

Enabling Virtual Organization in Outsourcing Company: Case Study of PT XYZ

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Abstract—Urgency to remain competitive in the open market forces many companies to concentrate on their core competencies and grow the ability to adapt with innovation by fulfilling any business opportunities as a new enabler. Information technology as an innovation adapter became the pillar foundation to transform the organization, and one of them becoming a technology disruption that forces traditional organizations to become more intelligent organizations. Companies with a huge employee network and team tend to collaborate in a more agile and efficient way and believe that adopting virtualization of the business or Virtual Organization (VO) will ease the coordination and give growth of potential. PT. XYZ as a leading outsourcing company in Indonesia has managed more than three thousand employee's partnerships spread all over Indonesia. With the growing number of employees and branches, it is giving many uncertainties if the traditional organization model will fit or adapt with current trend of flexible work due to pandemic and lead to the discussion of VO adoption. Several previous studies have been conducted to create a solid VO model as a main reference, after combining the models and synthesizing the meaning of VO fundamentals we are able to generate the interview questions. In this paper we conduct interviews with company top level, analyze the current problem and extract the recommendation. We found that the company is reliable enough to adopt the VO and but there are significant difficulties and some challenges that arise.

Index Terms— Virtual Organization, Outsourcing Company, VO Adoption.

I. INTRODUCTION

In this technology-led era, most organizations always confronted with significant and unpredicted problems that always constantly changing and giving a complicated environment. Several factors, including innovation of technology and globalization of the economy, have forced business and industry to adapt with the new challenges triggered by an increasingly sophisticated society because of growing demand for customized with high-quality services and products in various industries. One of innovation that proposed to achieve greater scale and save more operational cost for the company is virtualization of the business [1].

PT. XYZ is one of management solution and business process outsourcing companies in Indonesia, their main service is employee supply management and has been running for 14 years. With the employee service solution especially for collection, telemarketing and cleaning service supply, PT XYZ have broad clients ranging from small companies to enterprise sized companies and growing number of companies in Indonesia there is market opportunity for business process outsourcing in Asia Pacific including Indonesia. Pandemic situation in recent year that hit globally and affect all business sector force company to adapt the situation that required person to do social distancing and avoid face to face meeting. This situation is hard for company that provides service to client and relies with the traditional approach. To answer the challenge and keep their business going, adoption of virtual organization can answer challenge of serving client without lowering the quality and adapting the new normal.

Virtual organization is one of technology innovations that is believed to have high potential to be adopted and create some value to the company [2]. Virtual models emerge because of a desire to improve agility, full scalability, dynamic switching, and ease of cooperation and growth of potential [3]. The virtuality adoption will make the organization could operate in a timely manner, and that also is the key to virtual organization. Companies that already had supported infrastructure and got more communication-based processes or activities between their employees could possibly harness the power of information technology to make virtual integration and in fact already meet the requirements of virtual organization [4]. In recent year the virtual organization becoming trend by adapting teleworking or working anywhere approach when running the business.

The purpose of this paper is to exploit various current concepts of virtual organization and feasibility of it through analysis of transition from traditional to virtual organization model and how the VO will become enabler for the company. Once the main concept is found and the case study area already screened then the research will answer the following research question, “*What are the recommendations for the management solution company to enable and adopt the virtual organization?*”.

This paper will be structured as follows. A literature review of science related to the theory model of virtual organization and real-life adoption for benchmarking will be presented in section 2. Details of the research method and how the data collection will be explained in section 3. Section 4 presents the empirical findings and analysis from the current company of the case study based on the interview. Section 5 presents the conclusions and recommendations for the company and direction for further research.

II. LITERATURE REVIEW

Management Solution Services / Outsourcing

Management solution is an entity of instruments to support implementation of management ideas on appearance levels of their conceptualization and realization, primarily aiming to support organizational processes [5]. Outsourcing is a business practice in which a company hires a third-party to perform tasks, handle operations or provide services for the company. Companies today

can outsource several tasks or services. They often outsource information technology services, including programming and application development, as well as technical support.

They frequently outsource customer service and call service functions. They can outsource other types of work as well, including manufacturing processes, human resources tasks and financial functions such as bookkeeping and payroll processing. Companies can outsource entire divisions, such as its entire IT department, or just parts of a particular department. Outsourcing business functions is sometimes called contracting out or business process outsourcing.

