THE DEVELOPMENT OF ENTERPRISE ARCHITECTURE BUSINESS CRM AT PT. CAPELLA DINAMIK NUSANTARA WITH EAP METHODOLOGY

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ABSTRACT
One of the purposes of implementing the enterprise architecture is to create an alignment between business and information technology for organizational needs, the application of enterprise architecture is inseparable from how does an organization plan and designs the enterprise architecture. In designing enterprise architecture a complete and easy methodology is required. Enterprise Architecture Planning or often abbreviated as EAP is a method used to build information architecture. EAP is a method of data quality planning approach that is oriented to business needs and how the implementation of the architecture is carried out in such a way as to support the business cycle and the achievement of the contents of information systems and organizations.

*Keywords***:** CRM, Enterprise Architecture, EAP

1   INTRODUCTION

In PT. Capella Dinamik Nusantara there is a business activity called CRM (Customer Relation Management). The following picture below is a CRM cycle where the focus of CRM is on the marketing and supporting cycle. At the Marketing stage, we utilize the existing consumer database for follow-up so that consumers are interested in our product [1][2]. While at the supporting stage, we carry out after-sales services, which aim to establish closeness between the seller and the customer, so that consumers are satisfied with the service and do not feel that they are just an object to make sales. [4]. This matter will produce consumers who are loyal to the company so that the company does not need to spend more to find new customers by doing various promo [5].
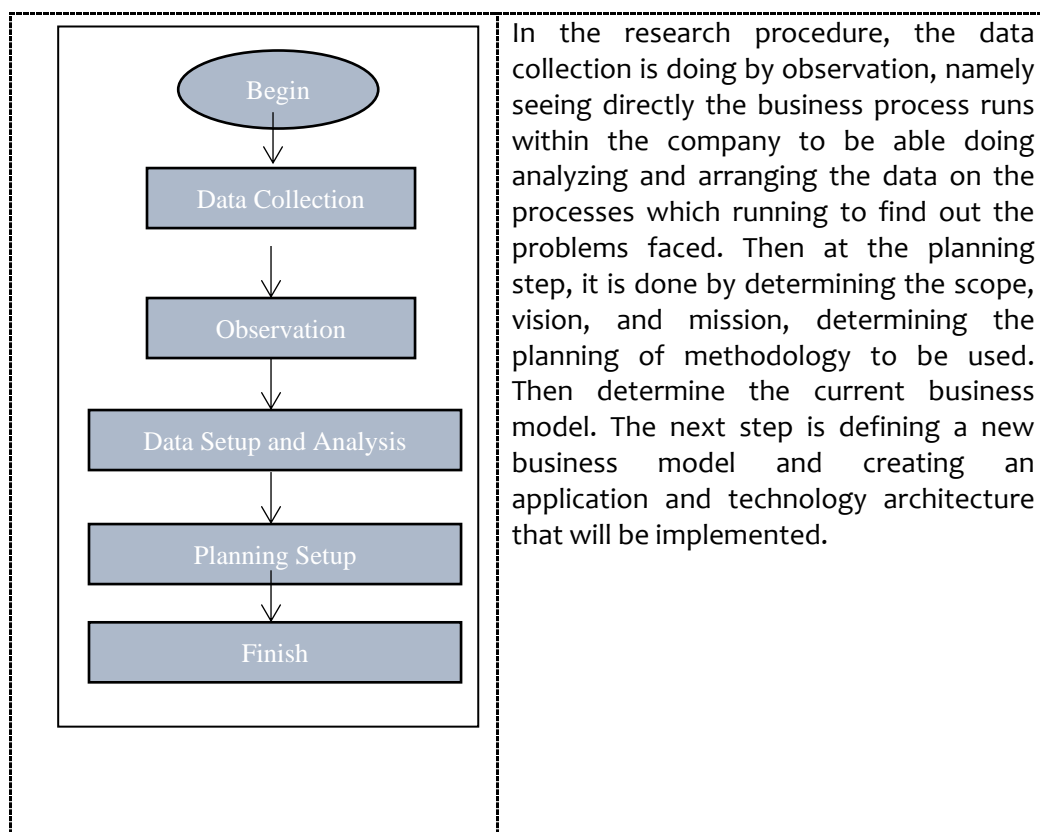

