Utilization Of Artificial Intelligence In Mobile Applications For Customer Satisfaction At PT. Tirta Mas

*Toto Hermanto[1], Monika Gulo[2]

Utpadaka Swastika University, Tangerang, Indonesia 15112
[1]totohermanto8@gmail.com, [2]monikagulo04@gmail.com
*corresponding author: totohermanto8@gmail.com

ABSTRACT

The internet has a very positive impact on human life, with the internet people can provide useful knowledge. In this era of globalization, the development of applications is increasing every year, in technology in the modern digital era like this, business competition is increasing with the presence of Artificial Intelligence, a technology that has developed very rapidly in recent years. Artificial Intelligence has the potential to change various aspects of people's lives ranging from the industrial world, education to public services. Artificial intelligence is expected to be developed so that applications in companies can run well. Artificial intelligence is one of the innovations related to the manufacture of computers and machines that can involve data on a large scale or can be called big data, every year the development of artificial intelligence is increasing and has a very positive impact on companies. The data used for one month of research, customer satisfaction data for consumers is used as something significant to solve problems, so researchers provide a form of appreciation for the company's sustainability in the future and a form of gratitude. The company continues to develop a product, guaranteed quality and attractive services so that consumers can shop again. Based on the quality of service service distance and quality1 is 97% greater than other products, so with this customer satisfaction is the most important.

KEYWORDS: Artificial intelligence; companies; consumers; data mining

1. Introduction

PT.TIRTA MAS company is engaged in the manufacture of mattresses since 2005, PT.TIRTA MAS company is a company that serves the needs of the community. Since year to year, PT.TIRTA MAS company can develop an application well, thanks to effective human resources and many innovations made by natural resources until now the company can survive and provide the best for consumers. PT.TIRTA MAS company always provides the best service to consumers, consumers are always prioritized. Developments in an application in the internal scope are the most important.

Factors that must be done, especially in an era that is already digital and many companies are competing to develop an application. PT.TIRTA MAS company can provide information by using data from sales results and others. [3] The amount of information used, the data can provide effective results in the internal environment of a company, a lot of data can be analyzed using clustering algorithms so that later we can find out how much for the benefits of the data that has been used as the main thing.

Artificial Intelligence can be a solution for developing applications in companies to enhance the quality of the applications at the company. [5] Virtual capabilities based on Artificial Intelligence, such as natural language translation and learning, have greatly developed and surpassed the limits of testing to a new level to test the application's ability to demonstrate artificial intelligence. Companies are leveraging artificial intelligence to create intelligent machines capable of performing tasks that are usually often done by humans, but are now executed by machines.

2. Theoritical Foundation

Companies implement this artificial intelligence with the aim of understanding intelligent machines that can do a good job without being done by humans. Cloud computing and edge computing are artificial intelligence created by humans, cloud computing is used to store sales transaction data in the company while edge computing is company data that can be analyzed and later can be used as information. [2] Artificial Intelligence has developed and provides many different benefits across industries such as retail, manufacturing and banking and others. With artificial intelligence, companies can increase efficiency and productivity so that companies can work quickly and can target production according to the specified time. [8] The following are the applications and benefits if companies develop applications using artificial intelligence.

  a. Can increase efficiency and productivity Artificial Intelligence makes it easier to do work, in the world of target work, automatic payments, customer service as a complement to consumers, company data can also be used as a processing mold.

  b. Quality improvement Artificial Intelligence can improve the quality of companies to increase the attractiveness of the public to use an application and help make it easier for people to use it without having to come to the location.

  c. Creating new jobs With the presence of artificial intelligence technology, it is hoped that humans and machines can work together to help improve the quality of the company.

The digital revolution is a global concern, digital is one of the important things for companies. The journey in the digital era 1.0, digital 2.0, digital 3.0, and digital 4.0 digital changed all the world the sales process has been done with smartphones. [3] Consumers have been spoiled with the use of smartphones, one of these digital advances is artificial intelligence (AI). To do tasks on time and without obstacles, artificial machines are needed so that companies can target something on time. [5] Artificial Intelligence can change everything, Artificial Intelligence relies on patterns and algorithms to make the right decisions. [10] From year to year research on artificial intelligence and the important role of artificial intelligence for companies in changing strategies for companies, Application of Artificial Intelligence in market segmentation based on consumer behavior.

The increasing daily needs of consumers are increasing, business competition is getting tighter, technology is getting more advanced. [1] The expectation of making applications using artificial intelligence that is not appropriate will have a negative impact on the company and cause disruption to technology, resulting in customer relationship management becoming an important point (CRM). [6] Management in the company is directly involved in fulfilling the products desired by consumers (CRM 1.0). CRM 1.0 is not individual but focuses on using data according to sales transactions. CRM 2.0 has shifted the management's perspective on consumer patterns. CRM 3.0 integrates sales transaction data to create data in real time.
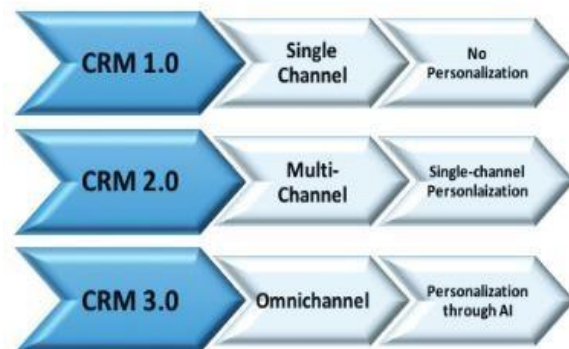