Correlation between IT and Organization

Advances in Information and Communication Technology (ICT) and trends such as agility, globalization, and increasing demands for products and services with high productivity have motivated different organizations to cooperate and come together to explore business opportunities and fulfill customer tasks [6]. By the help of ICT, it can be useful for saving expenses, minimizing time to produce a product or service order, and can be monitored online for all day long [7]. IT strategic plans that correlate with current organization vision can serve as a powerful driver of business and model alignment and evolutionary potential to penetrate the market [8].

Virtual Organization

Virtual Organization is a permanent or temporary organization that consists of full organizations, units of organization, group, or individuals who are dispersed in various places and use IT to bring together all capabilities, resources and also information in an effort to achieve a common goal. Virtual organizations typically consist of virtual workspaces, virtual teams, and also virtual workers. Some benefits of virtual organizations are always updated with the implementation of new technology, improving quality of some factors such as performance, sharing knowledge, flexibility, and marketing in a global network.

Virtual organization can save time for every process in organization. A virtual organization is a collection of geographically distributed, functionally and/or culturally diverse entities that are linked by electronic forms of communication and rely on lateral, dynamic relationships for coordination [9]. Virtual organization is a main organizational paradigm for enterprises to collaborate in the rapidly changing environment. Advances in information and communication technologies are accelerating collaboration among enterprises in different domains as well as unknown enterprises.

Enabling Factors

The attention of practitioners and managers has been captured in the last decade by the notion of virtual organizations. This is a new form of organization that seems to represent a radical change from traditional organizations, allowing new ways of organizing [10]. Many interpretations have been offered of virtual organizations. Most visions are united in their reliance on ICT as the 'enabling factor' for ways of working that are temporally and spatially dispersed, and the ways that draw on temporary networks of alliances and partnerships with other organizations. Such dispersed work environments are referred to as virtual organizations. Virtual work arrangements include teleworking, working remotely and mobile working. Concept of working from anywhere is become trend with the recent pandemic that hit business globally and make people unable to go to office due to travel restriction that adopt in every country. These restrictions build a solid foundation to adapt virtual work due face to face meeting not allowed.

Research related to virtual organization authored by Ali Moeini in 2013 have synthesized multiple factors to enhance the virtual organization as an enabler to the company, the literature also identifies some common enabling capabilities for successful implementation of the virtual workplace as per Figure 2. These factors include:

- Focus on core competencies (E1) Measures on how much organizations focus on their own core competencies.
- Network Cooperation (E2) Aspects of the cooperation such as its durations, its configurations, selections and / or combinations of its partners, and its outward appearance and impression toward customers.
- Integration (E3) Degree of both vertical and horizontal homogeneity and independence amongst both organization and partners.
- Trust (E4) how much trust and fairness apply and thrive within the organization as well as its partners.
- ICT Utilization (E5) Refers to the utilization of technologies, specifically computers and communication systems, to facilitate the organization and its partners.



Figure 1. VO Enablement Model by Alie Moeni

Characteristic

Online societies can be built around the notion of a virtual organization – an organization that is not exclusively tied to one physical organization or another. In terms of IT infrastructures, a virtualization essentially provides a security and discovery context whereby collaborations across multiple administrative domains can be enabled while enforcing joint security policies [11]. Based on Camarinha there are several basic characteristics to formulate the VO;

- Delocalization (A1) referring to elimination all needed of working physical space and capacity
- Temporalization (A2) refers to inter-organizational processes and activities that are performed in temporal duration, so it's created for specific requirements.
- Dematerialization (A3) refers to the existence of virtuality replacement of materials or the availability of virtual product or service.
- Individualization (A4) or mass customization by delivering a wide range of products and services that are modified according to specific customer need for satisfaction or it is called as service personalization.
- Non-Institutionalization (A5) where the operations are done virtually without physical presence, establishing of inter-organizational relations in such environments can be abandoned and removing barriers within organization division.
- Asynchronization (A6) allows members or company entities to interact and communicate with each other through ICT innovation.
- Integrative Atomization (A7) refers to the process of bringing together the work of various individuals to produce a completed good or service.

