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### ANALYSIS OF INSTAGRAM POSTING FOR MARKETING USING APRIORI METHOD

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#### **ABSTRACT**

The development of social media is very fast, including the popular one, namely Instagram. Instagram is now a social media, not just digital photo storage, but also a commercial way with social media. In the commercial that occurs on Instagram social media, we need a strategy so that the meaning of published post messages can be conveyed to our targets. Seeing this problem, the writer tries to do an analysis to solve the problem. In this case we use data obtained from questionnaires that we distributed RT 02 kec. Nagasari district. Karawang. We tried to analyze the data by processing the data using the Associate rule a priori method. From the data, it is found that the effective hour of advertising is 7 in the evening until 10pm. and 63% interest in advertising. From the results of the analysis using a priori association rules, namely fashion is more popular among women.

#### **INTRODUCTION**

The development of social media is very fast, some of which are popular, namely Instagram. Instagram is now a social media, not just digital photo storage, but also a commercial way with social media. In the commercial that occurs on social media Instagram, we need a strategy so that the meaning of the published post message can be conveyed to our target. Seeing the problem, the writer tries to do an analysis to solve the problem.

In this case we use the data obtained from the questionnaire which we distributed RT 02 kec. Nagasari, district. Karawang. From this data, the author tries to analyze so that the delivery of Instagram posts is effective. The author

tries to retrieve data then process the data. We tried to analyze the data by processing the data using the Associate rule Apriori method.

### **LITERATURE REVIEW**

Weber in 2009 also stated that traditional media such as TV, radio and newspapers facilitate one-way communication while social media two-way communication by allowing everyone to publish and contribute through online conversations [1]. Salfok and Brake explain that social media refers to a series of activities, practices, and behaviors among communities of people who gather online to share information, knowledge and opinions using conversational media [2]. Meraz say social media are “architected by design to readily support participation, peer-to-peer conversation, collaboration, and community” [3].

Karimkhani, C., Connett, J., Boyers, L., Quest, T., & Dellavalle, R. P. say Instagram is a social media outlet with users made up of individuals, organizations, vendors, and businesses, which post their own photos and repost other photos to their followers [4]. Teo, L. X., Leng, H. K., & Phua, Y. X. P. say One of the limitations of this study is that it only examined the effects through a single social network site, i.e. Instagram. As there are other visual-centric social network sites, such as Tumblr and Pinterest, which operate slightly different from Instagram, it remains to be established how such effects vary across these social network sites [5].

Agrawal in 1994 say at the end of the algorithm, frequency of any possible itemset has been determined and all frequent itemsets can be selected. The first algorithm based on Candidate-Generation-Based strategies is Apriori algorithm proposed [6]. Also according to Agrawal, the best in the association is the Apriori algorithm. Agrawal et al in 1996 say this algorithm works in two steps: In a first step the frequent item sets (often misleadingly called large itemsets) are determined. These are sets of items that have at least the given minimum support (i.e., occur at least in a given percentage of all transactions) [7].

### **DATA**

In this case the author gives 5 questions to 30 people on RT 02 kec. Nagasari, Karawang, with the following questions:

1. At what time do you use Instagram more often in 1 day?
2. What Instagram categories do you usually look for?
3. I am often interested in advertisements in Instagram ads?
4. What Instagram stories are you interested in?
5. What Instagram posts are you interested in?

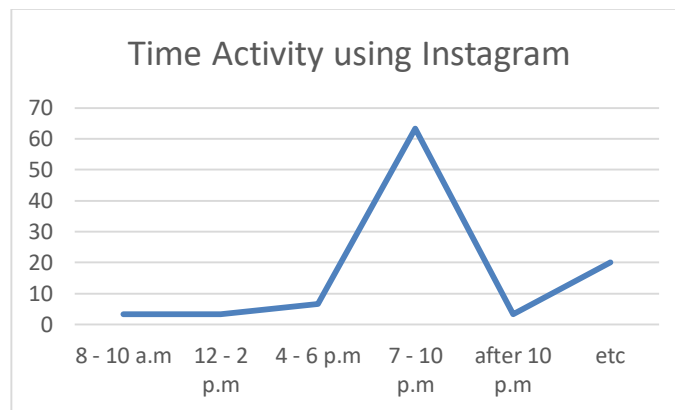
The results obtained from the 5 questions are as follows:

At the hour of using Instagram more often in 1 day

**Table 1** Traffic popularity on Instagram

8 - 10 a.m	12 - 2 p.m	4 - 6 p.m	7 - 10 p.m	after 10 p.m	etc.
1	1	2	19	1	6

From the table, it shows at 8 a.m. until 10 a.m. only 1, 12 p.m. until 2 p.m. only 1, 4 p.m. until 6 p.m. amounting to 2, 7 p.m. until 10 p.m. amounted to 19, after 10 p.m. only 1 and other hours 6.



