BUSINESS CONTINUITY PLAN USING ISO 22301:2012 IN IT SOLUTION COMPANY (PT. ABC)

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ABSTRACT
Technology is very agile development and today growth technology information should enable the business process. PT. ABC has a cloud services business and has two data center and disaster recovery center, that way PT. ABC need business continuity plan process to support this service. This background initiates PT. ABC implement business continuity plan. Every process to know as-is existing condition refer to ISO business continuity plan 22301:2012. Prepare design to implement business continuity plan, review existing condition, know the GAP process and standard operational procedure business continuity plan. This research integrates several technique study literatures; interview the personal in charge, observation the existing process. PT. ABC need 47.6% GAP to comply with business continuity plan ISO 22301:2012. The Process 11.88% not complies with initiate process, but PT. ABC ready implement ISO 22301 with notes, should continuity improvement and concern documentation also standard operational procedure.

Keywords: ISO 22301:2012, business continuity plan, design, existing.

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1. INTRODUCTION
Today's development system is agile, and it cannot be denied that information technology is a major need for every human and also company. In global communication globally, extensive communication is needed and integrated with each other. Therefore, with the existence of our information technology as human, it is easy to get all information from anyone, anytime and anywhere. All companies in the world that have business solutions and services have data center.
technology systems and disaster recovery centers as supporting parts, even as the main needs to support the company's business. The data center becomes an orchestrator to connect all devices, both network devices and existing server devices [1]. In the data center must maintain several services so that scalability, high performance, robustness and energy can be maintained [2]. Identify risks, threats and vulnerabilities that affect the entire operational cycle and the continuation of the company. One of the employees who will be monitored is disaster recovery to keep the company's business running even though there are obstacles and problems faced by the company [3]. Proposed, in a new threat model to categorize security threats to improve understanding of threats and alleviate existing threat classification models [4].

PT. ABC is part of its solution in Indonesia. They are focus on hardware, software and cloud services. This company founded in 2006, build in Jakarta for head quarter, they have three branches in Bandung, Pekanbaru and Surabaya. Every year continues to grow for cloud service services, and this is making PT. ABC seriously builds system integrated with data center and disaster recovery center.

This business continuity requires the commitment of all management and second parties to keep the service maintained [5]. In the process of procurement and enhancement of resources, to support business continuity management, should analysis of several aspects that lead to the addition of this infrastructure can have an effect on the analysis of benefits and cost analysis for business processes to be continuously planned. Goh Moh Heng explained the concept of business continuity management by focusing on the planning process and BCM methodology [6].

ISO (International Organization for Standardization) is a global company that focuses on international standards throughout the world. In its work, ISO stands standard, which is implemented by the ISO technical committees. ISO works with IEC (International Electrotechnical Commission) on all electrotechnical standards. So, the standard can be implemented by certain companies or even company companies that exist throughout the world. ISO 22301: 2012 is one of the international standards issued by an ISO organization based in Geneva. ISO 22301: 2012 focuses on aspects of the business continuity management systems – requirements [7]. If applied effectively along with business continuity, the result might be an ICT environment that is as good as the organization itself, effectively bridging the gap between ICT and business continuity [8].

This research proposes to identification asset risk information technology using ISO 22301:2012 and also designs BCP using ISO 22301 in PT. ABC. This is explaining to design until build disaster recovery center for support BCP process.

Goals for this paper the company can identify the environment; make several procedures to escalation process when getting disaster. Also adding some competitive advantage for a customer such as: confidentiality, integrity and availability business process. Company reputation also increase especially for PT. ABC having standard international using ISO 22301:2012.

2. RESEARCH METHOD
ISO have a requirement to design, operate, review and improvement management system when the system disruptive [9]. This requirement applicable all of the organization context likewise PT. ABC. One of the many existing frameworks, one of which is Operational Critical Threat, Asset and Vulnerability Evaluation (OCTAVE) as a framework that can identify, analyze and oversee information security risk management [10].
According to Syafrizal at the National Technology Seminar in Yogyakarta, Information security consists of protection against the following aspects [11]:

- Confidentiality
- Integrity
- Availability

Risk management is a strategy to identify each threat to help the business of each business unit [12]. The risk management methodology and philosophy have a very large scope approach to the company. Ensure that risk management is appropriate for effective and efficient companies. Vulnerability represents all weaknesses, administrative processes, actions or statements that make information about assets able to be exploited by threats [13].