Based on previous research we conclude that a virtual organization is a collection of people, employees or partners that work together in different places in virtuality with the help of information technology. The enabling factor will help the company to check the capabilities of the company in order to adopt the VO, and with determined VO characteristics we also know that the company already matches or not with the main key properties of VO.

III. METHODOLOGY

To gain an exact understanding of the topic background, current problems, and recommendation, we do several steps as stated in Figure 3. At beginning topic identification and background analysis conducted to find the problem faced by PT. XYZ. Literature reviews related to virtual organization will be conducted, after getting the exact VO model as enabler then we construct the question then collect the data by using qualitative methods by doing the interview, create interview transcript then qualitative analysis based on the interview result to find the characteristic and factor that emerged on the company. Final step by doing descriptive analysis to extract the conclusion and do the justification with another research.

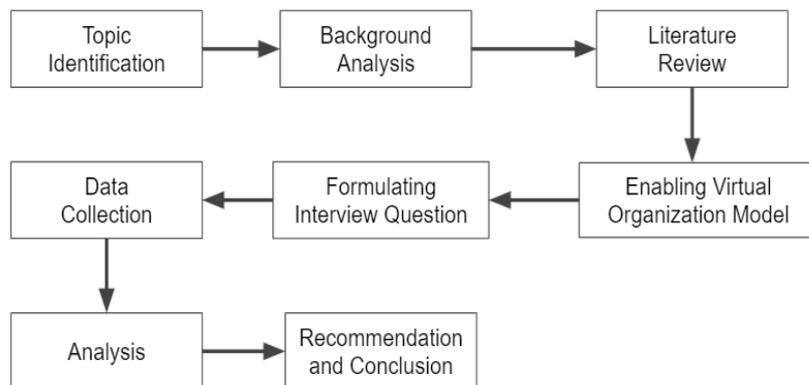


Figure 2. Research Model Flow

Data Collection

Factor	Questions	Source
E1, A3, A4	8	General Manager (GM)
E2, A2, A5	7	IT Support Head (ITS)
E3, A7, A5	16	GM, Division Head (DH)
E4, A2, A6	4	GM, Division Head (DH)
E5, A1	10	IT Infrastructure Head (ITH)

We interviewed key people of IT Development and IT Infrastructure of the company along with the general manager seen on Table 1. The question will be related to VO model characteristics as enabler that already compiled before in previous section, some of the questions asked are follows:

- How the company behaves to the current market along with disruption of technology?
- How does technology help and support cooperation and collaboration in the organization?
- How much of the technology has been integrated among employees or divisions in the organization?
- How trust is the employees with current technology to do business in the organization?
- What is the technology that is being used for communicating between employees or teams in the organization?

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Data Analysis

After conducting the interview, the answer will be compiled, Tran scripted and codified. the analysis used a qualitative approach by formulating the question that fit with all factor and characteristic of VO and interview in charge person from PT. XYZ. The question and answer will be modified to transcript by eliminating the non related answer then all the answer will be reviewed to find positive or negative response of question related to each factor and characteristic of VO. The keyword of answer will be codified and count as measures of discovery VO characteristic and factors on PT. XYZ and become example of result of the analysis. Results of the data analysis will be used for peer assessment to the current condition and making the conclusion and recommendation for the company.

IV. RESULT AND ANALYSIS

Organization Current Focus

Based on interviews PT. XYZ known has focused on management solution service. So far, PT. XYZ has five services, including employee supply management, collection process management, verification process management, sales process management, and office cleaning service. Based on the existing services on the PT. XYZ, we can conclude that the entire business on PT. XYZ is an outsourcing service. As an outsourcing company, PT. XYZ always provides experienced and trusted workers to meet the management needs of the client company. Before you begin to format your paper, first write and save the content as a separate text file. Keep your text and graphic files separate until after the text has been formatted and styled. Do not use hard tabs, and limit use of hard returns to only one return at the end of a paragraph. Do not add any kind of pagination anywhere in the paper. Do not number text heads—the template will do that for you.

