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Implementation of Artificial Intelligence from The Perspective of Activity Theory to Determine Contradictions in The Sales Process with The Etom Framework

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Abstract— This research is a continuation of previous research that discusses the relationship between the Marketing process based on the General Procedure of the Sales or Marketing process with Activity Theory (AT) for the development of Artificial Intelligence (AI). The previous discussion requires a deeper understanding of contradictions in business process frameworks. In this case, the eTOm (enhanced Telecom Operational Map) Business Framework is used, especially in telecommunication companies. Thus, quantitative research will be obtained so that there is the potential for contradictions to arise from the socio-cultural side based on AT.

AT in the design methodology is used on a collaborative scale. The activity system is intended to systematically understand the eTOM business framework, which has been built historically and relates to each other in its design towards the use of AI technology. By using AT as a theoretical framework, it's hoped that it will offer a wealthy holistic know-how of ways humans collaborate, i.e., perform useful collective activities, with the assistance of state-of-the-art tools, in this case, AI, withinside the complicated dynamic surroundings of contemporary-day organizations.

Keywords— Activity Theory, Marketing, eTOm (Enhanced Telecom Operational Map), AI.

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I. INTRODUCTION

Economic fluctuations at this time have made various parties, especially in various companies, experience a paradigm shift to make significant changes immediately. The development of digital technology is one part that affects changes in fluctuations apart from other sectors [27]. Today's technology can synergize various domains, products, and processes in service and accelerate with artificial intelligence (AI) systems. The current demands related to these fluctuations require forecasting capabilities in terms of processes, skill capabilities, to what technology will be used, so the speed of adjusting changes from existing plans is needed as one of the achievements of the organization's goals in developing product and process synergies in an organization. However, in this case, the documentation system and its hierarchy related to company knowledge influence adaptability and consistency in running and achieving within the company. The company's ability to dig deeper into organizational knowledge becomes very important. Limited human capabilities choose to assist AI-based management by applying AI know-how in diverse approaches to assist in extracting organizational knowledge.; this is part of the solution. The ability of AI to become an automated process within an organization to find hidden and unexpected information in the "Big Data" space and analyze data quickly to find solutions to very complex problems, combined in a continuous story unit, and often considered "non-intuitive." For the development of a modern management system, it has the characteristics of independent learning and a very "agile" process by synergizing with modern and competitive technological maturity so that it quickly adapts to increasing adjustments to change[23] . Various industries, including the telecommunications industry, are undergoing a major transformation due to the rapid era, with increasingly complex problems. It is time to change to meet the challenges[1.23].

For agencies engaged in the telecommunications sector, Telecommunication Customer Service Providers (T-CSP), one of the reference models that can be used is eTOM (enhanced

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Telecom Operation Map). In general, for telecommunications companies that connect network elements (resources) with customers, there is a process known as OSS (Operational Support System) and BSS (Business Support System). Processes that are within the scope of OSS and BSS, then through an organization TM-Forum (Tele Management Forum), a standardized business process framework is made known as eTOM (Enhanced Tele Operation Management). The eTOM model serves as a reference for categorizing all business activities. Service providers[2]. One of the eTOM domain names is a telecommunications company framework, for the Sales process, so it is needed by telecommunications companies for buyer standards, convenience, and automation systems[20]. then AI management is needed to implement the system. One of the corporate sectors that have undergone a massive transformation in developing its management system is a company engaged in the telecommunications industry or Communication Services providers (CSPs). This is due to the market has exceeded saturation, customer expectations are very dynamic[24], related to operational costs that are very agile, and management systems that are still oriented to corrective rather than preventive so that they are not effective and efficient, connectivity that grows exponentially[2]. With conditions in the telecommunications environment that change very quickly, real-time processing is needed, control abnormal events in real-time and early warning of potential events that are not by the process[3]. AI deserves to be considered for its use. Sufficient basis in this case, various efforts to take advantage of this are increasingly being carried out in improving the marketing process in order to achieve the target[22]. One of the potential solutions for business transformation, especially for telecommunication companies, is eTOM[25-26]. Development of operational support systems, especially for networks built by NGOSS (New Generation operation system and software) with an eTOM approach that allows for AI-based management[21].

The rapid development of technology today, especially in the industrial era 4.0 has not been matched by advances in the theory of human interaction with the system, so developments in the digital transformation process are currently relatively slow[11]. In addition, various organizations have not succeeded in connecting technology with perspectives in the development of artificial intelligence, so a broad theory is needed relating to structure and development in the context of supporting business processes[12]. Many concerns have been raised recently. Recently the lack of a unifying theoretical perspective in Human-Computer Interaction, particularly in adopting AI in organizational structures. With an eTOM-based business framework, organizations, especially telecommunications, invest a lot of effort in defining processes to operational models[8]. Besides the importance of linking human-human interactions, humans and systems are part of a system that has high complexity and requires in-depth and comprehensive analysis. The importance of understanding human interaction and technology with processes that focus on system activities makes Activity Theory needed as a framework that describes how people interact with and relate to technology. In addition, AT theory is important in designing interactions and analyzing systems and their activities which are mediated by technology that is suitable for their purpose[13]. This study focuses on telecommunications companies that implement eTOM[9], which is mediated to find potential developments towards AI by identifying several contradictions that affect the business process of the eTOM framework by linking the relationship between the Subject and the artifact components mediated from activity theory in its Framework.

Through the AT approach, this research aims to answer the questions:

" How to determine contradictions with AT in using AI technology in the Marketing process in the eTOM business framework."

This research is likely to make several contributions. The first contribution is that there is a different points of view when it comes to developing systems in the sales and marketing process following the eTOM business framework, where it is possible to develop some technical things that are unusual or unusual and some changes in the work process. Thus, the system in the Marketing process with AI will form a new marketing strategy and communication process and have a significant impact on the Contradiction between perceptions and expectations in technology performance. The second contribution is theoretical contributions through the conceptual implementation of AT in the context of domain marketing in the eTOM framework. Furthermore, to further analyze the socio-cultural aspects of adopting and implementing AI, providing a different perspective in carrying out roles and work culture between marketing actors and providing AI-based marketing solutions. Through the concept of Contradiction, AT is one of the things that stands out in a more practical view of knowledge in marketing. This research can also describe the contradictions of AI capabilities and the real conditions in implementing conventional marketing processes so that technological transformations and changes become strengths for assimilation.

Research Objectives: understand AT as it relates to the eTOM business framework and integrate an understanding of AI. The goal is Modeling integration towards an AI approach.

