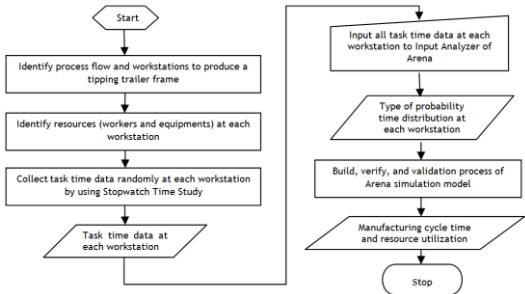


**RIWAYAT KORESPONDENSI UNTUK PUBLIKASI PADA  
SOUTH AFRICAN JOURNAL OF INDUSTRIAL ENGINEERING (SAJIE)**

No.	Tanggal	Uraian
1	6 Mei 2013	Mengirim/submit manuskrip artikel pada website Jurnal SAJIE
2	6 Mei 2013	Ucapan terima kasih dari Editor Jurnal atas pengiriman manuskrip sekaligus menginfokan 'Manuscript URL' dan 'Username' untuk digunakan oleh <i>author</i> (yaitu kita yang men-submit manuskrip artikel jurnal) dalam melacak proses editorial manuskrip yang dikirim. Juga diinfokan tentang pengecekan Bahasa Inggris, format, dan cek plagiasi. Diinfokan juga tentang pembayaran yang harus dilakukan sebanyak \$250.
3	10 Mei 2013	Editor Jurnal menginformasikan tentang hasil cek plagiasi terhadap manuskrip yang hasilnya <i>overlap</i> dengan <i>student paper</i> . Editor ingin konfirmasi apakah <i>student paper</i> ini adalah hasil kerja dari salah satu <i>author</i> ?
4	10 Mei 2013	Diinformasikan kepada Editor Jurnal bahwa <i>student paper</i> yang <i>overlap</i> memang hasil kerja dari salah satu <i>author</i> yang men-submit manuskrip ini.
5	14 Mei 2013	Editor Jurnal menjawab OK atas informasi yang <i>author</i> berikan terkait <i>overlap</i> pada cek plagiasi.
6	25 Juli 2013	<p><i>Editor Jurnal menginfokan perlu adanya revisi transkrip artikel yang di-submit setelah sudah dilakukan proses review terhadap transkrip ini oleh reviewer. Komen dari reviewer C adalah sebagai berikut:</i></p> <p><i>The paper is interesting due to the fact that it focuses in a specific problem that is would be important to tackle the problem of the company. However, it does not confirm to the standard of scientific paper writing. I would like to address my comments in this regards section by section.</i></p> <ul style="list-style-type: none"> <li>• <i>1. Section 3. Problem formulation</i> <i>In this section the problem is not clearly stated and addressed. Problem is not a problem statement. As a scientific paper, you need to state clearly the problem that you want to address in your research, and then you have to justify with scientific evidence why you call it a problem. Moreover, the research questions you raised under section 3.1 do not conform to research standard. Question two and three are not research questions. Rather they are yes/no questions. I can see that since your problem statements and research question are not formulated properly, they subsequently make your objective very weak. Moreover, you specific objectives are not in line with your research question even.</i></li> <li>• <i>2. Section 4: Methodology:</i> <i>The research methodology is mixed with the experiment procedures. I can say that there is no research method in this paper. You need to clearly state the methodology as a separate section, not mixing with the procedures of the experiment. The sampling method, the details of the tools used and how and in what way the observation was used has to be explained well.</i></li> <li>• <i>Result and discussion:</i> <i>The result and discussion is also mixed with the methodology and the experiment procedures. This happened because the methodology is not properly formulated.</i></li> <li>• <i>Section 5. 1. The types of distribution stated in Table 1 are not explained. Why you choose a particular probability distribution is not stated. Moreover, assignment of workers to facilities Table 2 also need brief explanation.</i></li> <li>• <i>Section 5.3. This section covered many aspects, but mainly related to the findings obtained from the direct observations. But the discussions are</i></li> </ul>