This research process is breakdown every clause in ISO 22301:2012. ISO have several clauses but for this case start using 4 clauses, such as:

- Clause 4: Context of Organization
- Clause 5: Leadership
- Clause 6: Planning
- Clause 7: Support

Integrated with PDMA [14] models all this journal is plan. Business impact analysis (BIA) is an important part of the business continuity management system (BCMS) continuity where the organization's main products/services along with their important functions and BC related indices [15]. The business continuity plan can be an indicator of how well an organization prepares to defend their business so that business activities can continue to function even in the event of being stricken or affected by unexpected disasters [16]. According to Tammineedi, the overall goal of business continuity is to identify, plan, implement, and maintain several forms of operation if an organization faces a crisis [17].

Refer this paper using study case, theory, and similar research. This schema will be using the interactive analyst. The illustration using 3 analyst components will interaction every step i.e. integrated data collection, data integration and finalization for data next process.
Process Analysis data here bellow (a) data collection (b) data integration and (c) decision making data.

a) Data collection: the process gettering the data from a document and interview. This data is very huge, several data isn’t support for this process. That data writes for making sure the process observation and process research.

b) Data integration: a piece of data can’t image information hole of this situation. Therefore, need data display integration. The data integration served a matrix, network, chart and graphic or, etc.

c) Decision Making Data: purpose this research get information from data collection. Some information integrated with the other information using clarity process. Decision data support verification new data and information.

This phase informs methodology process of research using ISO 22301 business continuity plan design for PT. ABC.

This is methodology process will fulfill this case. Fists step this research is study literature similar research, existing document and existing procedure in PT. ABC. Process integrated with the result interview and review document, interview process will do with a technical director and human resource manager. This interview process to get the inform real process in this company. Process design business continuity plan ISO 22301:2012 and search GAP process, monitor with top management implement this standard and continuity improvement when get new case and requirement.
3. RESULTS AND ANALYSIS

Study case design plan use to this research refer Business Continuity Plan ISO 22301:2012 in PT. ABC. For first step is design point of business (POB) continuity plan refer ISO 22301:2012. Mapping business continuity plan with PT. ABC. Mapping this condition as-is start with identification MED diagram. Data collection using interview, data respondent refers to MED diagram, respondent identification with a person in charge and representative position. 10 team managements already determined three respondents for interview PT. ABC’s condition. 10 team managements already determined three respondents for interview PT. PIC as top management representative should present and commit to the organization will deploy Business Continuity Plan.

Implementation review several document using tools check list Microsoft Excels. The checklist will adjust requirement Business Continuity Plan ISO 22301:2012 and control for identification existing process condition. Documentation and activity process also use as a guideline in PT. ABC.

<table>
<thead>
<tr>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Value</th>
<th>Total Value</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Yet</td>
<td>No POB</td>
<td>Not Comply ISO</td>
<td>0 0 0</td>
<td>0</td>
<td>Design POB and Implementation POB</td>
</tr>
<tr>
<td>Not Yet</td>
<td>No POB</td>
<td>Comply ISO</td>
<td>0 0 1</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Not Yet</td>
<td>POB</td>
<td>Not comply ISO</td>
<td>0 1 0</td>
<td>2</td>
<td>Enhancement POB and Implementation POB</td>
</tr>
<tr>
<td>Not Yet</td>
<td>POB</td>
<td>Comply ISO</td>
<td>0 1 1</td>
<td>3</td>
<td>Enhancement POB and implementation POB</td>
</tr>
<tr>
<td>Present</td>
<td>No POB</td>
<td>Not Comply ISO</td>
<td>1 0 0</td>
<td>4</td>
<td>Design POB</td>
</tr>
<tr>
<td>Present</td>
<td>No POB</td>
<td>Comply ISO</td>
<td>1 0 1</td>
<td>5</td>
<td>Design POB</td>
</tr>
<tr>
<td>Present</td>
<td>POB</td>
<td>Not Comply ISO</td>
<td>1 1 0</td>
<td>6</td>
<td>Design POB</td>
</tr>
<tr>
<td>Present</td>
<td>POB</td>
<td>Comply ISO</td>
<td>1 1 1</td>
<td>7</td>
<td>Identify</td>
</tr>
</tbody>
</table>