Picture 1 Cycle of CRM

The Identification of Problem *In the current CRM process, the most common problems encountered are lost or damage prospective customers lists in the form of paper, and the limitations of salesmen in accessing consumer data, so the new integrated model system is needed to make it easier and can help run business processes. This research has the following objectives are: Create an integrated system, Build an up-to-date CRM business model and Facilitate all parties involved in the CRM business process.*

2   COMPANY REVIEW

PT. CAPELLA DINAMIK NUSANTARA which is engaged in the distribution and sale of motorcycles Honda and after-sales service for the mainland Riau region and the Riau Islands. In this case, we will reduce the scope, where we will only discuss CRM activities that are running in PT. Capella Dinamik Nusantara. Where CRM itself can be said as an enterprise because there a business process occurs. The enterprise architecture model that will be developed based on the EAP methodology includes:

   a.   Defining data architecture.
   b.   Defining application architecture.
   c.   Defining technology architecture.
   d.   The Research Procedure

In the research procedure, the data collection is doing by observation, namely seeing directly the business process runs within the company to be able doing analyzing and arranging the data on the processes which running to find out the problems faced. Then at the planning step, it is done by determining the scope, vision, and mission, determining the planning of methodology to be used. Then determine the current business model. The next step is defining a new business model and creating an application and technology architecture that will be implemented.

Picture 2 Research Procedure

3   THE METHODOLOGY

The Methodological Approach uses the EAP (Enterprise Architecture Planning) methodology [6]. This methodology was chosen because in this methodology there is a

comparison between the old business model and the business model that will be developed and used in the future [7].

The stages of EAP development are:
  a. The initialization stage.
  b. The current modeling stage of business, systems, and technology.
  c. The planning stage include data architecture, applications, and technology.
  d. Defining application architecture.
 e. Implementation plan [8][9].
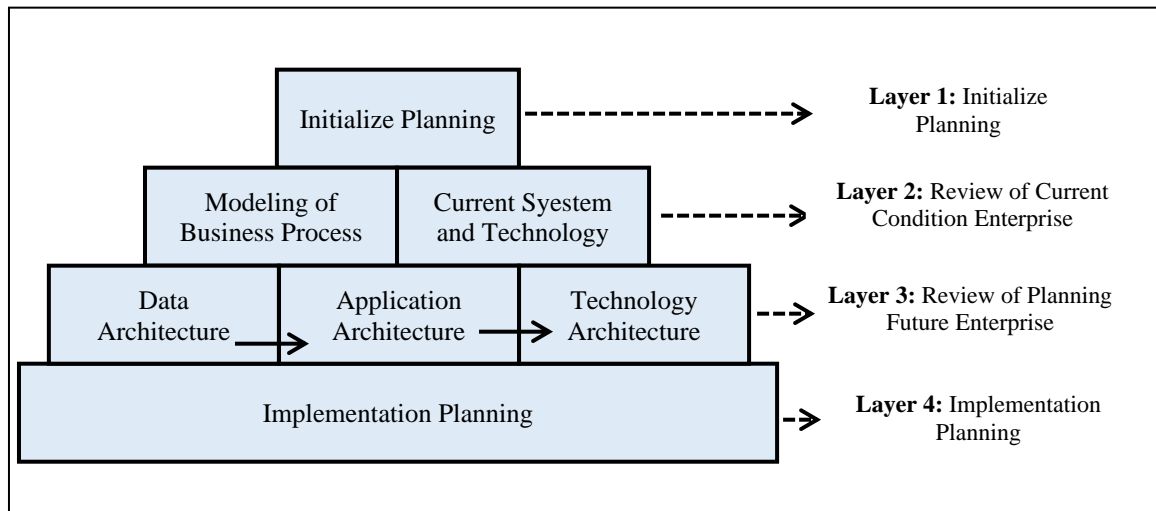
Picture 3 The Stages of EAP Development

4 RESULTS AND DISCUSSION

The current architecture is running in the CRM division at PT. CAPELLA DINAMIK NUSANTARA

