

THE INFLUENCE OF DIGITAL COMMUNICATION TO FARMERS AND FIELD ACTIVITY WITH BRAND AWARENESS AS MEDIATING VARIABLE TO SALES EFFORT IN PT BAYER CROP SCIENCE INDONESIA

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ABSTRACT

As one of the biggest industry in Indonesia, agriculture industry keep improving themselves to be more digital in term of business operation and also how they communicate to their customer. The presence of COVID-19 pandemic since early of 2019 has made PT. Bayer Indonesia Crop Science division, one of the biggest multinational companies in agriculture started its initiatives to go digitally, also keep doing effective in field activity. These initiatives aimed to reach wider customer in order to improve its sales effort by increasing brand awareness in the market. The writer doing this research to see how the relationship between digital communications and field activity with brand awareness as mediating variables to sales performance of PT. Bayer Indonesia Crop Science division.

Keywords: Agriculture, Digital Communication, Field Activity, Brand Awareness, Sales and Sales Effort.

INTRODUCTION

Indonesia is one of the biggest agrarian countries that have a major number of people work in the agriculture sector (BPS, 2015). In the past, the agriculture sector had the most contribution to the country compared to other sectors. This aligns with the natural condition in Indonesia, which is supportive for the agriculture sector. Indonesia has very fertile soil that is very good for the process of cultivating crops and for livestock animals. Besides that, Indonesia has a tropical climate so the sunshine throughout the year, which makes farmers, can plant all year.

Digitalization is becoming a very important part of every type of industry nowadays (Sebastian I, et al., 2017). From the Fast-Moving Consumer Goods, Automotive, Consumer Health, Telecommunication including Agriculture industry. According to the research from McKinsey, companies in any industry that investing in digital solutions are expecting to deliver annual growth and cost efficiencies around 5-10% or more in the next 3-5 years (Catlin, et al., 2015). On the other hand, positive impacts of that digitalization are already seen in various industries, where they already have their digital leader and him/her outperform their peers (Westerman, et al., 2012: World Economic Forum). As digital agriculture develops, it will be critical to make the innovation technology available to as many farmers as possible (United Nations, 2017). The innovation is not only focusing on how farmers do farming like soil detection, pest and disease prediction, and drone spraying but also on how the agriculture stakeholders like agriculture companies and government communicate and do marketing activity in a digital way or in the industry usually called as digital communication. Digital communication in a concept is part of digital marketing.

Digital marketing has become an essential part of many companies and can improve the quality of transfer knowledge for products or services from the seller to the buyer (Yasmin, et al., 2015). The gap that the writer found and will be proven in this research is on the impact on sales effort in the agriculture industry especially crop protection and focus on digital communication in the agriculture industry. In other research said that digital communication and social media could give a positive impact on product reach and customer engagement (Baird, C. H. and G. Parasnis, 2011). Moreover, they did not mention the direct impact of digital communication on company sales. In this research, the writer focusses to prove the influence of digital communication to farmers and field activity with brand awareness as mediating variables on sales effort in PT. Bayer Indonesia.

Research Question

The objective of this research is to determine the relationship between digital communications and field activity with brand awareness as mediating variables to sales performance of PT. Bayer Indonesia Crop Science division. Thus, the research questions are, as follows:

1. Does digital communication to farmers as an end user affect brand awareness of PT. Bayer Indonesia?
2. Does field activity affect brand awareness of PT. Bayer Indonesia?
3. Does digital communication to farmers affect sales effort of PT. Bayer Indonesia?
4. Does field activity affect sales effort of PT. Bayer Indonesia?
5. Does brand awareness affect sales effort of PT. Bayer Indonesia?

LITERATURE REVIEW

Digital Communication Increase Company Brand Awareness

Digital communication or in the bigger concept is also called digital marketing now being widely used to promote products or services to reach customers and end-users through digital channels (Yasmin, 2015). By reaching into the customer in routine schedule and period, it will make the product or services becoming customer top of mind. This process could be sped up using the help of digital technology. Digital technology plays a vital role in improving the quality of information transferred to the consumer or end-user (Khan, 2009). If we compared the cost and effort between conventional marketing and communication with digital communication, digital communication in the correct and suitable form for the business could reduce the cost and increase the reach (Sheth and Sharma, 2005). Digital communication also one important part of digital marketing to distribute key messages to the target audience without paying the publisher or distributor that is the characteristic of traditional marketing.