II. Theoretical Foundation

A. Business Process eTOM

For agencies engaged in the telecommunications sector, Telecommunication Customer Service Providers (T-CSP), one of the reference models that can be used is eTOM (enhanced Telecom Operation Map). In general, for telecommunications companies that connect network elements (resources) with customers, there is a process known as OSS (Operational Support System) and BSS (Business Support System). Processes that are within the scope of OSS and BSS then through an organization TM-Forum (Tele Management Forum) a standardized business process framework is made known as eTOM (Enhanced Tele Operation Management), eTOM is a framework of business processes issued by TM Forum where TM Forum is the international association for

telecommunications operations and systems. It has approximately 850 member companies in 180 countries covering the most important players in the entire telecommunications value chain. eTOM is a frame of reference that categorizes business processes used by service providers. It extends the TOM model to a complete enterprise framework and addresses the environmental impact of e-business and business drivers.

eTOM can be considered a blueprint for the standardization of Operational Support System (OSS) and Business Support System (BSS) business processes. The eTOM model is a reference for categorizing all service provider business activities. It categorizes them into different levels of detail according to their significance and priority for the business. The eTOM structure establishes the business language and basis for the development and integration of BSS and OSS. eTOM provides a reference point and common language for service provider internal process (re)engineering needs, partnerships, alliances, and general working agreements with other providers. For suppliers, the eTOM framework outlines the potential limitations of software components and the required functions, inputs, and outputs that the product needs to support using the service provider's common language. The eTOM framework focuses on managing operations, services, and interactions between various components with a series of block diagrams. See the picture, for example in telecommunication company A, which is a telecommunication company in terms of running the WFM (Workforce Management) process section in the position of the Resource Domain scope associated with the operations vertically on the assurance and fulfillment process.

The eTOM framework defines three principal block diagrams:

- Operation (OPS)
- Strategy, Infrastructure, and Products (SIP)
- Enterprise Management (EM)

At the heart of the Operations area (OPS) is the Fulfillment, Assurance, and Billing (FAB) model, along with Operation Support & Readiness (OSR), which supports the FAB. FAB operations are directly related to customer service, while OSR ensures that the operational environment is in place for FAB to succeed. Seeing the flexibility of the business process framework provided by eTOM, this Framework can be used as a blueprint for OSS in carrying out current business processes. As well as the development of business processes that will be carried out where the construction of the eTOM framework integrates one of which is the integration between OSS and BSS into a different process definition.

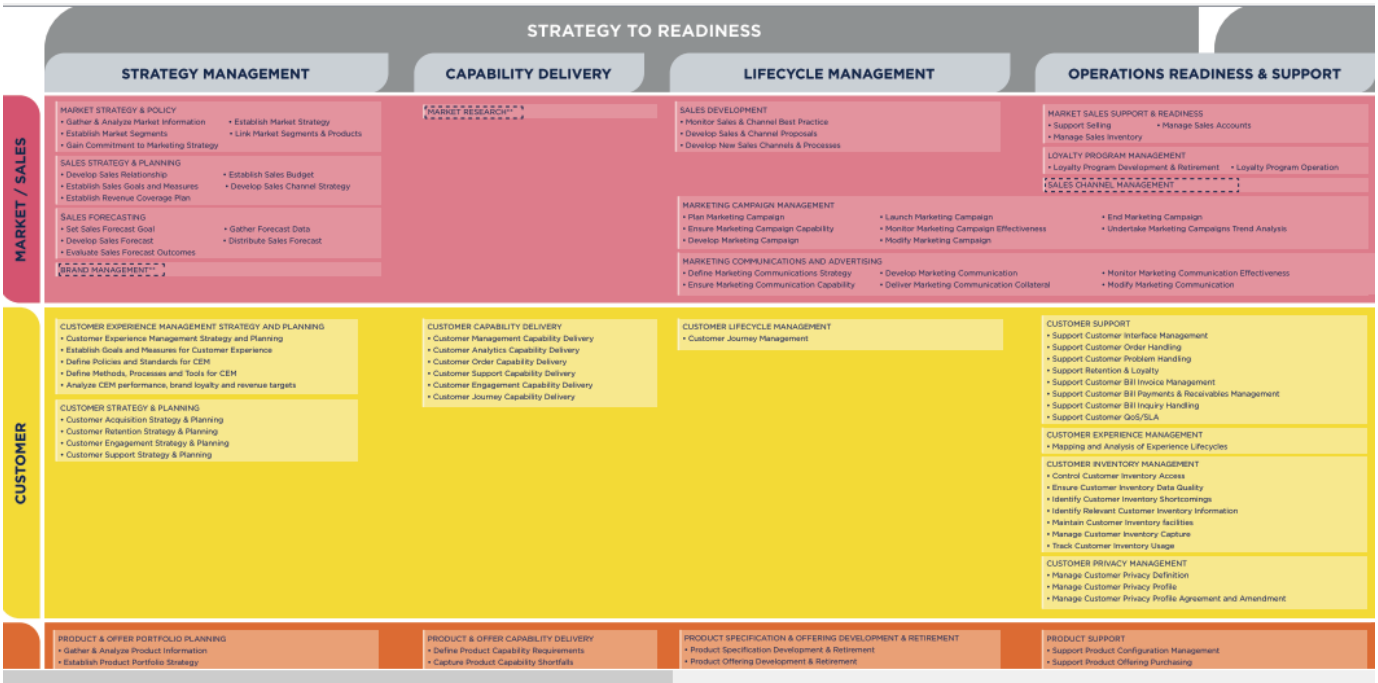

Fig 1 Business Process Framework Level 1 eTOM V.22.0 ((ETOM V22 TM Forum, 2022)

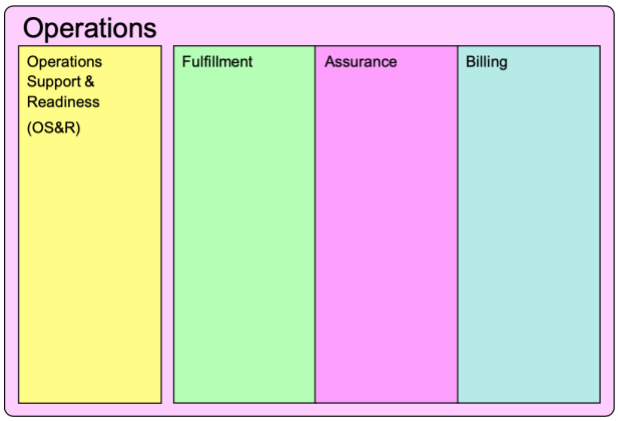

Fig 2. Block diagram Level 1 Operation (OPS)

The eTOM framework also pays attention to the structural entity of the process functional elements in the horizontal section, Figure 2, where the process functional elements from within the horizontal scope consist of:

- Market/Sales, Product, and Customer
  Market/Sales supports sales and marketing activities to gain business from customers and potential customers. The product deals with the product life cycle and information related to the product life cycle. Customers are individuals or organizations that obtain products from a company.
- services,
  consists of information used to manage the definition, development, and operational aspects of the services provided
- Resources (Application, Computing, and Network),
  consists of information used to manage the definition, development, and operational aspects of networks, as well as information resources and applications
- Suppliers/Partners
- Enterprise,
  Represents the information needed to support the business as a whole.