4.1 Organizational Structure

The organizational structure affects the achievement of the company's vision and mission. With the organizational structure, it is seen that the relationship between people or employees in the business process and this relationship will help to achieve the company's vision and mission. The organizational structure shows the relationship between PIC CRM, Salesman, and PIC Database.
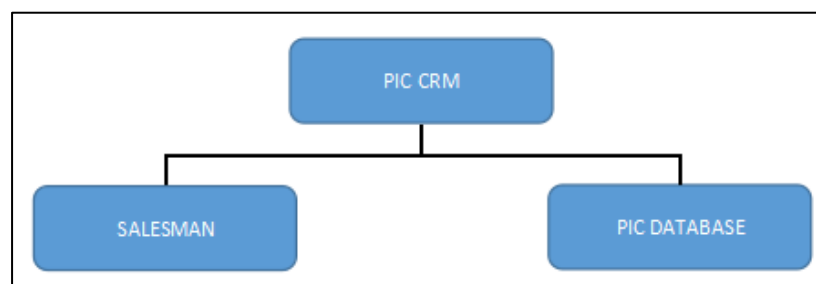

Picture 4 Organization Strukture

4.2   The Identification of Business Functions

To identify ongoing business functions, Value Chain analysis is used to generate values and business models. Although it can be applied successfully to some businesses, the value chain cannot represent a detailed business model.

In the value chain, it can be seen that in the business model there are supporting activities that support the running of CRM within the company, including IT Support which provides processing and maintenance of the portal server where the database is stored and helps access it. Sales management regulates all sales matters, both in pricing, profits, payments, stock availability, and so on [6].

While the main activity of CRM itself is the retrieval of data from databases that are already available for later operation, including analysis and pivoting of prospective customers, to then be followed up by salesmen, until finally creating a new sales transaction which then goes into the update process, and input into the database for further reuse in the future.
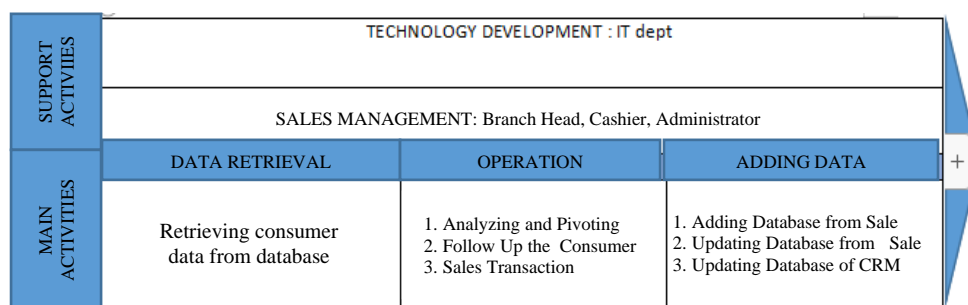
Picture 5 Identification of Business Functions