Figure 1. AI and the Evolution of CRM

The challenge for companies to become more developed companies is when market interest in consumers has increased, therefore

companies must focus on consumer interest to develop products and quality that is maintained by the company. [7] Researchers continue to look for several factors in customer desires that drive customer satisfaction levels. Customer satisfaction greatly influences customer loyalty to the company, well-known brands, product quality, and guaranteed prices are sought after by many consumers. [8] To measure the level of company satisfaction with consumers, a survey can be used using a framework, factors that must be done to provide an experience to optimize artificial intelligence and improve the company's CRM process using artificial intelligence technology to improve product quality and marketing that continues to increase among consumers.

Consumer expectations of companies increase an application used by consumers to pamper consumers in terms of purchasing products and sales transactions of an item. Various application-based services such as web applications, and e-commerce application services function to make it easier for consumers to buy a product. Thus, customers who have used e-commerce services become the focal point of achieving success for companies across industries.

2.1 Data Mining

Data mining is the process of collecting data from transaction data that can be grouped according to the context of a query table. Transaction data comes from a sale that can be used as information for various purposes, sales data is also very useful for increasing sales.
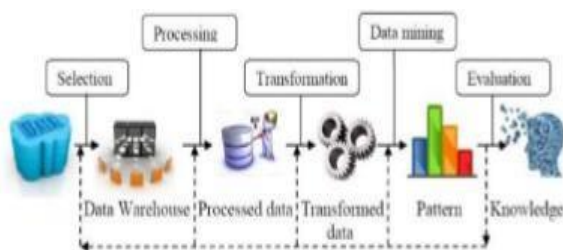

Figure 2. Data Mining

2.2 Data Selection

Data selection can be defined to determine the data sources needed. The main purpose of selecting data is to determine the type of data source, which will later be analysed to be used as a more accurate study.

2.3 Item Grouping

To create an interesting item used in this paper is shown in the following figure. Sales items are executed first and then selected based on the items displayed based on the shelves.
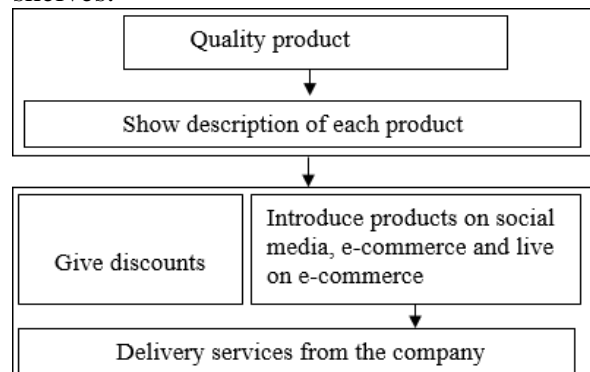

Figure 3. Item Grouping

3. Research Model

Figure 4. Data Mining

Mobile-based sales are expected to have a positive impact on product awareness among consumers, allowing them to assess the quality of the spring mattress.

Figure 5. Description

This description is to show the quality of the product, the size of the mattress so that the mattress looks elegant and sturdy so that it is comfortable to use.

3.1 Price Data of Each Product

Price list data based on each product quality. From each product quality that we can use the servqual model is chosen as an approach model that is often used to measure service quality that can be used as customer expectations. [2] Although the company offers various products to customers, the servqual model is suitable as a service model.

Table 1. Price Data of each product

	SPRINGBED CENTRAL (Rp.1,5 Million - Rp. 3 Million)	SPRINGBED UNILED (Rp. 2 Million - Rp. 8 Million)	SPRINGBED ELITE (Rp. 1,2 Million - Rp. 18 Million)
Quality 1	80	85	90
Quality 2	75	80	85
Quality 3	70	75	80

Description of each product quality
Quality 1: Very good
Quality 2: Medium
Quality 3: Not good

3.2 Service Assessment Data

Service assessment data is taken based on consumer assessments, this data shows how good the assessment of consumer service is to the company for company improvement. This assessment data is for public service standards or public service quality assessments.

Table 2. Service assessment data

SATISFIED SERVICE	LESS SATISFACTORY SERVICE	SERVICE NOT SATISFIED	SERVICE DISTANCE AND QUALITY 1	SERVICE DISTANCE AND QUALITY 2	SERVICE DISTANCE AND QUALITY 3
90	30	30	82.01	75.83	70.18
80	30	10	97.08	90.28	83.82
60	40	40	70.18	62.05	54.08
90	50	20	78.90	73.14	68.01
80	40	50	60.21	53.39	47.17
90	50	20	78.90	73.14	68.01
70	50	70	41.53	33.91	26.93
80	80	50	40.31	35.36	32.02
90	60	60	40.31	35.36	32.02
90	40	40	68.01	62.05	56.79

3.3 Service Chart

The results of the service assessment of each service distance and quality are formed with a diagram to provide an understanding of decision making.

Figure 6. Service Chart

4. Conclusion

Based on the research results, it can be concluded that product quality 1 = 97% and greatly influences positive assessments of the company, therefore, instill a friendly nature to consumers so that consumers buy the product again.

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