It is suspected that there is an effect on digital communication to the company brand awareness. Therefore, the Hypothesis is:

H1 : Digital communication activity increases company brand awareness

Field Activity Increase Company Brand Awareness

Agriculture information network and promotion lag behind. It is not because of the company or government's lack of effort in promoting the product but because of the users that are still limited in terms of technology awareness (Xiaowei, 2018). The uniqueness of the agriculture-related product is on the "seeing is believing". Meaning that farmers need to see the result of the product or usually the company called it a demo plot to believe that product has a good quality. Some methods such as demo plot, farmer field days, etc, still become the main activity to introduce new technology from products and new techniques so that the audience could see how these products are practically applied and used (Heineger, 2002). The survey found that field activity needs to have a focused objective and a well-defined understanding of customers' needs to get a better result (Heineger, 2002). If farmers already can see and understand the objective of the field visit, so they can use the technology or the product directly in their daily practice.

It is suspected that there is an effect from field activity on brand awareness. Therefore, the Hypothesis is:

H2 : Field Activity increases company brand awareness

Digital Communication Increase Sales

Digital communication is not only broadcast the information to all of the customers, but it much more than that, which we also talk about customer segmentation, customer interaction, planned campaigns, and high reach activity in a limited time frame (Yasmin, Tasneem, & Fatema, 2015).

To run digital communication effectively, we need to know our customer segmentation and the best way to connect with them. For example, in the agriculture industry, our focus customers will be farmers. We need to consider a lot of available technology in digital communication, what are the best tools to be used. Do we think it will be effective to use LinkedIn or Instagram? Now it seems that Facebook is the most relevant platform for farmers in some areas of Indonesia (Universitas Padjajaran, 2018). Type of information also play important role in digital communication. Most of the information used by the company for its digital marketing program is still related to customer engagement. If the company focus to deliver direct information such as product knowledge and a special program to the specific targeted audience at the right time, it can influence positively the sales (Yasmin, 2015).

It is suspected that there is an effect on digital communication to company sales. Therefore, the Hypothesis is:

H3 : Digital communication increases company sales effort.

Field Activity Increase Sales

As Heiniger (2002) mentioned in his journal, the agriculture industry is quite unique because the customers need to see the result from the new product or technology before they choose the product or service. In agriculture, there is some type of field activity with different target of customers, which are demoplot, farmers meeting & mass spray.

If the company do the field activity with the right target consumer and right product strategy, it is suspected that there is an effect on-field activity to sales. Therefore, the Hypothesis is:

H4 : Field activity increases company sales effort.

Brand Awareness Increase Sales

In this digital age, brand awareness management is very important and becoming critical success factors for the company than before (Lipiäinen, 2015). A lot of companies start focusing to test the links between brand awareness with the outcomes. There is already some research that emphasizes the importance of brand awareness such as Aspara and Tikkanen 2008; Balmer and Greysen, 2006; Baumgarth, 2010; Kotler and Pfoertsch, 2007; Leek and Christodoulides, 2011.

Almost every marketer said that brand awareness is important but when they are asked, how does your digital campaign impact sales? And when their answer is “it is good for brand awareness” then it means that they have no clue about it (Rowles, 2014). There are some steps in the customer journey and as a product or service owner, the company needs to understand this because this is the moment when consumers decide to buy the product. This is called a moment of truth. And it is clear that if the company define the right customer journey and do the campaign for increasing their brand awareness it that right stage, it can impact positively in buying decision (Rowles, 2014). Another study from Esch in 2012 also indicates that a familiar brand has better information retrieval in brain areas than an unfamiliar brand that can influence a purchase decision

Therefore, the Hypothesis is:

H5 : Brand awareness increases company sales effort.

DESIGN OF THE RESEARCH

Based on Figure 1, the research model represented in this study aimed to see how the relationship between digital communication and field activities can create more brand awareness, thereby increasing sales efforts.