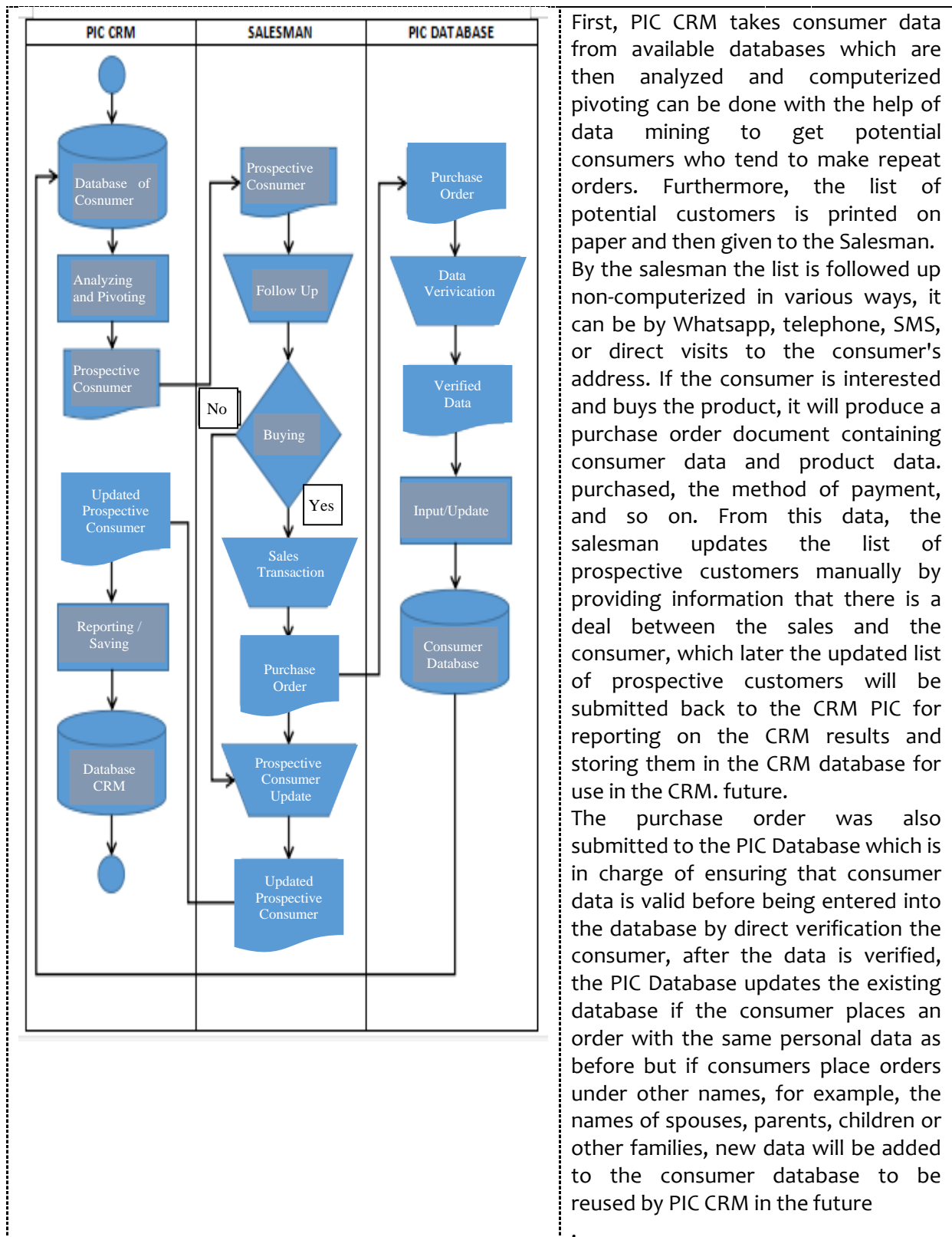### 4.3   Business Model of PT Capella Dinamik Nusantara

PT. Capella dinamik Nusantara is a company engaged in the distribution, sales, and after-sales service of motorcycles Honda. Distribution activities are PT. Capella dynamics of the archipelago as the main distributor entrusted by PT. AHM to distribute motorcycles Honda to other motorcycle dealers of Honda, both in the form of CV and PT for the mainland Riau region and the Riau Islands.

Sales activity which means PT. Capella dinamik Nusantara also sells its products directly to consumers, with more than 60 dealers throughout the Riau mainland and Riau Islands region enabling PT. Capella dynamics of the archipelago to be able to make Honda the market leader for the motorcycle market in the Riau region and the Riau Islands.