		<i>presented as if they are proved with figures and facts. It would be better to summarize in a very brief way and covered then in the future study.</i>
7	1 September 2013	Revisi manuskrip sesuai komen dari reviewer dikirimkan kembali ke Editor Jurnal sebagai berikut:
	<b>Title</b>	: CYCLE TIME ANALYSIS OF TIPPING TRAILER FRAME: A Case Study at a Heavy Equipment Industry
	<b>Authors</b>	: MUHAMMAD MARSUDI, HANI IBRAHIM SHAFEEK
	<b>Ref.</b>	Reviewer C / File No.: 636-1312-1-RV.docx
	<b>General Comment</b>	: The paper is interesting due to the fact that it focuses in a specific problem that is would be important to tackle the problem of the company. However, it does not confirm to the standard of scientific paper writing. I would like to address my comments in this regards section by section.
	<b>Comments</b>	<b>Revision (response to comments)</b> (Please see the grey color on the main paper)
	<p><b>1. Section 3. Problem formulation</b></p> <p>In this section the problem is not clearly stated and addressed. Problem is not a problem statement. As a scientific paper, you need to state clearly the problem that you want to address in your research, and then you have to justify with scientific evidence why you call it a problem. Moreover, the research questions you raised under section 3.1 do not conform to research standard. Question two and three are not research questions. Rather they are yes/no questions. I can see that since your problem statements and research question are not formulated properly, they subsequently make your objective very weak. Moreover, you specific objectives are not in line with your research question even.</p>	<p><b>Section 3.1 (Problem formulation) has been revised as follows:</b></p> <p>Problem statement has been stated clearly and justified. Research questions (Q. 2 and Q. 3) have been deleted, and the new research questions are formulated. Specific objectives are modified in order to be in line with research questions.</p> <p><b>a. Problem statement, justification, and research questions.</b></p> <p><i>Cycle time is the main issues to be addressed in this case study. Based on our discussion in point 2 above (i.e. literature review), the problem related to the cycle time is very important to be studied. For XX Engineering Sdn. Bhd. in Malaysia, cycle time to produce tipping trailer frame is very critical to be analyzed because:</i></p> <ul style="list-style-type: none"> <li><i>There is a continuously increasing demand for the company's product from its customer during the last few years. The reducing of the delivery time of the company's product to its customer's hands is very important factor for the company to win the competitiveness from its competitor.</i></li> <li><i>All manufacturing industries are profit oriented business. Reduction on production costs is an important factor to get more profit. The payment for workers' salaries is one component of production costs. The use of resources (especially human resources or workers) for production needs to be analyzed. And the resource utilization has a proportional relationship with cycle time [2].</i></li> </ul>

		<p>Refer to the cycle time issues at the company as mentioned above, the following questions can be formulated:</p> <ul style="list-style-type: none"> <li>• What is the minimum time needed to produce one unit of tipping trailer frame?</li> <li>• How is the resource utilization so far for producing one unit of tipping trailer frame?</li> </ul> <p>To give more understanding about XX Engineering Sdn. Bhd. company, the detail of its production process flow will be discussed below.</p> <p><b>b. Specific objective:</b> To achieve the goal of the study, the objective of the study needs to be formulated. The objective of the study in this paper was to analyze manufacturing cycle time and resource utilization issues at the studied company (i.e. XX Engineering Sdn. Bhd.).</p>
	<p><b>2. Section 4: Methodology:</b> The research methodology is mixed with the experiment procedures. I can say that there is no research method in this paper. You need to clearly state the methodology as a separate section, not mixing with the procedures of the experiment. The sampling method, the details of the tools used and how and in what way the observation was used has to be explained well.</p>	<p><b>Section 4 (Methodology) has been revised as follows:</b></p> <p>Research methodology is separated with the experiment procedures. Some part of discussion at the previous Methodology (before being revised) is moved to be a part of discussion at Experiment Procedure. Sampling method, tools used and how and to what way the observation was used has been explained.</p> <p><b>4. Methodology</b></p> <p>To accomplish the objectives, the flowchart of methodology was shown in Figure 2. Generally, the first methodology was stopwatch time study to identify processing time at each workstation, and then the second methodology was to use Arena simulation for identifying the time needed to produce one unit of product and also to identify the utilization of resources at production lines.</p>  <pre> graph TD     Start([Start]) --&gt; A[Identify process flow and workstations to produce a tipping trailer frame]     A --&gt; B[Identify resources workers and equipments at each workstation]     B --&gt; C[Collect task time data randomly at each workstation by using Stopwatch Time Study]     C --&gt; D[/Task time data at each workstation/]     D --&gt; E[Input all task time data at each workstation to Input Analyzer of Arena]     E --&gt; F[/Type of probability time distribution at each workstation/]     F --&gt; G[Build, verify, and validation process of Arena simulation model]     G --&gt; H[/Manufacturing cycle time and resource utilization/]     H --&gt; Stop([Stop])   </pre> <p>Figure 2. Flowchart of methodology</p>

Process flow, workstations, and resources at the workstations were identified by direct observation which was followed by self investigation such as interviewing and discussion to the relevant person. This relevant person could be a head of production department or it could be a shop floor worker or others. And task time data at each workstation was also need to be collected randomly by using stopwatch time study. After the task time data at each workstation has been known, it was used to determine the type of probability time distribution at each workstation. This process was done by using Input Analyzer of Arena. All information about process flow, workstations, resources and probability at each workstation were needed to build Arena simulation model. This model was verified by using the running procedure in Arena module. The validation process of the model was conducted by comparing the output of the real system and the model output of the existing system. Finally, based on the output of Arena simulation model, manufacturing cycle time and resource utilization can be defined.