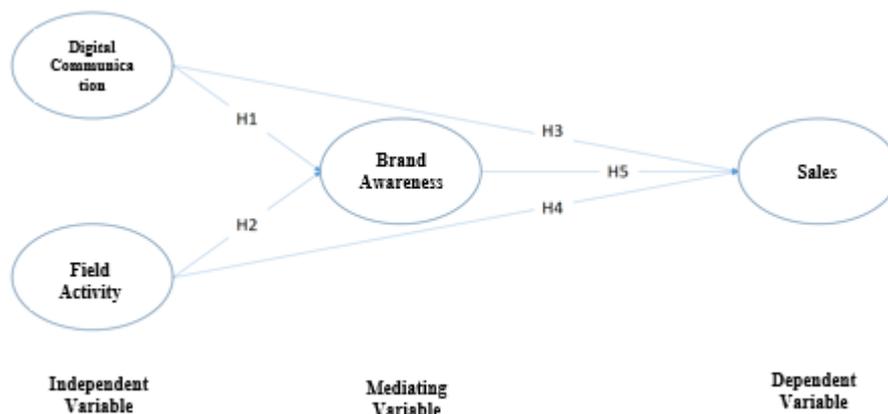


Figure 1. Research Model

(Author Analysis, 2021)

Method of the Research

This research uses a quantitative approach. A quantitative approach is to examine a population or sample by using numerical data analysis/numbers obtained through surveys. The survey method is a method that uses a part of the population (sample) and then the (sample) and then the sample is shown to describe the condition of the entire population (generalization). Through a quantitative approach, two research methods were chosen, which are:

- Descriptive research
- Hypothesis testing.

Descriptive research has the main objective to provide an accurate picture of data, describe a process, mechanism, or relationship between events. In research at a company, descriptive research can describe employee characteristics such as age, gender, and various other characteristics that want to be studied, including the results of descriptions of respondents' answers from questionnaires that have been distributed. In addition, hypothesis testing is a study to test certain hypotheses to explain the relationship (correlation) between two or more variables, which in this study consists of three hypotheses to be tested.

Technique of Data Analysis

Data analysis is a method that used to process research result to find the conclusion. Analyzing the data also means the process to simplify the data into a form that easy to understand and can be interpreted. In this research, writer use the SEM (Structural Equation Model) using LISREL statistical program. Statistical Equation Model (SEM) is one of statistical technique that can be

used in analyzing the relationship between latent variables and the observed variables as indicators, latent variable relationship, and measurement errors (Jonathan, 2010).

This research uses two kinds of analysis technique, which are:

1. Confirmatory Factor Analysis that used to confirm the factors that are most dominant in the formation of a group of variables.
2. Regression weight in SEM that used to examine how the variables influence each other

Testing Stage of Structural Equation Model

Some of fit indices and cut-off values used in testing whether a model can be accepted or rejected are as follows:

1. Chi-Square Statistic (X^2)
2. RMSEA (Root Mean Square Error of Approximation)
3. GFI (Goodness of Fit Index)
4. AGFI (Adjusted Goodness-of-Fit Index)
5. CMIN / DF
6. TLI (Tucker Lewis Index)
7. CFI (Comparative Fit Index)

Population and Sample

Before conducting a research, population and sample need to be defined. The population of the generalization area consists of objects / subjects that have certain qualities and characteristics that are determined by the researcher to study and then draw conclusions from Sugiyono (2012: 90). The population of this study are all sales team in PT. Bayer Indonesia, which consist of 357 people consisting of:

1. Business Unit Head : 3 people
2. Regional Sales Manager : 7 people
3. Territory Manager : 45 people
4. Sales Field Assistant : 302 people
- 5.

The number of populations is 357 people. Writer use stratified random sampling to get the sample number from each managerial level from Business Unit Head until Sales Field Assistant. First, writer define sample size in the condition where the population is known using Isaac S & Michael WB (1981) data sampling formula, as depicted in Figure 2:

$$s = \frac{\lambda^2 \cdot N \cdot P \cdot Q}{d^2 \cdot (N-1) \cdot \lambda^2 \cdot P \cdot Q}$$

Figure 2. Data Sampling Formula
(Isaac S & Michael WB, 1981)

Where;

- S : sample size
 λ^2 : Chi-square where degree of freedom = 1, error rate 5% is 3,841
 d : average difference between population and sample
 P=Q : 0,5

Therefore, the sample for this research is 185 people.