After-sales activities are also carried out to improve service and guarantee the quality of the products sold. Some of the after-sales services include official service workshop services where consumers can maintain their products and claim the applicable warranty, Sales of spare parts that allow consumers to buy spare parts needed for their Honda maintenance, besides that there are also sales of accessories and gear that can make it easier for consumers to find accessories to beautify Honda or looking for safety equipment for driving (riding gear).
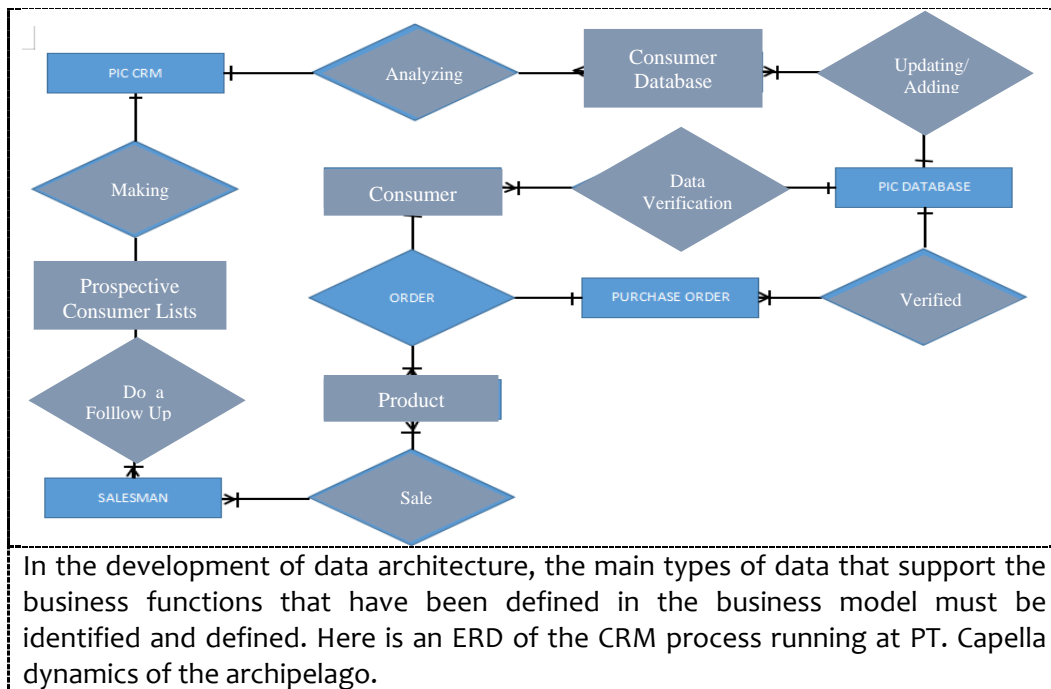
4.4 CRM Modeling

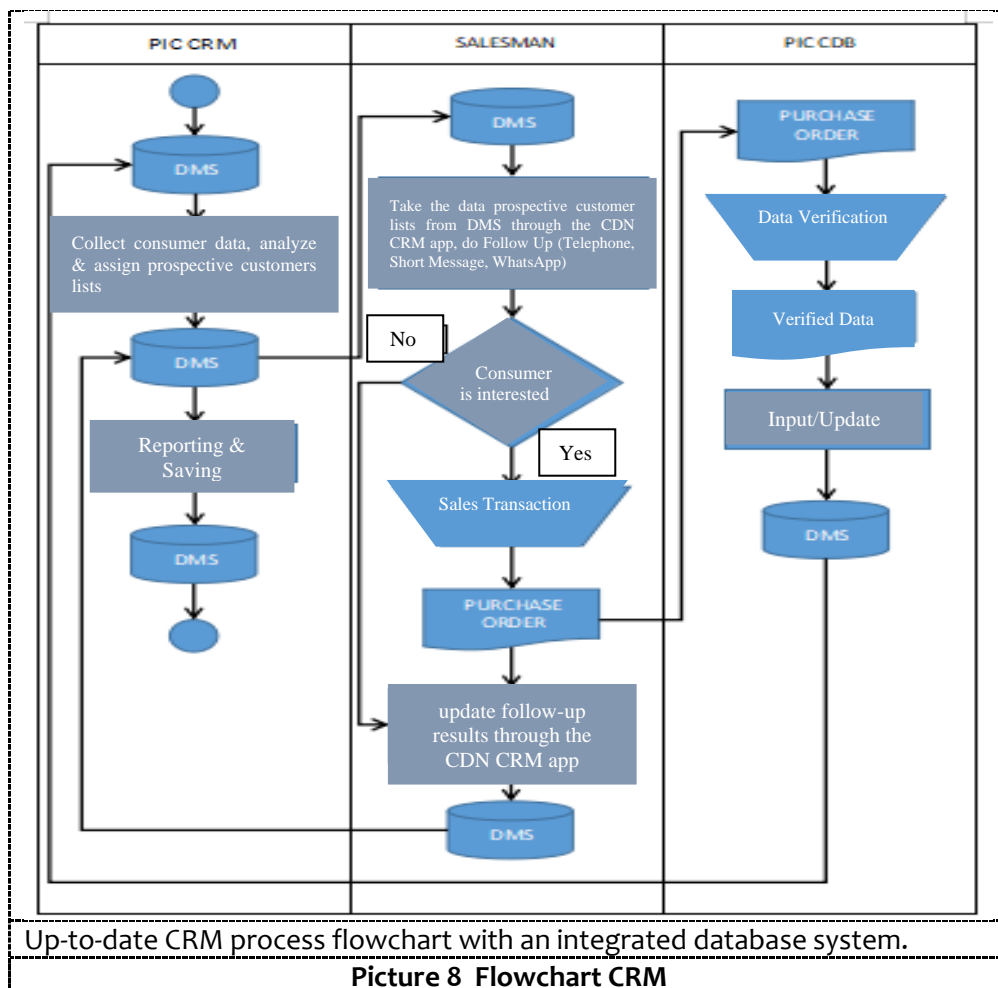The business modeling that takes place in CRM is depicted in a flowchart as shown below:

First, PIC CRM takes consumer data from available databases which are then analyzed and computerized pivoting can be done with the help of data mining to get potential consumers who tend to make repeat orders. Furthermore, the list of potential customers is printed on paper and then given to the Salesman. By the salesman the list is followed up non-computerized in various ways, it can be by Whatsapp, telephone, SMS, or direct visits to the consumer's address. If the consumer is interested and buys the product, it will produce a purchase order document containing consumer data and product data. purchased, the method of payment, and so on. From this data, the salesman updates the list of prospective customers manually by providing information that there is a deal between the sales and the consumer, which later the updated list of prospective customers will be submitted back to the CRM PIC for reporting on the CRM results and storing them in the CRM database for use in the CRM. future.

The purchase order was also submitted to the PIC Database which is in charge of ensuring that consumer data is valid before being entered into the database by direct verification the consumer, after the data is verified, the PIC Database updates the existing database if the consumer places an order with the same personal data as before but if consumers place orders under other names, for example, the names of spouses, parents, children or other families, new data will be added to the consumer database to be reused by PIC CRM in the future
.

Picture 6 Business Modeling

4.5   Data Architecture

In the development of data architecture, the main types of data that support the business functions that have been defined in the business model must be identified and defined. Here is an ERD of the CRM process running at PT. Capella dynamics of the archipelago.

Picture 7 Data Architecture

4.6   CRM Flowchart

Up-to-date CRM process flowchart with an integrated database system.

Picture 8 Flowchart CRM

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4.7   Application Architecture
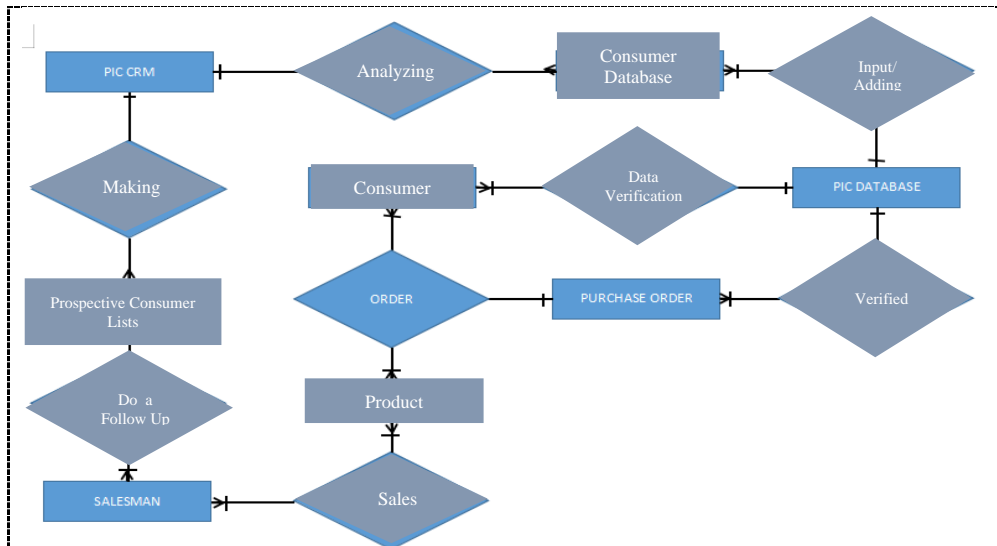
The process of determining what applications help manage and run ongoing business processes. The following is a list of candidates for the CRM application of PT. Capella dynamics of the archipelago.