Seeing and paying more attention to the eTOM business process framework where there is an initiative for the integration process between OSS and BSS, but in terms of its relation to the previous OSS framework, the OSS perspective on the eTOM framework can be represented more specifically in the scope of OPS with process functions in the scope of services and resources.

The fulfillment process handles the product delivery process, with various product segments, from the mobile segment to the enterprise segment. In the early stages, the fulfillment process regulates where products not yet available to customers become products that can be used by customers and product activities to customers. For advanced stages in the fulfillment process, one of which is related to product service modification. In the process of product activity or in the modification of products that have been delivered, there is a transition or process handling handled by WFM.

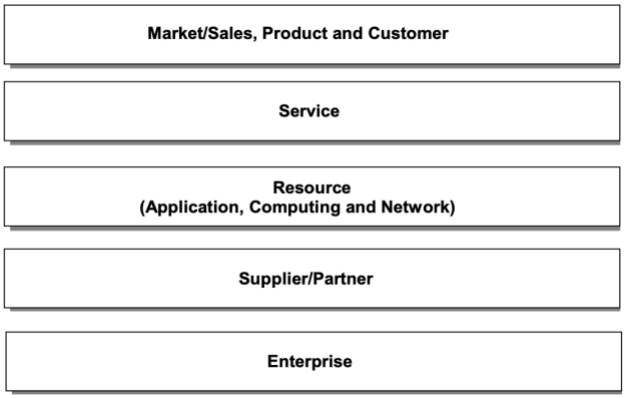

Fig 3. The Structure of The Functional Elements of The Process

The assurance process takes care of ensuring that products that have been delivered to customers are running smoothly. To ensure products can run well, assurance must handle problems, both individual problems from customers and problems that are or are more prominent, so that they can have an impact on or are related to individual problems or on an individual scale from the customer.

In the fulfillment and assurance process in the WFM section, communication between processes is facilitated in the form of tickets where the tickets made by fulfillment and assurance must be completed in the WFM section. Further handling processes at WFM may or may not involve labor or dispatchers. However, tickets must still be completed for handling or following up on the entire process, both in fulfillment and assurance.

The handling of other processes, from fulfillment and assurance to ticket communication, is currently PT.A, using an outsourced application platform. The application platform used in general handles processes related to ticket management and Workforce Management (WFM). This application platform will then be analyzed in terms of business processes about the system transformation process, where the system to be created or developed adopts an application architecture based on microservices.

In the eTOM Framework business process, especially in the current era, the marketing function has an important meaning between the company's growth and the development of its business processes (Saputra et al., 2019). Marketing functions within the eTOM framework are included in the Operational domain, especially the Market Sales Domain. Marketing is concerned with total communication with customers and markets. It develops and manages communications to existing markets, prospects, and customers. Communication involves messages and media. In eTOM especially Level 2 in Market/Sales Management[7].

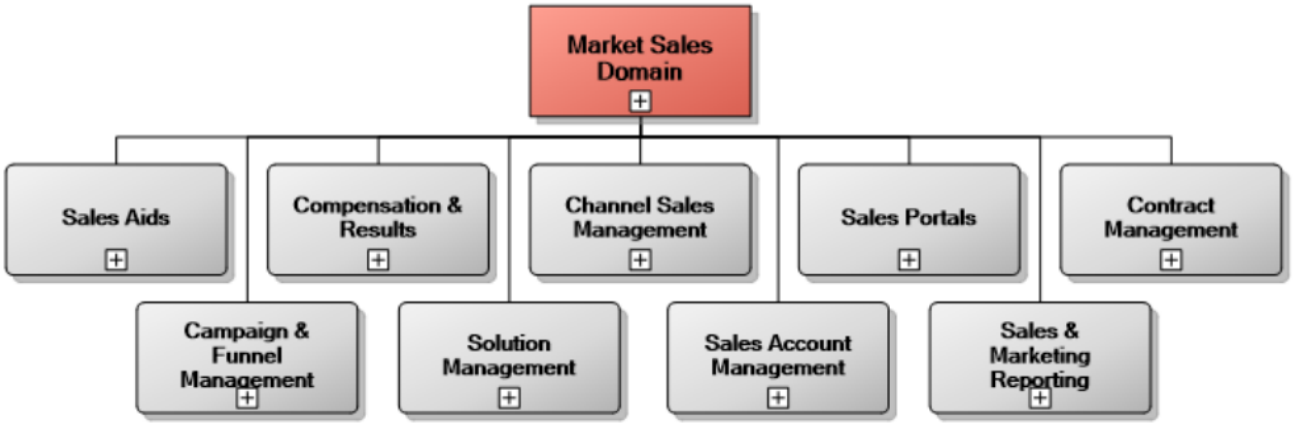

Fig 4. Image of Sales/Marketing Management eTOM version 22.

The eTOM business process in the Market Sales Domain Domain, mainly in Market/sales Management, consists of several sub-domains, including sales aids. The previous journal (Keegan et al., 2022) also discussed how the implementation and adoption of the B2B marketing process with the interview method of related parties were carried out, so in this study, an approach was carried out by analyzing the substance of the work using eTOM[16]. Thus, a needs analysis will be carried out following current conditions. If the analysis is explained, make a problem-solving approach with AI to help the marketing process, especially using the ETOM framework.

3.2 Sales Aids

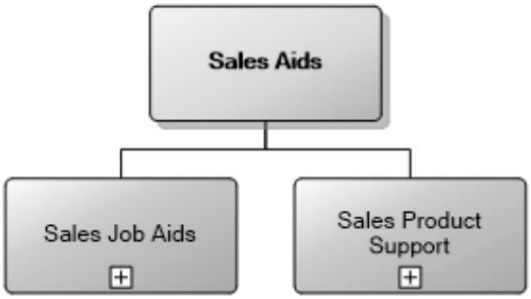

Fig 5. Etom Sales Aid Level 2

B. Activity Theory in Business Processes Framework

AT is "a philosophical and cross-disciplinary framework for studying various forms of human activity as a process." Both individual and social levels are interrelated at the same time[17]. The theory of AT was introduced by a Russian psychologist named Vygotsky in the early 1920s in the 1930s[29]. The first generation of Vygotsky created the idea called "Mediation" Vygotsky (1978) introduced a more crystallized concept with the idea that was directly connected to Stimulus (S), and Response is traversed by complex[5]; the next idea relates to cultural media building a triangle that connects subjects, objects and mediating artifacts, The limitations of the first generation are related to the unit of analysis focused on the individual second generation by (Leont & Laureate, 1981) rather the difference between individual Action and "collective activity"[18]. The concept of activity takes the paradigm a big step forward as it changes the focus on the complex interrelationships between subjects. The third generation (Engeström, 1987) of activity theory develops a conceptual framework for understanding dialogue, multiple perspectives, and the network system of interacting activities[4]. By developing "network activities." In this research model, the basic model is extended to include at least two interacting activity systems. Objects move from an unreflected initial state, situationally 'raw material' (object 1;) to collective objects constructed by the activity system (object 2) and to co-constructed or co-constructed objects (object 3);. The object of activity is a moving target, and it cannot be reduced to a conscious short-term goal.