Alignment between IT and Organization

By analyzing the alignment between IT and the company's ultimate vision of success, we will know how the challenges happened and what the barriers were. PT. XYZ currently realized the importance of IT strategy in order to smooth business operations, one of example showing that all of job operation schedule is broadcasted via technology as per stated by the DH, *“IT with all of their system is holding important role in order to run the business operational, since it’s helping many our employee and partner to collaborate, without any IT it’s impossible to deliver command to our branches network in the manner time”*.

Interviewee ITS stated that *“Previously ITC in our company is being used only for supporting operation like create internal report, generating payroll document and even folder sharing, but recently with the internet getting affordable, employee and our networks began to use online collaboration tools to share operation duty and abandon the old manual way”* it is showing that ITC slowly gained new role position to higher level which is critical to business operation. In addition, by using IT tools it saves many previous expenses like sending the physical document to each branch for monthly duty, or even attending monthly meetings in the corporate office. Based on several findings we conclude that IT current strategy already likely aligns with the current organizational vision and mission, by helping the operational to the critical activities it’s showing that ITC implementation will also affect the business directly.

Virtual Organization

1) Enabling Factor

For the enabling factor we found that PT. XYZ already focused on the core competencies which also stated in organization focus on previous sections. In the interview GM stated that *“...we are very fast to provide the best outsourcing talent to our client”*, thus with that value PT. XYZ main competency has been strongly built because of long running business operations in Indonesia since 2007 and having multiple prestigious companies like Pertamina, Sinarmas and FIF. In addition, we recommend PT. XYZ needs to innovate as a competitive advantage to stay close with their clients and by using the “pull” method like making the client able to request the personnel based on their own requirement without PT. XYZ interference through the new platform.

Next we found that the form of communication and collaboration inside the PT. XYZ organization happens in the daily meetings and team chat mentioned in the statement *“...we monitor, support and chat with each other especially with IT team that have most*

technology knowledge in the company". That result showed a good example of network cooperation for internal communication. For outside cooperation with the outside company, we found that PT. XYZ also shared information about office supply demand and purchase to office supply producers. This action indicates that PT. XYZ Collaborate and having vertical integration explained in the statement *"we informed the vendor of office supply or client asked our help to refill their supply from request to fulfillment"*.

For integration we analyze the company by matching the keyword to the analyst result, the source informed that PT. XYZ has manual internal integration between divisions for sharing information, it also stated that horizontal integration happened by doing cooperation and joint ventures between rival companies to support the shortage of resources. This result shows that PT. XYZ have integration factors in their company. Many clients show trust in PT. XYZ, stated by the DH *"We have had a long-standing client like FIF for more than 10 years."*, also with the growth of clients there are many partners and employees that joined up to the company. To handle customer trust PT. XYZ also did retention by adding the best qualified team to their client.

The last factor analysis is ICT utilization, the interview result from ITH stating that they used secure network, shared folder, and collaborative tools available online, *"...we have primary network and backup secure to work and used online folder with access granted only to related users on that folder."*. As stated in the previous section ICT became critical to run the business operation so PT. XYZ did enhancement of IT in each year with the latest addition being add more servers and creating a helpdesk system.

Analysis results to enable the virtual organization on PT. XYZ showing that PT. XYZ have a strong result for 4 factors E1, E2, E5, and E4 as shown in Figure 4. Results of E3 come with an average score of 3 with some room to improve but it's not urgent or business critical so with the result PT. XYZ can maintain their current integration adaptation on the company. This result meets the requirement for enabling the virtual organization of the company.

2) Characteristic

The first point related to Virtual Organization characteristic is delocalization. Based on the results of interviews with PT. XYZ management, it is stated that PT. XYZ is still very dependent on office space based on the interview result *"...most of the user still user dedicated PC on their desk and our call center agent still use dedicated phone"*, resulting around 75% of the company's employees still use desktop computers and still need office space. Customer service at the company also still uses the telephone in the office to work, and many meetings are still held offline. This shows that delocalization has not been implemented in PT. XYZ. In addition, it also stated that each division cooperated with each other. There are many projects that are created by more than one division. For example, there is a current project going on regarding payment with collaboration of IT, HR, and finance departments. It shows that temporalization as one of the characteristics of a virtual organization, can be fulfilled.