**Figure 1** Time activity using Instagram

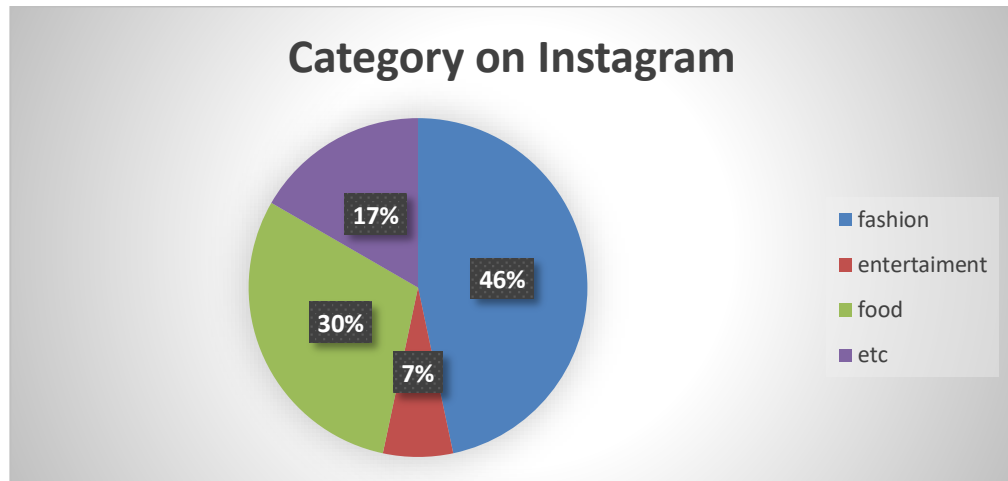
From this graph shows the highest traffic hour at 7 p.m. until 10 p.m. 9i

What Instagram categories are popular?

**Table 2.** Category on Instagram

fashion	entertainment	food	etc.
14	2	9	5

The table shows what categories of Instagram are popular, explaining 14 fashion, 2 entertainment, 9 food, and 5 others.



**Figure 2** Categories on Instagram

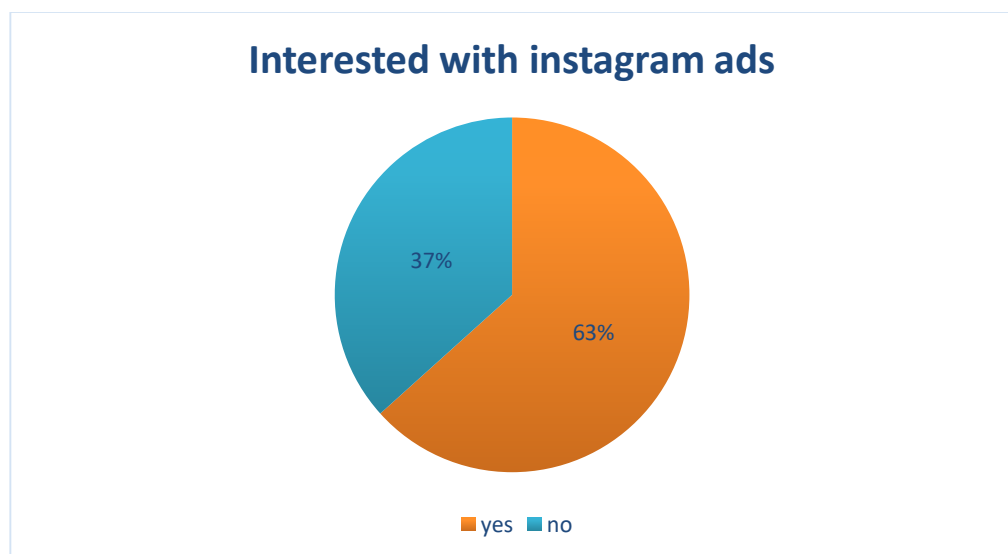
From the diagram above shows the most categories in fashion as much as 46%. Entertainment as much as 7%, food 30%, other 17%.

Interested with ads

**Table 3** Interested with ads

yes	no
19	11

From the table above, it explains that many people are interested in ads.