AT theory was introduced by a Russian psychologist named Vygotsky around 1920 or early 1930 (Vygotsky, 1978), the first generation of Vygotsky created the idea called "Mediation" Vygotsky (1978) introduced a more crystallized concept with the idea of directly linking Stimulus (S) and Response which is traversed in a complex manner (figure 1A), the next idea is related to cultural media which builds a triangle that connects the subject, object and artifact mediation[29]. The second generation by (Leont'ev, 1981) places more emphasis on the difference between individual actions and "collective activity". [18]. The activity concept takes the paradigm a significant step forward, changing the focus on the complex interrelationships between individual subjects.

AT was also introduced at international meetings in the early 1980s through the publication of the English translation of Leontiev's Activity, Consciousness, and Personality (1978) and a collection of papers by Leontiev and other activity theorists edited by James Wertsch with an excellent introduction by Wertsch (1981) Until 1990, AT became more popular with

Vygotsky, with a more substantial approach and had an impact on psychologist and cognitive science research, education and computer support for collaborative learning, so that it also had an impact on contributing to awareness to build ideas and approaches with more potential. One of those who play a role is Yrjo Engestrom through publications and, presentations, news to the world. By describing AT more deeply through how to take Action on the latest technology, it is hoped that it will provide a thorough understanding of AT through a systematic description following its principles, history, relationships with other approaches, and applications in interaction design. Interaction design is a process managed within the constraints of existing resources to create, shape, and decide on all user-oriented qualities (structural, functional, ethical, and aesthetic) of digital artifacts for one or many clients.

In an organization, especially a telecommunications company, process models related to information, in this case, system development, enterprise architecture or business architecture, and business process management with re-engineering, are essential in supporting activities in understanding and achieving targets and goals. In describing the process model, one of the essential structures in an organization is a socio-technical activity so that it has a point of view to improve process modeling within the organization (business process improvement[19]. In the modeling process, one of the characteristics of socio-technical activity is cooperative and creative knowledge-based activities in a work environment within an organization, which combines various elements such as a model framework, language, tools, concepts, guidelines, and various types of stakeholders as well as internal parties as partners. Work. Thus, we need a theory or Framework with practical objectives and research with a set of instruments systemically linking data and process analysis in modeling activities. The Framework must be relevant to be implemented by various parties with the required local strength situation, able to build the character of thought and improve work professionalism in a long-term perspective. One of the known theories is AT, which provides an attractive basic theory as a framework for understanding the process model based on a socio-technical activity system.

The introduction of activity theory to the field of HCI and interaction design contributes to recognizing the importance of understanding technology in the context of meaningful human activity and the need for conceptual tools that support such understanding. In addition, the adoption of the approach resulted in the development of various analytical tools and concrete interactive applications and systems informed by activity theory. The conceptual framework of activity theory can be presented schematically as consisting of two main ideas and five basic principles[14]. The points of thought are (a) the unity and inseparability between consciousness and activity, which means that the human mind arises and develops as part of human interaction with the objective world. The social nature of human activity, means that humans do not interact with the world alone; the nature of the interaction is determined by culture and society.

These two ideas can be broken down into the following set of fundamental principles of activity theory:

Object-oriented. All human activity is directed at its object (not necessarily a physical object), which motivates and directs activity. Object analysis is an absolute requirement for understanding human activity, individually and collectively.

Activity hierarchy structure. According to Leontiev (1978), activities are organized into hierarchical levels of activities, actions, and operations. An activity, motivated by a need, is carried out as a sequence of actions, that is, a conscious, goal-directed process. In turn, actions are implemented through lower-level, routine processes called operations (Fig. 1). Actions can be poly-motivated and subordinated to several higher-level motives and goals simultaneously.

Internalization/externalization: Each activity includes internal and external components. There is a mutual transformation between them. In the process of internalization, external components become internal. The reverse process is called externalization.

Mediation. To achieve meaningful goals, people use various mediation artifacts or tools that reflect the previous experience of others. Tools shape human activity, enabling the accumulation and transmission of social knowledge.

Development. Activities undergo a continuous developmental transformation. The analysis of such transformations is very important for understanding human activity.

So far, the theoretical perspective of activity in HCI research has mainly been concerned with tool mediation, that is, with how individuals and groups adapt technology, how individual and collective activities are transformed as a result of tool appropriation, and how interactive tools should be designed to have a positive impact on activities. humans[13].

As noted below, the conceptual framework of activity theory can be usefully applied to understanding and supporting services. At the same time, such applications challenge the theoretical perspective of activities in HCI and require further elaboration of the concepts and methods. The essential category of this approach is activity, understood as a purposeful, social, mediated, hierarchically organized, and constantly evolving interaction between humans and the world. This is usually represented as an "S <-> O" interaction (i.e., "Subject-Object").

