3.	Large size	1.0	10.0	24.0	58.0	7.0
4.	Easiness to find product in the selves	0.5	6.5	11.5	69.5	12.0
<i>Display</i>						
5.	Catchy colour	1.0	7.5	23.0	59.5	9.0
6.	Clean display	0.0	0.3	16.0	66.0	16.0
7.	Blocking space	0.0	0.5	23.5	58.5	13.0
8.	Neat product arrangement	0.0	0.5	14.5	65.0	15.5
9.	Attractive product arrangement	1.0	5.5	31.5	46	16
<i>Impulse buying</i>						
10	Spontaneously	1.0	3.5	15.0	62	18.5
11.	Without thinking	1.0	14.5	22.5	51.0	11.0
12.	"Just do it" way	0.5	8.0	24.5	55.5	11.5
13.	"I see, I buy it" way	2.0	8.5	18.5	56.5	14.5
14.	The emotion attached	1.0	2.5	16.0	68.0	12.5

Source: Research doc.

Another finding, as shown in Table 5, 58% of respondents agreed that PS have large shelves, and 7% of respondents answered strongly agree. Meanwhile, there is 10% of respondents who answered disagree, and only 1% of respondents who responded strongly disagree. The rest 24% of respondents have a neutral answer. The table also sounds that 69.5% of respondents agreed that PS, which provided on the shelves, is easy to find, and 12% of respondents answered strongly agree. It indicates their experience in finding products quickly on store shelves. [Flamand et al. \(2016\)](#)'s research also concluded that giving a product category or a particular brand more space on the shelf increases its visibility and, therefore, the probabilities of purchasing.

Similarly, there are 59.5% of respondents agreed that PS display shows an eye-catching color, and 9% of respondents answered strongly agree. It indicates that they decided that PS has a popular color. According to some respondent's comments, while filling the questionnaires, they admitted that PS has an identical blue color, which makes the products visible. In other words, PS that has a catchy color is attractive. Besides, 66% of respondents agreed that PS has a clean display, and 16% of respondents answered strongly agree. It shows that PS has succeeded in building perceptions of the cleanliness of product display areas through excellent display communication.

Other data revealed in Table 5 are 58.5% of respondents agreed that PS is in a blocking space, and 13% of respondents answered strongly agree. While 65% of respondents agreed that PS has a neat product arrangement, and 15.5% of respondents responded strongly agree. Furthermore, 46% of respondents also agreed that PS has an attractive product arrangement, and 16% of respondents answered strongly agree. Unfortunately, there are still 31.5% of respondents who cannot decide whether PS product arrangement in CH is attractive enough or not. This fact could be that respondents have experience seeing other product arrangements that are more attractive than PS display.

Regarding impulsive behavior, the table denotes that 62% of respondents agreed that they buy PS spontaneously, and 18.5% of respondents answered strongly agree. It is consistent with the answers of 51% of respondents who decided that they buy PS without thinking, and 11% of respondents responded strongly agree. Meanwhile, 55.5% of respondents agreed that "Just Do It" describes the way they buy PS, and 11.5% of respondents answered strongly agree. On the other hand, 56.5% of respondents agreed that "I See It, I Buy It" describes the way they buy PS, and 14.5% of respondents responded strongly agree. Likewise, 68% of respondents agreed that they buy PS according to what they feel at that moment, and 12.5% of respondents answered strongly agree. This phenomenon points out the role of feelings and mood while at the point of purchase of the product. Excellent visual communication can build a more comfortable atmosphere for prospective buyers. [Ali and Hasnu's study \(2013\)](#) also provides an overview of how the construct "I buy things according to how I feel at the moment" is the most crucial statement in measuring the impulse buying tendency of consumers. This result shows consumers' attitude towards impulse buying is mostly occurring due to the emotions they attach with products while shopping.

Are consumers really seduced impulsively by shelf-space communication?