Refer the table this is detail information can inform. When the phase assessment clause 4.1 business continuity plan ISO 23301:2012 requires organization define risk appetite. Risk appetite is risk associated with asset implementation ISO 22301 business continuity plan. Assessment case 1, when the company already do it activity, updated in value 1/0. Case 2 when the company already do POB/ documentation all activity, updated in value 1/0. Next in case 3 how the process refers ISO 22301 business continuity, comply or not update value 1/0. Every value represents binary value, for example 1 1 1 is 7 decimal value.

Interview with consist 15 open question for get information profile and history the company, management commitment can know from this process. Readiness for implementation business continuity plan from management perspective and fulfill the GAP existing with business continuity plan ISO 22301:2012. Process analyst gets from the research process document review, observation and interview process. One of the concerns this paper knows the company to implement business continuity plan. “Are the company ready implement ISO 22301:2012 business continuity plan? PT. ABC ready for the environment support because they already implement ISO 27001 management quality. Your design plan ready and our environment support to implement this and also business cloud service growth we are immediately implement ISO 22301:2012. Certainly, with management support and awareness our
employees, internal audit process and testing before implementing that system. (Interview with the technical director, date 1 November 2018).”

3.1. Interview with Human Capital here bellows:
“The company ready implement business continuity plan and point of business, when every division implement clause of business continuity plan and every step have standard operational procedure and consistent audited periodically (interview Human Capital, date 1 November 2018).”

Summary from document review will get informing value distribution readiness, here bellow many control ISO 22301:2012 business continuity plan not implemented in PT. ABC. Refer to frequency value 0 is 12 control or 11.88% from total value control requirement ISO 22301:2012 business continuity plan. PT. ABC doesn’t comply with 11.88% clause business continuity plan ISO 22301:2012. This should be fulfilled new procedure and implementation process.

Table 2 as-is distribution condition

<table>
<thead>
<tr>
<th>Activity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Total Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>8</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>15</td>
<td>6</td>
<td>2</td>
<td>15</td>
<td>53</td>
</tr>
<tr>
<td>Do</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>14</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Check</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Act</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>17</td>
<td>12</td>
<td>13</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

This identification control has a value 7 is 35.64%. Control complies but doesn’t complies is 52.4% therefore 47.6% controls should be improvement PT. ABC. This is not only procedure or document, but also existing process need enhancement. From the interview process management and top management support implementation business continuity plan ISO 22301:2012 PT. ABC. Process design, implementation and continue improvement every process not comply refer clause business continuity plan ISO 22301:2012.

The existing process has several GAPS with PDCA process. 47.6% control need improve in PT. ABC. This GAP includes the processes, POB and procedure. From the data plan have 38 controls from document revision, new document, and also do, check and act.

Figure 4 Distribution as-is with BCP
From this information you can image PT. ABC conformity business continuity plans every area. Clause 4: context of organization, clause 5: leadership, clause 6: planning, clause 7: support. This process knows that context of organization and planning aren't complied with business continuity plan. Need improvement especially in support area. Support area focus on orange color. Refer to several document control, this research identification that 5 document POB needed. All support document in assessment process and interview, need an improvement document:

2. Risk Register
3. Risk Assessment
4. Procedure Implementation
5. Procedure Improvement
6. Business Impact Analyst
7. Adhock Group

That document to fulfill process business continuity plan ISO 22301:2012 comply with PT. ABC. This is need plan design implementation business continuity plan ISO 22301:2012 in PT. ABC:

1. Make a schedule strategy implementation: schedule implementation makes from several activity research process and this activity will do PT. ABC. This research will propose the process activity PT. ABC refers ISO 22301:2012 business continuity plan document.
2. Make a POB for procedure process standard operational process business continuity plan.

4. CONCLUSION


REFERENCES