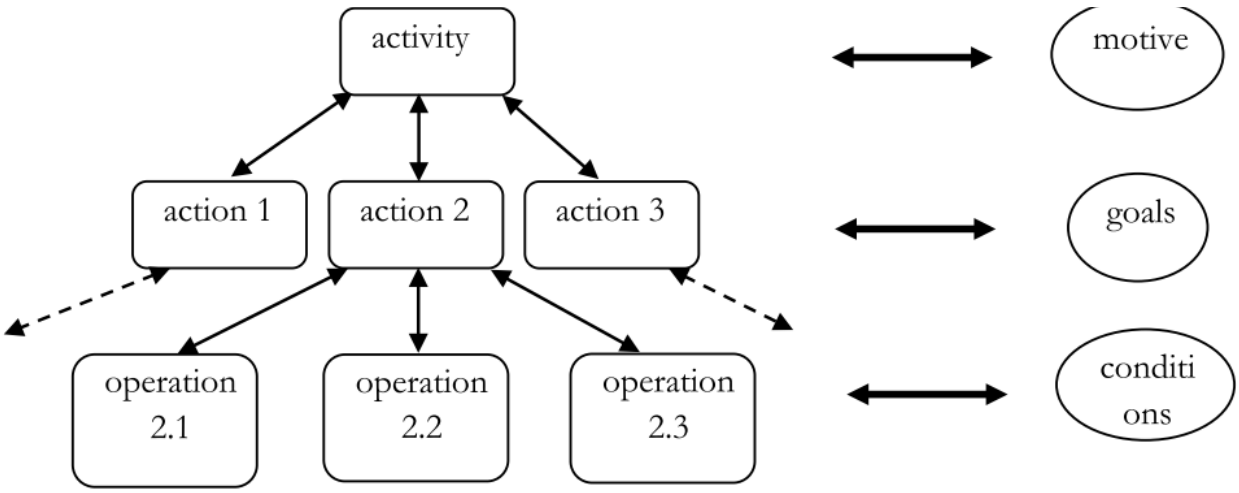

Fig 6. Hierarchical Struct Drawing of Human Activity

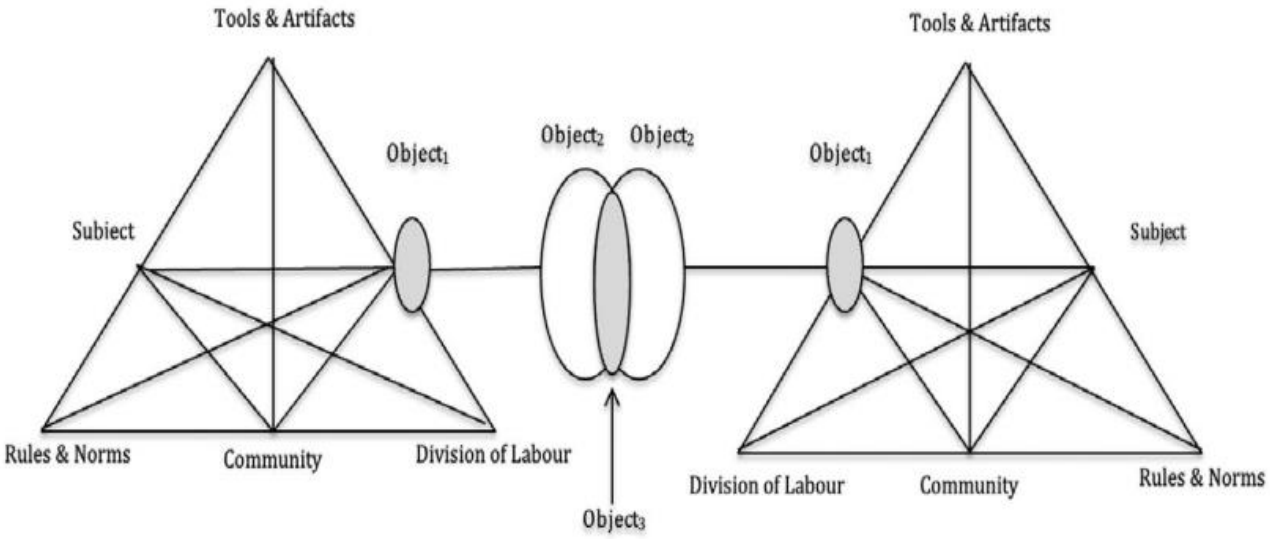

Fig 7. Picture of Interacting Activity System (Engestrom, 1999)

Table 1 Basic Principles of AT

No.	Description	Relevance to Research
1.	Object Orientedness	With the eTOM business framework, the scope of sales/management is substantially to provide a direction for business process activities in that scope, which is perfectly service-oriented by linking components within the organization. Sales activities that understand in detail what customers expect in designing according to the business framework. The goal is to find strategies to support internal

No.	Description	Relevance to Research
		and external customers to achieve their goals by intensifying the potential to make these achievements successful. Another thing is to understand in detail the purpose or object of the customer to be able to define the scope.
2.	**Activity hierarchy structure.**	With the business process framework, eTOM business process mapping is directed at understanding the structure of customer activities in order to achieve a successful service design. This can be described as the role of each in the organization. Determining the highest motivation and goals at the strategic level is essential. So that collectively determine whether a service should be requested or not to develop a more specific configuration and clear objectives so that the context of the activity can generate value. Thus, all parties can synergize to produce value or outcomes through their resources. In this case, how the development of technology to achieve the benefits of AI must be felt by customers and all parties.
3.	Mediation	Service design based on the eTOM business framework to develop interactive technology using AI requires complex configurations. Interactive and interactive artifacts are needed and must be analyzed, considered, and always evaluated so that they can be used sustainably; they can focus on more complex media involving various elements. AT.
4.	Internalization/ Externalization**.**	The eTOM business framework is a tool developed for services. The sales/marketing management domain is part of communicating with customers. The need for a system that can build communication to achieve a balance, where the sales team can manage communication that is efficient and not distracting. From the perspective of AT, dynamic distribution through individual collectives requires a complex system both internally and externally.
5.	Contradiction: the source of change and development, and not the same as problems or conflicts. Contradiction has historically accumulated activity within and between systems that generate challenges and conflicts but is also innovative.	The existing marketing process will experience changes and developments that come from contradictions through a system of activities that are built as momentum for change.

No.	Description	Relevance to Research
6.	Continuous development	Services and activities evolve, and developmental transformations occur on several levels simultaneously.

III. Research Design

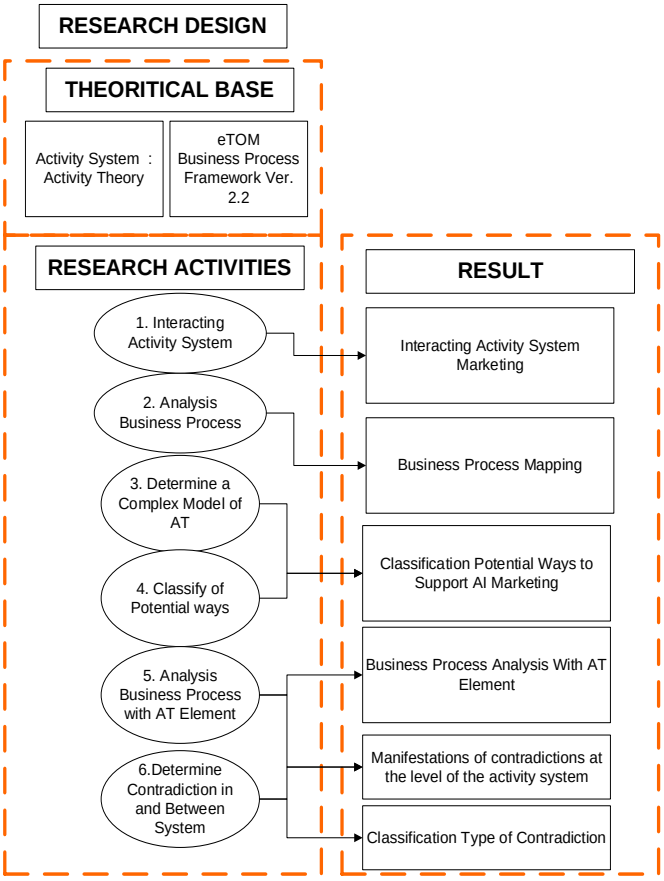

Fig 8. AI Marketing Design Research Drawings with eTOM

The purpose of this study is to propose a theory of Activity Theory and an eTOM business process framework that has practically been widely used to implement a development model of an organization based on socio-technical entities in the hope of identifying the need to design technology within that Framework.