The shelf-space variable has a positive effect and significance to stimulate impulse buying for PS products (H1 accepted). It is relying on the T-Test in Table 6, with the significance value is 0.000. This acceptance of the hypothesis means that more space available, shelves located in high traffic areas, shelves have the larger sizes, and the easiness to

find products on the shelves (in averaged values using multiple regression analysis) was causing the impulse buying. The customers' impulse buying behavior could increase if the AIO increases its PS shelf-space in CH, especially for the construct "high traffic area" (X.1.2) and "large shelf" (X.1.3) based on the operationalizing variables (see Table 1).

Table 6: Coefficients Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.370	.275	4.973	.000	
	Shelf-Space	.340	.075	.345	4.544	.000
	Display	.299	.088	.257	3.385	.001

a. Dependent Variable: Impulse Buying

Thus, the regression equation resulting is as follow:

$$\text{Impulse Buying} = 1.370 + 0.340 (\text{Shelf-Space}) + (0.299 \text{ Display}) + e$$

The above table and equation demonstrate that the constant 1.370 as the amount of impulse buying itself without any influence from independent variables. Meanwhile, the coefficient values for shelf-space and display are found to have a significant impact and show positive directions. It indicates that the increase in shelf-space (such as product category or visibility of a particular brand more space on the shelf) and the increase in display (such attractive stimuli), the higher the tendency of a customer to buy goods and services without planning in advance.

This result is in line with [Achyar and Rahardiana \(2018\)](#) and [Flamand, Ghoniem, and Maddah \(2016\)](#). [Flamand et al. \(2016\)](#) further mentioned that using the contribution to profit and opportunity cost concepts, there was a relationship between the amount of shelf-space and total unit sales, in impulse brands with high consumer acceptance. Correspondingly, [Gidlof et al. \(2017\)](#) declared that if the product is bright and visible, people will see it; people also make inferences about a brand relative to where it is placed on the shelf. In other words, shelf placement can influence the way customers perceive a brand. They found that if a company is going to get a better return on marketing investment, a company should try to make their brand more visible.

Are consumers seduced impulsively by the display communication?

Similarly, the Display variable partially has a positive effect and significance to stimulate impulse buying for PS product (H2 accepted). Table 6 denotes the T-Test with the significance value is 0.001. By the evidence of the second hypothesis, it means that popular colour, clean display, blocking space, neat product arrangement, and attractive product arrangement (in averaged values using multiple regression analysis) were causing the impulse buying. Therefore, the customers' impulse buying behaviour could be increasing if the AIO increases its PS display factors in CH, especially the "clean display" indicator (X.2.2) based on operationalizing variables (see Table 1).

The researches from [Noor \(2020\)](#), [Ali and Hasnu \(2013\)](#), and [Johnen & Schnittka \(2020\)](#) support this test. [Ali and Hasnu \(2013\)](#), for example, found that there is a significant relationship between attractive store displays and impulse buying. This proof indicates that product display visualization develops an impression at first sight and push shopper to buy a product. In other words, attractive store displays create an image in the minds of shoppers, thus making them buy that product emotionally. Moreover, these displays make the shopping environment exciting for shoppers to buy things with pleasant experiences.

How influential are the display and shelf-space communications on impulse buying?

Meantime, the results of F-Test as amount 41.239 and the F-significance value 0.000, it means that the shelf-space and display variable are simultaneously having a positive and significant effect on stimulating impulse buying. This finding is in line with [Mothersbaugh, et al. \(2019\)](#)'s statement that research generally supports the idea about more shelf-space and in-store displays under in-store stimuli context increase sales. R2 value is found 29.5%, which indicates the amount that the shelf-space variable and display variable could explain the impulse buying variable. According to [Ozili \(2016\)](#), a high R-square of above 60%(0.60) is required for studies in the 'pure science' field because the behavior of molecules and/or particles can be reasonably predicted to some degree of accuracy in science research; while an R-square as low as 10% is generally accepted for studies in the field of arts, humanities, and social sciences because human behavior cannot be accurately predicted. Therefore, a low R-square is often not a problem in studies in the arts, humanities, and social science field. Further, it is mentioned that it should not be an excuse for not improving the R-square value if it can be improved.