From that 185 people, sample will be distributed to each working level in Sales Department as below:

Table 1. Stratified Random Sampling

Working Level	Population	Stratified Random Sampling	Amount of Sample
Business Unit Head	3	$(3/357) \times 185 = 1,55$	2
Regional Sales Manager	8	$(8/357) \times 185 = 4,15$	4
Territory Manager	45	$(45/357) \times 185 = 23,3$	23
Sales Field Assistant	302	$(302/357) \times 185 = 156,5$	156

(Author Analysis, 2021)

RESULT & DISCUSSION

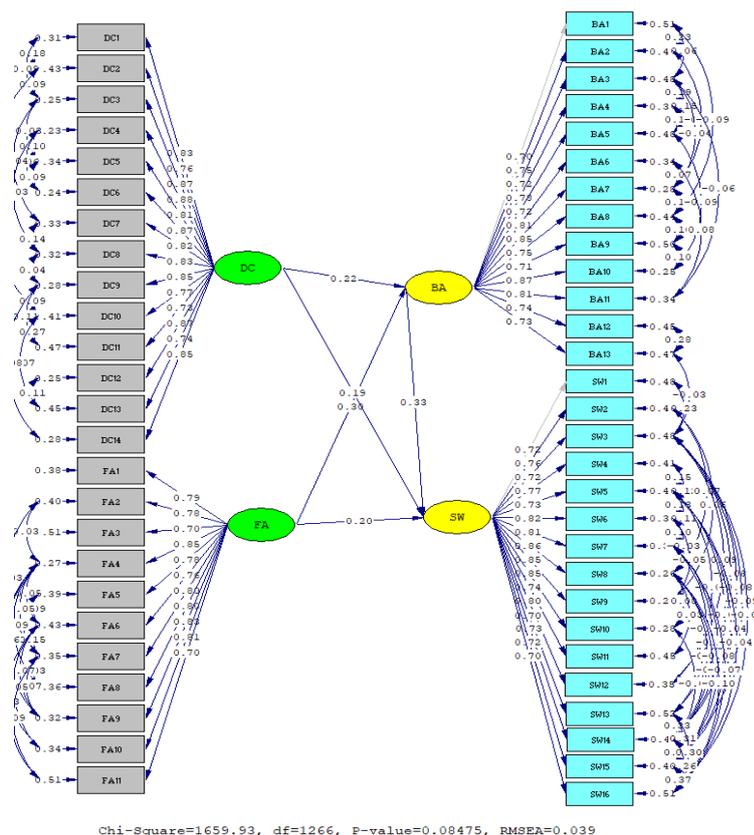


Figure 2. Basic Model Standardized Solution

(Author Analysis, 2021)

From the results of the data processing in Figure 2. above, it can be seen that the validity of digital communication, field activity, brand awareness and sales effort each indicator has a loading factor value > 0.70 and has a t-value for each indicator reaching > 1.9. Thus, from the Figure 2 above the value of each indicator is declared valid.

5.1 Structural Equation Model Analysis

Model specification is executed by converting the path diagram into a series of structural model equations and measurement model equations. The structural equation model is as follows:

Structural equation (1): $Z = X1Z + X2Z + \epsilon Z$

Structural equation (2): $Y = Z1Y + X1Y + X2Y + \epsilon Y$

Table 2. Structural Equation Model Analysis

Variable	R ²
BA	0.84
SW	0.74

(Author Analysis, 2021)

The R-square value for the relationship between brand awareness and digital communication and field activity is 0.15. This means that digital communication and field activity are variables that can explain the formation of brand awareness only (15%), while the remaining 75% are explained by other variables not examined in this study.

The R-Square value for the relationship between sales effort and digital communication and field activity is 0.26. This means that digital communication, field activity and brand awareness can explain the formation of sales effort by only 26%, while the remaining 74% is explained by other variables not examined.

5.2 Goodness of Fit

Table 3 below represents the result of model fit values of each parameter.