The main activities of the research are: 1) how to determine AT in its supporting elements; 2). Mapping the eTOM-based business process framework version 2.2 within the scope of the Sales/(Marketing Domain; 3). Define the complex model of challenging AT with the Marketing Business Process so that it is described as a third object that can describe the subsequent case, the internal relationship that is most closely related to the Production Department is categorized in the process within it. The system of activities described on the right consists of the CEO, who is responsible for determining the direction of the contradictions; 4). Classifying potential hierarchies of the activity system from activity to Operation of each process; 5). Analyzing the elements of AT with a favored Marketing business process with the potential for further contradictions; 6). Classify the contradictions between related systems.

Plan The expected results are: 1). Fulfilled the AT Element principle in this research; 2). Mapping Business Processes using the eTOM business process framework; 3). Classification of potential contradictions associated with the marketing process; 4). Linking business processes with AT elements that are potentially contradictory; 5)—mapping contradictions until they can be classified.

IV. Results

Designs in Marketing Development related to System activities are described in the figure below, various marker-related activities that start implementing AI as part of the work process, using the concept of sharing AT objects. As seen from Figure 1a (left), AI development for the Marketing process will be assisted by information technology developers who are competent in designing artificial intelligence-based systems, starting from design to implementation by the AI Development Team, which includes AI experts, application development and most importantly there is a Marketing Manager/Head of Marketing Division/Director of Marketing as the Subject. The subjects in terms of the Marketing Director or marketing division head who will manage the "Community" in it are (information technology experts, data analysis experts, developer designers, and Back End and Front End AI system managers). Between subjects and the Community in managing an organization is influenced by Rules and Norms in this actual case, for example, company regulations, Key Performance Indicators, Marketing, Target Marketing, Quality Policies, and Organizational culture.

The influence of these rules and norms will determine awareness, as well as the effectiveness of the application and implementation of AI in the marketing process. The marketing process business will follow the specified instructions if the Manpower Division has a clear direction in providing understanding and achievements regarding Job Descriptions, Duties, Responsibilities and Authorities, and KPIs for each employee/member, which will, of course, be coordinated by Marketing or the equivalent. (Subject). System activities based on Ori Activities have internal and external relationships. In this company and its strategy, as well as determining the existing resources as a subject, the relationship that governs the Team, Sales, Customer Service, Product Configuration Team, in dealing with products that will be affected by "rules and norms"

(especially job management) of AI-based activity systems. The process of implementing AI, mainly for marketing, allows for a low level of technological, digital, and human literacy in the marking division so that it can have the potential in the activity system as "not reflected" (object 1), socialization and awareness are needed to make the AI system part of the process. Marketing. CEOs who utilize AI have the hope of being able to produce following customer expectations and marketing processes (Object 2), so Object 3 will appear, which aims to assimilate the second object, especially in understanding customer needs, with the ownership and involvement of all parties[5]. The slice from the marketing CEO can see in real-time as well. The process that is far from statistics is very dynamic and fast. Connected to the organization by the CEO finally wants to see who can be helped by AI in Marketing time. AI is a Tool/Mediation link. eTOM tools can be synchronized to resolve contradictions. Business process analysis, human factor oriented and data-driven. As a differentiator, perform data-driven analysis.

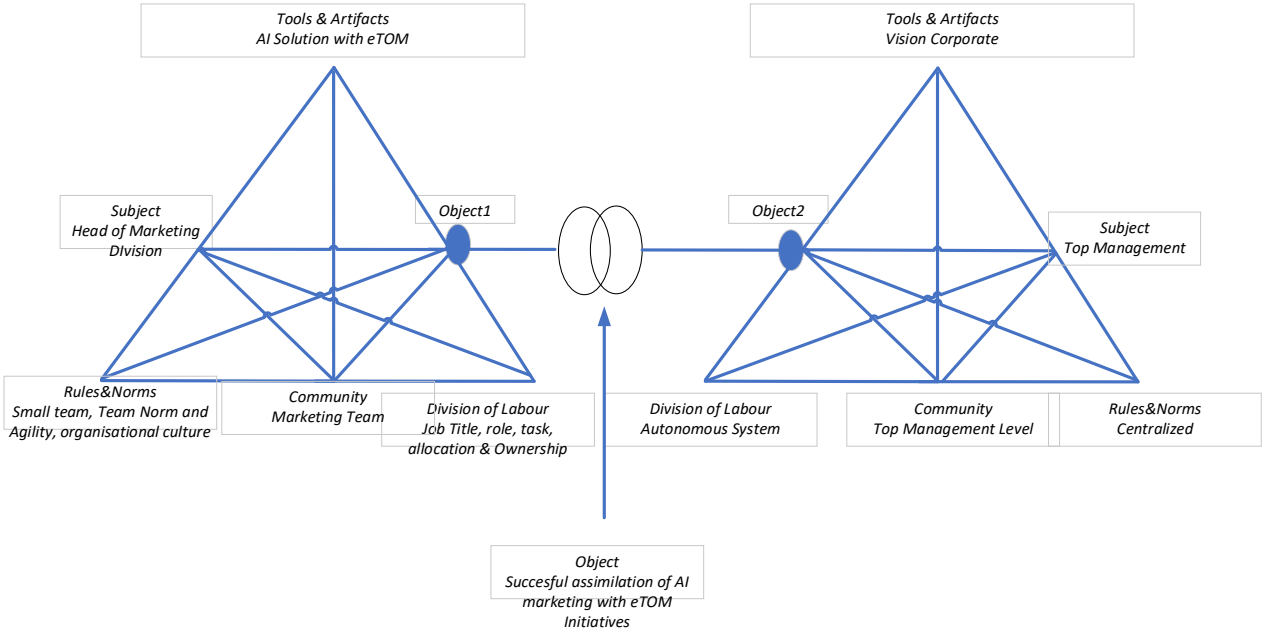

Fig 9. Instantiation of interacting AI-eTOM activity systems

In this case, it was using AT elements to describe various possible further explanations of eTOM to analyze the substance of the activities that occur in each unit of analysis. Thus eTOM is a framework of possibilities. TM Forum Application Framework is another area in the Enterprise Architecture ecosystem of Communication Service Providers. Various references in the reference and providing Directions for more complex systems, especially in a CSP environment. The business process framework, in this case, eTOM, is capable of providing an information framework and Framework, as well as an application framework (TAM), especially telecommunications applications[7]. Analyzing the domains in the old eTOM with the long-term formation and its objects cannot be turned into a single result but through a process that often consists of several steps or phases. For short-term processes: activities consist of Actions or a chain of actions consisting of operations.