**Figure 3** Interested with ads

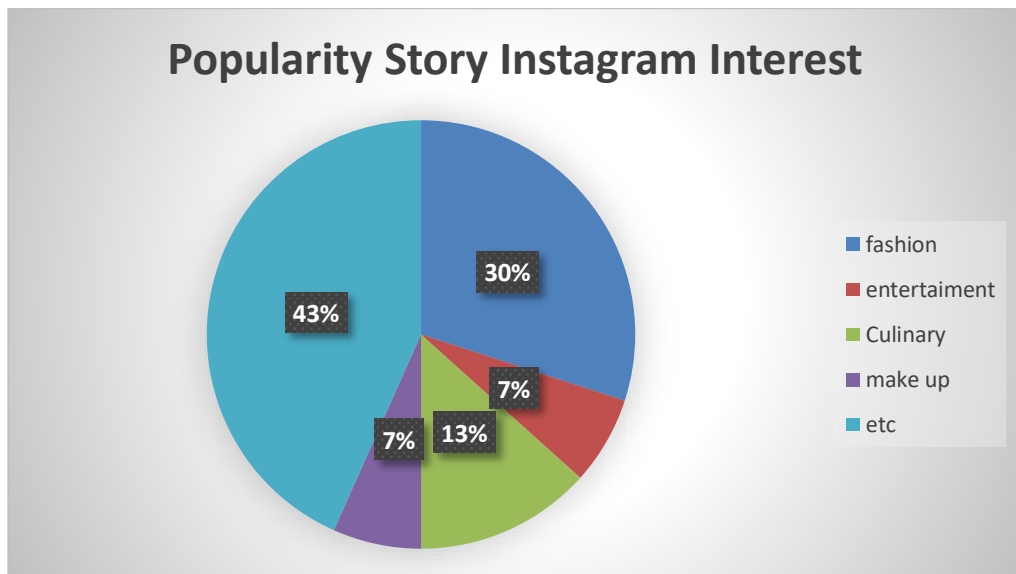
From the diagram above, it explains that more people are interested in ads with 63% interest.

Popularity Story Instagram Interest

**Table 4** Popularity story Instagram interest

fashion	entertainment	Culinary	make up	etc.
9	2	4	2	13

From the table shows the popularity of the Instagram Story Interest explaining 9 fashion, 2 entertainment, 4 culinary, 2 makeup and 13 others.



**Figure 4** Popularity story Instagram interest

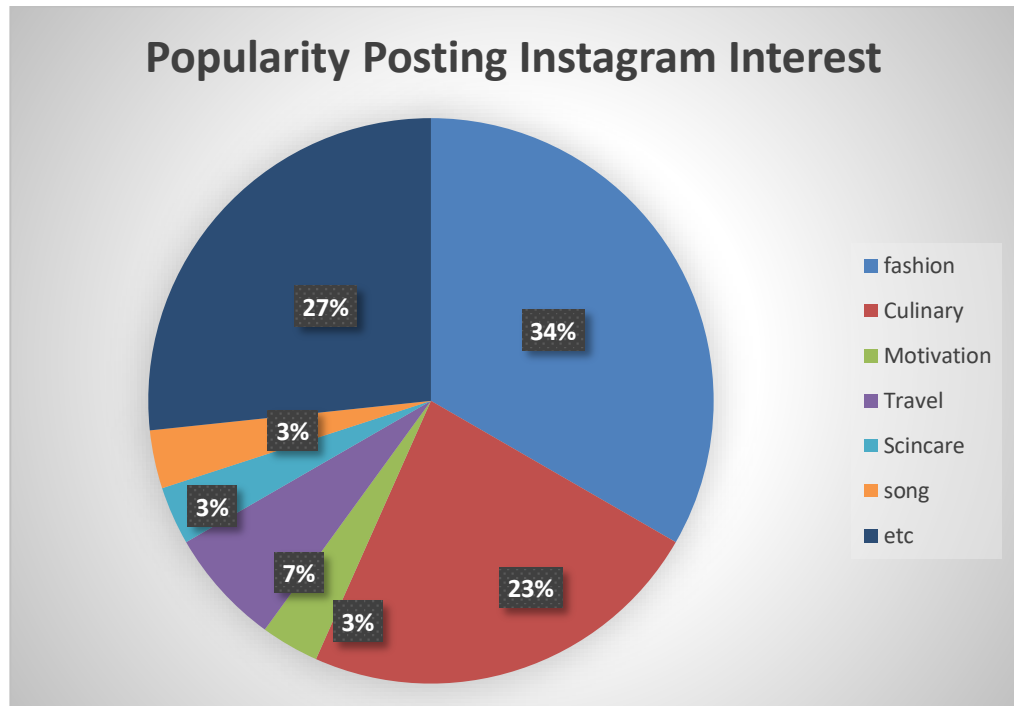
From the diagram above shows Instagram stories on fashion as much as 30%, entertainment as much as 7%, culinary 13%, make up 7% and others 43%.