Picture 9 Application Architecture Process

4.8   Technological Architecture
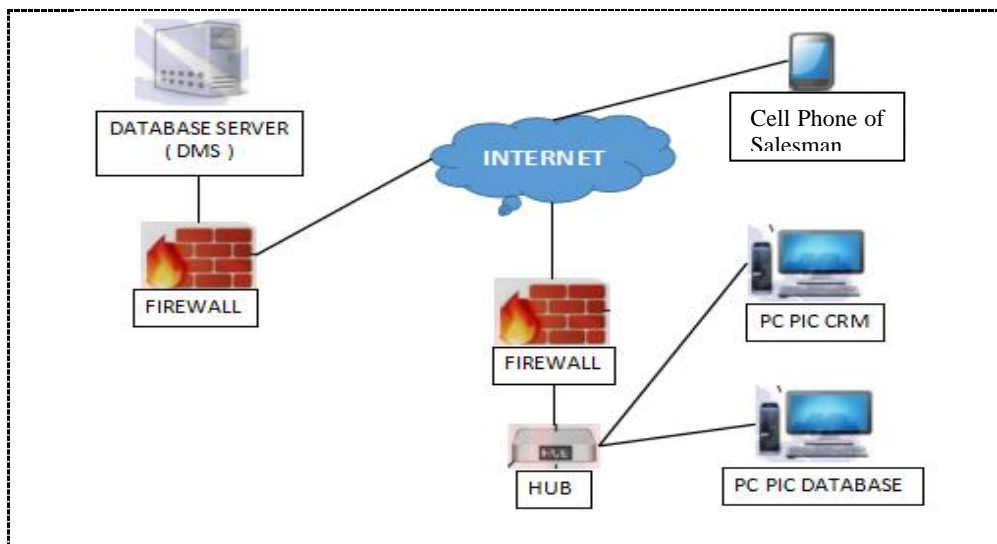
The scope of the technology architecture is to define the main technologies needed to provide a supportive environment for the application and the data to be managed.

The purpose of this technology architecture phase is to describe how to manage this phase as part of the overall enterprise architecture.

The current technology architecture is still not able to support one-stop service activities optimally. For this reason, a proposal for the development of a technology architecture is made after discussions as shown in the picture above.

Picture 10 Technology Architecture Process

4.9   The Implementation Plan

Table 1 Implementation Plan

NO.	Application	Month Start to	Month Finish to	Duration (Month)	Description
1.	Create the Database (DMS)	1	12	12	Building Database Server (4 Months) Trials (1 Month) Socialization to all branches and training (4 Months)
2.	Create the APP CDN CRM that is android based	13	21	8	Create the Application (3 Months) Publish to playstore (1 Month) Socialization to all branches and training (4 Months)
3.	Build PC Network PIC CRM & PIC CDB	13	14	1	Network Installation (1 Month)
4.	Overall trials and synchronization	22	4	26	Syncronize the database and trial to all branches (4 Months)

This is the implementation plan

The purpose of the implementation plan is to formulate and prepare plans to implement the architecture that has been created. In this case, the data architecture, application architecture, and technology architecture. The implementation plan is the final step that must be taken in designing the EAP.

5   CONCLUSIONS

The updated architectural design allows salesmen to pull lists of potential customers anywhere and anytime via smartphones and get more detailed consumer data such as an address, age, occupation, and previous vehicle which makes it easier for salesmen to determine more targeted promos.