According to Kuutti, AI can form an activity matrix to become the main driver of activity[17]. Thus the potential for two different activities can be identified, especially in the marketing process. First, AI supports a Marketing activity that is practically feasible and feasible, for example, by connecting knowledge with others so that decisions at the organizational level at the management level are carried out automatically. Second, information technology, especially AI allows activity in the marketing process to have objects that were previously impossible to reach: if we discuss the case where only computerized "organizational memory" with AI supports knowledge to understand and create new, a much wider problem. For the object of their work activity. Based on (Kuutti, 1995), a classification is made on the marketing process, which discusses the internal side of the activities referred to as actors:

Image of potential support activity classification for AI

The classification made does not aim to describe in detail the relationship between AI and Activities, especially in the Marketing process, but rather describes the scope and potential, and variations of this relationship. The classification is made by analyzing, which allows for different points of view, as well as accuracy; when implemented in practice, thus the relationship between AT elements may overlap each other because each other naturally supports "common sense-making" so as to provide examples or things that are similar. "make visible."

Table 2 Level of Activity System Marketing

	OPERATION -SUPPORT LEVEL	**ACTION-LEVEL SUPPORT**	**ACTIVITY -SUPPORT LEVEL**
TOOL, INSTRUMENT	New work steps are routinely executed.	Support transformation and make daily changes through new tools Creating tools and synergizing work steps that are more systematic and comprehensive	Advanced "automation" capabilities in the Marketing process or later will construct new AI-based tools in the Marketing business process
OBJECT	availability of data about AI-enabled objects	Making objects manipulable	Ability in the marketing process to become a common object
ACTOR	trigger a predefined response	Support activities that can be carried out in an activity	Organizational involvement in the marketing process on an ongoing basis to provide awareness, study, and support for AI-based systems for Objects and Overall Activities.
RULE	create mechanisms in change management at a more specific level.	Create a system of Documentation (such as Standards, Procedures, and Work Instructions) that can be implemented and reached	for adjustment of new Rules
PUBLIC	Implicitly creating a connected community in the work steps of multiple teams in Marketing.	Supports the level of work steps in internal and external communication within the Community Creating a more real Community	Formation in the new Community
MANPOWER DIVISION	More concrete implementation of the new system at the operational level in the marketing process	Work sites in a more systematic organizational structure, in a more comprehensive documentation system	reorganization in the duties of responsibilities and authorities in the organizational structure

The results of the business process analysis of domain sales are as follows:

Goal Participation in an activity by doing it consciously through Action, which can also be defined as a Goal. Action is derived from an activity's frame of reference. One activity can be described as several different actions, depending on the situation. On the other hand, the same Action can be part of different activities, in which case different activity motives will cause the Action to have different personal senses for the Subject in the context of each activity. From the results of the analysis of one of the eTOM sales domains that interact with the hierarchy of levels in AT (Leontjev's three-level) as follows:

Table 3 Level of Activity for Sales Work Aids

A. Sales Work Aids				
	Sales Assistance Support (SAS)	activity	Action	Operation
A.1	Sales Aids Support provides job assistance functions to access active help such as templates or wizard types from context-Aware scripts to, for example, assist with lead qualification.	Sales Aid Support Activities (A1)	Manage Sales Assistance Support (B1)	Sales Assistance Support (O1)
				Documenting Sales Aid Support (O2)
				Maintain Sales Aids Support (O3)
				updated Sales Aids Support (O4)
				Distributing Sales Aid Support (O5)
				Socialization of Sales Aids Support (O6)

From the material above, the SAS process, which aims to manage SAS in a marketing scope, has several more detailed derivatives of Operations related to each other. Excessive AT with operations allows, if analyzed, will lead to development gaps, potential conflicts, and methods for carrying out development actions, which is known as a contradiction. Thus, it is necessary to classify operations based on business processes to support the adoption of AI.

Table 4 Level of Activity for Operation

	OPERATION					
	O1	**O2**	**O3**	**O4**	**O5**	**O6**
TOOL, INSTRUMENT	Collecting data and information on a regular basis Using an AI-enabled system	Internet-based documentation system	routine checklist,	Update via Web-based system	Distribution system through web media, social media, and email.	Socialization via web media, social media, or offline
OBJECT	availability of Documentation in one shared system, Ease of access	Ease of access and achievement of various interested parties	The stability of the system is somewhat always accessible	So that every user can easily access the latest	Distribution is always right on target	Every document management is known by various parties
RULE	Only those who have the authority	Documents that can be accessed are determined	The system is always on 24/7	Recent documents accessible	Appropriate distribution arrangements	The socialization rules are in

	OPERATION					
	O1	**O2**	**O3**	**O4**	**O5**	**O6**
		through one particular page			for various parties	accordance with what has been determined
PUBLIC	Access control for multiple parties	Defined access control for multiple parties	All parties who can access the system	Various parties will receive the latest documents	Various parties who will receive the results of the document	Various parties who will receive the results of the document
MANPOWER DIVISION	Each party that can access, update and prepare e	division of labor for those who get SAS	Coordination with several related parties	Only certain parties have the right to update documents	Certain parties who have the right to distribute	Certain parties specifically carry out socialization.

Classification to determine potential AI support activities based on business process operations : Sales Assistance Support (O1)

1. O1 Relationship with Object
   Important SAS for the initial stage is needed in preparation for making Templates, Wizards, other supporting tools, and Marketing Kits used by Sales to deal with Buyers and customers. The accuracy of identifying SAS in terms of quantity according to the product delivered is important. The Key Performance Indicators of the SAS preparation are the identification of the Marketing Kit for each product and its designation for each customer. Accuracy can be identified as follows: a). One hundred percent of SAS can be identified and collected in a repository that is organized systematically (according to the classification and conditions), b). SAS is fully available, integrity and originality can be united, appropriate to use (not obsolete), c). SAS repository and its access are prepared to be used by the party who has been determined to be accessed, d). 100 percent SAS to be provided as needed.
2. O1 Link with Tools

From the results of O1 related to KPI as the object of O1, then there is a potential for KPI with the following analysis :

a) to achieve 100% SAS can be collected from the Marketing Team, the necessary strategies and methodologies so that the marketing team can be on time, and the latest SAS is provided, tools are needed

b) that help achieve these KPIs, these tools can be easy to use, serve as reminders in real-time, both when the KPI Deadline and when the SAS has been collected. Another thing that needs to be considered is how to measure KPIs in real time from time to time, as well as daily processes in detail so that the cause of the achievement is known firsthand.

c) the repository system needs to be developed online so that it can be accessed together, requires Web-based tools with a dashboard that can be accessed together according to the access control, then the achievement of SAS depends on the supporting parties, especially the IT department so that the

repository system can be accessed, it is needed every time that can notify the readiness of the system either can always be used or cannot be used in real-time so that further access mitigation can be carried out. With the existence of an Information System that measures Sales/Management KPIs, it is still done manually, so there is no real-time KPI early detection.