Table 3. Value Goodness of Fit

Parameter GOFI	Tolerance	Fit Model	Remarks
Chi Square	Chi/Df < 2	1.310	Good fit
RMSEA	≤ 0.08	0.035	Good Fit
NFI	≥ 0.8	0.95	Good Fit
NNFI	≥ 0.8	0.98	Good Fit
RFI	≥ 0.8	0.94	Good Fit
PNFI	≥ 0.8	0.94	Good Fit
CFI	≥ 0.8	0.98	Good Fit
IFI	≥ 0.8	0.98	Good Fit
Std RMR	≤ 0.05	0.05	Good Fit
GFI	≥ 0.8	0.92	Good Fit
AGFI	≥ 0.8	0.93	Good Fit

(Author Analysis, 2021)

From the Table above, it can be described as follows:

- The value of chi-square was declared fit, with df of 1.310 or less than 2.
- The Root Mean Square Error of Approximation (RMSEA) value was 0.035, still above 0.05. Thus, that the research model is fit (fit). (Hair Jr, et al. 2010).
- The Normed Fit Index (NFI) value was 0.95, so it is more than 0.8. Thus, the research model is fit. (Hair Jr, et al. 2010).
- The Relative Fit Index (RFI) value was 0.94. Thus, this model is fit.
- The Comparative Fit Index (CFI) value was 0.98 or above 0.8. Thus, the model is said to be fit.
- The Incremental Fit Index (IFI) value was 0.98. Thus, the research model is fit with existing data.
- The Root Mean Residual (RMR) was 0.05 or below 0.1, so the research model was said to be fit.
- The Goodness of fit index (GFI) value was 0.92 or greater than 0.8. Thus, the research model is fit.

i) The Adjusted Goodness of Fit Index (AGFI) value was 0.93 or greater than 0.8. So, this research is said to be a good fit.

5.3 Hypothesis Testing

The hypothesis testing stated that H_0 is rejected or the variable has an effect if the t-value is > 1.96 at $\alpha = 0.05$. The following Table is the result of the t-value from the relationship between each variable in this study.

Table 3. Hypothesis Testing Each Variable

Variable	Nilai t (> 1.96)	Remarks	Result
Digital Communication → Brand awareness	3.09	H_0 Rejected H_a Affected	There is influence between digital communication to brand awareness
Field Activity → Brand awareness	4.03	H_0 rejected H_a Affected	There is influence between field activity to brand awareness
Digital Communication → Sales work	3.09	H_0 rejected H_a Affected	There is influence between digital communication to sales work
Field Activity → Sales work	4.03	H_0 rejected H_a Affected	There is influence between field activity to sales work
Brand Awareness → Sales Work	4.29	H_0 rejected H_a Affected	There is influence between brand awareness to sales work

CONCLUSION

From the analysis above, it can be concluded the relationship between each variable are, as follows:

1. Digital Communication influences the brand awareness of PT. Bayer Indonesia product. This is evidenced by the t-value $>$ t-table where the t-value is 3.09. This means better digital communication is executed by PT. Bayer Indonesia, better brand awareness will be.
2. Field activity has an influence on the brand awareness of PT. Bayer Indonesia product. This is evidenced by the t-value $>$ t-table where the t-value is 4.03. This means, the better quality & quantity of field activity executed, the better the brand awareness will be.
3. Digital Communication has an influence on the sales effort of PT Bayer Indonesia. This is evidenced by the t-value $>$ t-table where the t-value is 2.75. This means that digital communication affects the sales effort of PT. Bayer Indonesia.
4. Field Activity has an influence on sales effort of PT. Bayer Indonesia. This is evidenced by the t-value $>$ t-table where the t-value is 2.85. This means, if field activity is good, it will improve sales.
5. Brand awareness has an influence on the sales effort of PT. Bayer Indonesia. This is evidenced by the t-value $>$ t-table where the t-value is 4.29. This means, the better brand awareness, the better the performance of sales effort of PT. Bayer Indonesia.

RECOMMENDATION

Based on the results of the research, there are several suggestions that are expected to make sales performance even better, namely as follows:

1. Digital communication has an effect on brand awareness directly and to sales indirectly, so the execution of current digital communication can be continued while also exploring other options in terms of digital communication to increase PT. Bayer Indonesia brand awareness and sales.
2. Brand awareness variable affect sales, it is very important for PT. Bayer Indonesia to ensure the brand awareness is kept being good in the customer's mind.
3. Field activity affects brand awareness directly and sales indirectly. So, it will be good for PT. Bayer Indonesia to keep improving the quality and quantity of field activity on the ground.
4. Further research is expected to develop this research by using other variables that affect the sales of the PT. Bayer Indonesia other than those used in this study.

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