Table 7: Model Summary R²

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.543 ^a	.295	.288	.47836

a. Predictors: (Constant), Display, Shelf-Space

Thus, to our points, other factors may be the potentials to improve impulse buying besides in-store brand communications through shelf-space and display include discounts and offers, the influence of friends and relatives, emotional stability, time availability, and money availability (Bhasin, 2019). While the study conducted by Seinauskiene et al. (2016) found the cognitive and affective facets of impulse buying, are more related to materialism, subjective wellbeing, and the compulsive buying tendencies. Other influence variables from the results of Thumer et al. (2020) 's study which concluded that the presence of peers when shopping increases the impetus to buy, and this is greater when the cohesiveness of peer groups is high and when they are vulnerable to social influence. Other studies, such as Zafar et al. (2019) revealed that social media celebrities' posts have a significant impact on impulse buying. Pornpitakpan, Yuan and Han (2017) proposed how salespersons' retail service quality and consumers' mood have a significant effect on impulse buying.

Which shelf position is the best: regular shelf, Chiller, or wings-rack?

Responding RQ3, the paired T-Test results of the mean-value comparison show that the regular shelf mean-value is 3.3650, Chiller mean-value is 3.8300, and the Wings-rack mean-value is 2.9550 (see Table 8).

Table 8: Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	RegularShelf	3.3650	200	.97804	.06916
	Chiller	3.8300	200	.90287	.06384
Pair 2	RegularShelf	3.3650	200	.97804	.06916
	WingsRack	2.9550	200	.97351	.06884
Pair 3	Chiller	3.8300	200	.90287	.06384
	WingsRack	2.9550	200	.97351	.06884

Accordingly, Chiller mean-value > Regular Shelf mean-value > Wings-rack mean-value. It indicates that Chiller, which could make the products inside getting cold, is being most liked by the customers. It is common ways that people who have already been doing activities, in this research context is shopping, will feel thirsty, and they have a significant tendency to relieve dry with cold drinks. Notably, Indonesia is a tropical country. Studies show that isotonic beverages may be more effective at retaining fluids and maintaining hydration status by up to 10% compared to distilled water (Siow, Tan and Henry, 2017). Moreover, in cold conditions, the substances of isotonic drinks could easily and quickly be absorbed by the digestive system. With the results of this test, the brand can stimulate consumers' impulse buying through in-store display and shelf-space communications, especially in the chiller area in hypermarkets.

CONCLUSION

This study proves that in-store communications through shelf-space and display applications can increase consumers' impulse buying when shopping at a hypermarket. The spaciousness of shelves, highness of traffic, and largeness of shelves seem to be the main attraction for store visitors or consumers who want to shop at a store. Further factors are the easiness in finding the shelf, the attractiveness of colour, the cleanness of display, the neatness of display arrangement, the blocking space of display arrangement, and the attractiveness of product arrangement. Especially for beverage products, it is undeniable that the chiller area is a favourite of visitors and can stimulate impulse buying behaviour. Several previous studies support the results of this research; hence they contribute to the development of the concept of in-store brand communications both verbally and visually.

LIMITATIONS AND FUTURE STUDY

More research on shelf-space and display from the company's view is needed, and it is due to lack of supporting research about this, especially in developing countries like Indonesia. It will be better if there is experimental research, to study shelf-space and display communications more profound. It will also be better to research shelf-space using planogram science, which could explain the shelf-space in detail. For example, analyse how is the practical arrangement of the products under the tier of a shelf, bay, or element of a shelf, shelving strategy, and decide the share of shelves. Besides, further research could also discuss the shelf-space and display on stimulating impulse buying on a broader research area. For example, in other beverage industries, FMCG industry, or different types of products, other types of in-store brand communication tools, and other types of the modern market such as minimarkets and supermarkets.

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AUTHORS CONTRIBUTION

The first and second authors contribute to writing introduction, literature review, methodology, findings and discussion/analysis, and revisions (as well as rewriting) based on reviewers' suggestions. The third author provides data collection and data analysis. The fourth and fifth authors contribute to the reviewing and re-checking of the results of data analysis. The authors jointly funded all costs in this study.

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