V. Analysis of Potential Contradiction

From the results of the analysis of needs from various marketing processes and several examples to describe the business processes, potential contradictions emerge through the analysis of Business Processes with the eTOM business framework that interacts with AT. The next step, using the principle of Contradiction, can be described more comprehensively through the social context when the ETOM Framework goes through the process of utilizing AI for management processes. In the context of the business process, the ETOM framework analyzes the contradictions that affect the implementation of AI using the ETOM business framework and what influences them.

In the contradiction process, matters relating to this matter, especially problems or errors, can be analyzed from the work process of the workers (Gonçalves et al., 2013), but it can also be observed from the activities and work processes, which is more detailed in carrying out procedures, work instructions, complying with standards and guidelines that have been determined in the management system which is summarized in a work activity in an organization[10]. The identification of contradictions has a methodology with several phases associated with various elements that connect the system with its environment[13].

Table 5 Contradiction of Analysis

IN ELEMENT	**ACTIVITY SYSTEM**	**eTOM framework**	**Contradiction**	**Contradiction Type**
TOOL, INSTRUMENT	Sale	Sales Assistance	The use of Website and Wizard-based Information Systems remains a new problem in terms of ease of access, use, and updating of existing information. There is no tool as an information system that serves as a reminder in real time, both related to activities that are Critical Success Factors in the Marketing process so that problems occur in Accessibility, Integrity, and speed of service in the marketing process.	Main Secondary
(TOOL) Information System Management	(Object) Collecting data and information on a regular basis Using an AI-enabled system	Sales Portal	A Marketing Information System to support the needs of business processes has been created, but the raw data is still partially/separately created on different platforms, so it has not been maximized to be used as decision support or management that utilizes AI as part of business processes.	Secondary
OBJECT	Sale	Sales Assistance	The speed of serving customers will be hampered if the Business Plan and Execution are Different.	Tertiary
RULE	Sale	Solution Management	Not yet connected optimally. Rules that have not been based on the marketing zoning process for each sale, even though it has been made per marketing zone so that	Tertiary

IN ELEMENT	**ACTIVITY SYSTEM**	**eTOM framework**	**Contradiction**	**Contradiction Type**
			each zoning whose regulations make a difference in service.	
PUBLIC	Equipment	Sales Assistance		
MANPOWER DIVISION	More concrete implementation of the new system at the operational level in the marketing process	Work sites in a more systematic organizational structure, in a more comprehensive documentation system	The speed of serving customers is hampered because of the organization's internal employees. Service to customers will be hampered if the Business Plan is Different for Each Division with the same product basis. Different knowledge at the management level affects the decisions of each price, specification, and others that will make a difference in each sale in its implementation. Information systems that measure Sales/Management KPIs are done manually, so there is no real-time KPI early detection.	Quarter Quarter Quarter Secondary

VI. Discussion, Limitations, & Further Research

A. *Practical Implications*

The current study uses AT as a theoretical basis based on the eTOM Business Framework to find several things related to system design in utilizing AI in the Sales/Management process. The first step is to explore needs analysis through business processes and describe them to look for potential changes[6]. From analyzing the need to find some potential changes through existing contradictions, understanding what is needed contextually, and understanding the socio-cultural of the organization that will affect the application of AI so that the system will continue to influence and be useful, as well as expectations for the use of AI in the future. Building an ecosystem for each unit in sales/marketing to be open in designing the system. Activities are important so that trust arises and the courage to make changes. Openness to find the right Contradiction is one of the things that must be considered as the next step towards a new step for the Sales/Marketing team, who will later do new ways that are unimaginable. Another thing is to make a detailed approach to a sustainable process by management and repeated learning through internalization and externalization processes so that the results of the design and implementation of the AI system in the sales/marketing process become a single unit in the culture[15]. The organization is a systematic documentation system from policies to the implementation of work instructions that are more detailed in their processes and norms and integrated into a complete business process.

Through the AT perspective to conceptually describe contradictions and how to find new things so that they are expected to become innovations, so that management has several options to (a) understand different perspectives of current conditions and interactions with system activities, (b) facilitate dialogue that enables stakeholders to move from a state of no reflection (Object1) to a state of shared understanding and shared commitment (Object3).

B. *Theory Implication*

Theoretically, from research using AT as a capacity for developing theory in linking the relationship between the eTOM framework and AT, studying how the possibilities of developing AT in the marketing process are. Conceptually the Framework of thinking with AT is a clearer Collective Activity System in the Framework of business processes on eTOM with the possibility to be mediated to achieve development goals towards AI. How are the relationship and impact contextually viewed from cultural history related to the activity system of the marketing process with the eTOM-mediated business framework to achieve AI technology? The results of this study contribute to the theory of minimizing the gap in knowledge in special organizational systems later in the use of AI technology. The business processes in eTOM marketing related to the relationship between the Sales and Buyer teams may have contradictions with different policies on the organizational structure with each target according to the division. In theory, by determining the existing contradictions, there is a

relationship between cooperative relationship between divisions, agencies, technology, and interrelated relationships with each other.

If it is explained between operations related to each other's processes, it is predicted that a new theory will emerge from the contradictions found. Starting from the AT triangle that links central systems, which shows the gap between future AI needs, it will be clear in the organizational structure the development opportunities related to AI implementation through mediation in contradictions, thereby increasing the level of organizational management system development. If you pay attention to the eTOM framework, the influence of the management team in outlining regular, internal support for AI development, especially in the development of the sales and marketing ecosystem and the wider ecosystem, so that the AI development cycle has added value.

C. Limitations & Further Research

The limitation of this research in its scope is that it only provides a small sample of the eTOM business framework as a whole. In more depth, it is necessary to explore the business relationship between eTOM and AT elements in determining Contradiction so that the design obtains a higher level of maturity. The design that has implications for implementation is another limitation, with the hope that this limitation will be the next step so that activities can be used as implementations that are then well organized. Another limitation, it is necessary to further study the eTOM business process, which is more applicable to the AT elements and the activity of the system. The next research is to connect the more specific business processes of the AT System and start designing the AI system at the right level according to the contradictions and according to the intelligent system in the management system.

VII. CONCLUSION

This research was carried out by the need within the Framework of eTOM business research in telecommunications companies that are growing today to be able to see the other side of the need for AI technology, especially in business processes in sales or marketing, which are quite complex related to socio-cultural. From the results of the description of AT, it can be used as a theoretical framework through the contradictions that occur from the results of the analysis of business process requirements. So the use of AT in the marketing process is seen as important in achieving artificial intelligence, especially in outlining the eTOM framework.

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