This design also makes the database integrated for each individual who runs his business processes to minimize the risk of data mismatch, and the data obtained is more actual. Every individual who runs the business process does not need to meet in person to run the business process because the database is online. The implementation itself takes about 26 months or 2 years and 2 months. It takes an IT TEAM who is an expert in their field and teaching staff to be able to socialize the application to all branches of the company.

If this design plan runs smoothly, the CRM business process will become easier and simpler so that every business person has more time to develop ideas and analyze the existing database. This allows increased sales at PT. Capella Dinamik Nusantara by utilizing existing data also makes the relationship between salesmen and consumers, as well as companies and consumers, become more intimate so that consumers become more satisfied with the service and become more loyal. With the better CRM business processes that are run, it is expected to be able to make products Honda sold and distributed by PT. Capella Dinamik Nusantara continues to lead the motorcycle market for the Riau region and the Riau Archipelago.

REFERENCES

[1] B. Rianto, L. Lidya, and G. Nurcahyo, "Pemodelan Arsitektur Enterprise MenRianto, B., Lidya, L., & Nurcahyo, G. (2016). Pemodelan Arsitektur Enterprise Menggunakan Metode Togaf ADM Studi Kasus Dinas Kesehatan Kabupaten Indragiri Hilir. Jurnal Komputer Terapan, 2(1), 55–68.ggunakan Metode Togaf," *J. Komput. Terap.*, vol. 2, no. 1, pp. 55–68, 2016.

[2] M. Rivandi, "Pengaruh Enterprise Risk Management Disclosure Dan Corporate Governance Terhadap Nilai Perusahaan," *J. Benefita*, vol. 3, no. 2, p. 137, 2018, doi: 10.22216/jbe.v3i2.3113.

[3] M. H. Setyobakti, "IDENTIFICATION OF BUSINESS ENTERPRISES BUMDES BASED ON SOCIAL AND ECONOMIC ASPECT (Case Study at BUMDes Ijen Lestari Tamansari Village District of Banyuwangi)," *JEMA J. Ilm. Bid. Akunt. dan Manaj.*, vol. 14, no. 02, p. 101, 2017, doi: 10.31106/jema.v14i02.592.

[4] Supriyono, M. Arifin, and F. Nugraha, "Implementasi CRM Berbasis E-Commerce Pada Rumah Makan Ulam Sari Kudus," *J. SIMETRIS*, vol. 11, no. 1, pp. 333–340, 2020.

[5] R. R. Ramadina, T. H. Pudjiantoro, and I. Santikarama, "Pembangunan Sistem Customer Relationship Management (CRM) Menggunakan Metode Asosiasi Algoritma Apriori," *J. Inform. dan Rekayasa Perangkat Lunak*, vol. 2, no. 2, p. 78, 2020, doi: 10.36499/jinrpl.v2i2.3539.

[6] I. Irmal, E. Gustiarani, and D. Sunarsi, "Pengaruh E-Marketing Dan E-Crm Terhadap E-Loyalty Pengunjung Situs Website Www.Cangkirbogor.Com," *J. Ekon. Ef.*, vol. 2, no. 2, pp. 326–332, 2020, doi: 10.32493/jee.v2i2.4175.

[7] V. Indra and L. P. Dewi, "Enterprise Architecture Pada CV . Grande Zangrandi Dengan Metode Enterprise Architecture Planning (EAP)," no. 121, 2018.

[8] M. Marini and S. Sarwindah, "Model Arsitektur Enterprise Menggunakan Enterprise Architecture Planning (Eap)," *JSiI (Jurnal Sist. Informasi)*, vol. 6, no. 2, p. 18, 2019, doi: 10.30656/jsii.v6i2.1556.

[9] A. Habibi and M. Iqbal, "Jurnal Terapan Manajemen dan Bisnis (ISLAMIC SOCIAL REPORTING AND CORPORATE SOCIAL RESPONSIBILITY Jurnal Terapan Manajemen dan Bisnis Volume 4 Number 1 March 2018 . Page 115-121," vol. 4, no. 1, pp. 115–121, 2018.