Based on the results of interviews *"... we already use some online platform, but it's not evenly distributed among division"*, the PT. XYZ company also uses several virtual services such as Zoom and Microsoft Teams, but these virtual services are only used in the IT division, not entirely for all divisions. This shows that dematerialization has not yet formed at PT. XYZ. When we look at the products or services provided by PT. XYZ, each product or service provided can be customized according to client requests. This allows PT. XYZ to work with many clients in different industries. This is in accordance with one of the characteristics of a VO, which is individualization.

Currently the main PT. XYZ business is employee supply management, which had the service that needed the physical existence of resources on the customer company like supplying office boy (OB). But for some of the services there are possibilities to work virtually such as tele collection, verification process, or call center. Then related to inter-organizational cooperation only lasting for 3rd party bridging it shows that the characteristics of non-institutionalization do not yet exist in PT. XYZ. The results of the interview stated that PT. XYZ completed work, collaboration, and communication asynchronously. However, this only happened to the IT division. Meanwhile, other divisions, such as marketing, work synchronously because the work documents are stored on the office PC. So, PT. XYZ hasn't fully implemented asynchronously yet. The last characteristic point is that PT. XYZ has set goals between divisions that are integrated, align, and support each other. So, PT. XYZ has met these characteristics. To support the finding

V. CONCLUSION AND RECOMMENDATION

This paper presented a high-level overview of the main challenges that must be addressed for the effectiveness of implementation of virtual organizations. As per original motivation of the analysis in this paper was to review the current situation of the company, do the peer assessment and generate recommendation as shown in Table 2. We found that the alignment of IT with the organization vision already matches, and the role of information technology in the PT. XYZ currently in a critical position to support end-to-end business operation. Conclusion for the enabling factor showing that all meet the requirement and only E3 have the average score.

Based on the results analysis, there are several characteristics of VO that do not yet exist in PT. XYZ. These characteristics include delocalization (A1), dematerialization (A3), non-institutionalization (A5), and asynchronization (A6). The recommendations given related to delocalization are that PT. XYZ can implement a virtual machine so that it does not depend on desktop computers in the office such as Azure VM or Amazon Workspaces so the PT. XYZ can enable the decolonization without the switching to the laptop and maximize the current infrastructure by working with the desktop on the office and availability to work on another location by connecting to the VM, besides that PT. XYZ can also use VoIP technology to replace the office telephone function used by PT. XYZ customer service. Related to dematerialization, where the use of virtual services in companies is not only limited to the IT division, but these virtual services can also be used by other divisions and can even be fully implemented in the company. This can help companies to implement a whole virtual organization.

Furthermore, for non-institutionalization VO characteristics, PT. XYZ can implement more virtual service to support working virtually without physical presence such as a tele collection system that can be accessed from anywhere, does not have to be

accessed from the office, because currently the tele collection process is still accessed from the office. Besides that, related to the inter-organizational aspect, PT. XYZ can sell the data related to client demand to other companies. Work asynchronously can be done by more divisions, not only for IT division. PT. XYZ can use Zoom or Google meet for internal and external meetings, GSuites for document management, reporting and absence using internal apps, and even use Slack App to support messaging. Besides being able to work remotely, communication can still run even more effectively. That solution can not only be applied to the asynchronous aspect but can be applied as a recommendation to the dematerialization aspect. The recommendation is moving the current infrastructure to cloud by creating a VO breeding environment that is essential when creating effective VO[12]. Creation of VO breeding environment using third party such as VM, Collaborate tools using Gsuites, and Zoom can lead the company to adopt VO to answer the constraint generated by pandemic and stay competitive when facing unknown challenge.

There are limitations in the study. The study seeks to assess the enabling factors and adoption of a virtual organization within the outsourcing companies, the research could be assessed on the other way around (bottom-up) so it can catch any challenges that previously missed included alongside with their impacts and risks. This study also uses models from previous research on VO, especially in terms of enablers and their characteristics. It can be enriched with additional research related to best practices within the virtual organization so it can be perfectly adapted in the observed organization by creating a new model. Another limitation is that the data collected only uses primary data from interviews without looking at secondary data; the result of the analysis seems to be too subjective, mostly within the interviewer's point of view. Currently this study only benchmarks from the same industry, by varying the industry segment of case study it can deepen the research of VO especially in Indonesia where there are many challenges and cultural diversity

VI. ACKNOWLEDGMENT

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