Popularity Posting Instagram Interest

**Table 5** Popularity posting Instagram interest

fashion	Culinary	Motivation	Travel	Scincare	song
10	7	1	2	1	1

From the table, it shows the popularity of Instagram posts. Interest explains that fashion is 10, culinary is 7, travel, motivation, skincare and song are only 1.



**Figure 5** Popularity posting Instagram

The diagram above shows that 34% of Instagram posts on fashion, 3% motivation, 23% culinary, 3% skincare, 7% travel, 3% song and 27% others.

### *Analysis*

From the previous discussion, the results of statistical processing that we have obtained using Weka software are obtained. Weka software processes data into association rules using a priori algorithm.

```

=== Run information ===
Scheme:      weka.associations.Apriori
Relation:    weka
Instances:   30
Attributes:  5
              1
              2
              3
              4
              5
    
```

**Figure 6** Run Information on Weka

From the picture, it is run information using Weka software with five attributes. The attribute comes from five questions. There are 30 instances from 30 respondents who answered 5 questions.

```

=== Associator model (full training set) ===
Apriori
=====

Minimum support: 0.1 (3 instances)
Minimum metric <confidence>: 0.9
Number of cycles performed: 18

Generated sets of large itemsets:

Size of set of large itemsets L(1): 8
Size of set of large itemsets L(2): 13
Size of set of large itemsets L(3): 6

```

### Figure 7 Full training set

From the picture, the full training set on the software obtained a minimum support of 0.1 or 10%. Minimal Support: a value specified to cut the combination of set items to fewer. K-item set (the result of trimming minimal support) forgets best rules [8]. Generates a confidence of 0.9 or 90%. Confidence of association rule is a measure of the accuracy of a rule, which is the presentation [9]. Generates a number of cycles performed for 18. And consists of 3 items set L (1): 8, L (2): 13, L (3): 6. From the weka software process described above, have best rules found.

### *Best rules found*

1. 2=Makanan 3=TidakSetuju 6 ==> 1=7 - 10 malam 6 <conf:(1)> lift:(1.58) lev:(0.07) [2] conv:(2.2)
2. 5=Fashion 4 ==> 2=Fashion 4 <conf: (1)> lift:(2.14) lev:(0.07) [2] conv:(2.13)
3. 1=7 - 10 malam 5=Fashion 3 ==> 2=Fashion 3 <conf: (1)> lift:(2.14) lev:(0.05) [1] conv:(1.6)
4. 3=Setuju 5=Fashion 3 ==> 2=Fashion 3 <conf: (1)> lift:(2.14) lev:(0.05) [1] conv:(1.6)
5. 4=Fashion 5=Fashion 3 ==> 2=Fashion 3 <conf: (1)> lift:(2.14) lev:(0.05) [1] conv:(1.6)
6. 2=Fashion 14 ==> 3=Setuju 13 <conf:(0.93)> lift:(1.47) lev:(0.14) [4] conv:(2.57)
7. 1=7 - 10 malam 2=Fashion 10 ==> 3=Setuju 9 <conf: (0.9)> lift:(1.42) lev:(0.09) [2] conv: (1.83)

### CONCLUSION

From the results above, on the analysis using a priori association rules, there are 7 rules of which. First, if the post is interested in fashion, then the category you are looking for is fashion too. Second if 7 p.m. - 10 p.m. and posts that are interested in fashion, the story that you are interested in is fashion. Third, if you are interested in advertisements and posts that fashion is interested in, then the category you are looking for is fashion. Four, if you are interested in advertisements and posts that fashion is interested in, then the category you

are looking for is fashion. Five if the story is what fashion is interested in and the post that fashion is interested in, then the category fashion is looking for. Six if the category you are looking for is fashion then it is interested in advertising. Finally if it's 7 p.m. until 10 p.m. and the fashion category is attracted by the advertisement.

So the conclusion is from the data obtained that the effective hour for advertising is 7 p.m. until 10 p.m. and 63% interest in advertising. From the analysis using priori association rules, namely fashion is more popular among women. This analysis is made using a priori association rules, there needs to be further study, such as processing classification data mining or using other algorithms.

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