**4.1 Stopwatch Time Study**

..... Therefore, there is no relationship between one to other readings. ....

$$N' = \left( \frac{20\sqrt{N \sum x^2 - (\sum x)^2}}{\sum x} \right)^2$$

... (1)

..... random .....

**4.2 Arena Simulation Development**

.....  
 The Arena simulation in this study was run for 7 days and by using the following assumption to define the problem:

- .....

**5. Experiment Procedures**

The following steps are conducted in stopwatch time study:

1. Obtain and record all the information available about the task at each workstation.
2. Break down the task into precise elements.
  - a. Record the times for each task elements.

		<p>b. Repeat step (a) to get 5 individual readings</p> <p>c. Compute the average times for each task elements</p> <p>3. Sum the average times for each element to develop a total task time at each workstation.</p> <p>4. Repeat step (2) to step (3) many times until the required sample size is fulfilled.</p> <p>.....</p>
	<p><b>3. Result and discussion:</b></p> <p>The result and discussion is also mixed with the methodology and the experiment procedures. This happened because the methodology is not properly formulated.</p> <p>a. <b>Section 5.1.</b> The types of distribution stated in <b>Table 1</b> are not explained. Why you choose a particular probability distribution is not stated. Moreover, assignment of workers to facilities <b>Table 2</b> also need brief explanation.</p> <p>b. <b>Section 5.3.</b> This section covered many aspects, but mainly related to the findings obtained from the direct observations. But the discussions are presented as if they are proved with figures and facts. It would be better to summarize in a very brief way and covered then in the future study.</p>	<p><b>Result and discussion has been revised as follows:</b></p> <p>Result and discussion is separated with the methodology and the experiment procedures. Some part of discussion at the previous Result and Discussion (before being revised) is moved to be a part of discussion at Experiment Procedure.</p> <p><b>a. Section 5.1</b></p> <p>Section 5.1 and 5.2 at the previous Result and Discussion (before being revised) are changed to be Section 6.1 (Activity Duration of Workstations) and Section 6.2 (Arena Simulation).</p> <p>The types of distribution stated in Table 1 are explained by adding the statement “(in this case a particular probability distribution at each workstation is resulted from the output of Input Analyzer of Arena)”.</p> <p>Assignment of workers to facilities in Table 2 is explained briefly in Section 3.2 (i.e. production process flow). A few modifications have been done to paragraph in Section 3.2 to give a complete explanation about the assignment. Therefore, there is an added statement in Section 6.2: “In this case, the assignment of workers at each workstation has been discussed in point 3.2 above (i.e. production process flow)”.</p> <p><b>b. Section 5.3</b></p> <p>As suggested, many aspects in Section 5.3 have been summarized briefly and these aspects are planned for future study. One paragraph is added in Section 7 (i.e. Conclusion and Future Study) to cover this issue.</p> <p><b>5. Experiment Procedures.</b></p> <p>.....</p> <p><i>In this study, there were two steps for constructing the Arena simulation model of tipping trailer</i></p>

frame production line. The first one was Structure of Creating and Processing Each Product, and the second one was Structure of Combining Products. The information of each module is described as follows:

In order to create each product (entity) in the simulation model, the Create module was used to generate arrivals of each product. Then this Create module was connected with the Process module. Data that have been collected during stopwatch time study (as mentioned on point 4.1 above) will be used to this Process module. The picture of Create and Process modules were shown in Figure 3. In assembling process, two or more independent products can be assembled together to get one assembled product. For this purpose, the Process and Batch modules were used. The picture of the modules was shown in Figure 4.

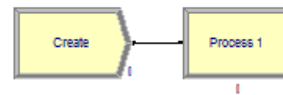


Figure 3. Create and Process modules in ARENA

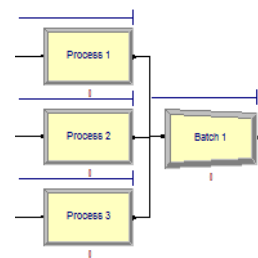


Figure 4. Process and Batch modules in ARENA

### 6.1 Activity Duration of Workstations

..... (in this case a particular probability distribution at each workstation is resulted from the output of Input Analyzer of Arena), .....

### 6.2 ARENA Simulation

.....  
 .....  
 .....  
 ..... In this case, the assignment of workers at each workstation has been discussed in point 3.2 above (i.e. production process flow).

## 7. CONCLUSION AND FUTURE STUDY

.....  
 .....  
 .....

*Other than stopwatch time study and Arena simulation, many factors affecting the cycle time of tipping trailer frame can be focused on in future study. These factors include the employees, machines and equipments, and the workstation condition factors. The employees' factor consists of employee fatigue problems, and unbalanced task distribution problem between one to other employees. As the employee experiences tiredness, the process flow of the product is disturbed and a lot more time is taken for the product to finish. And based on indirectly observation to the company, it indicates that the tasks have not been divided in a balanced manner according to the age, experience level and skills of the employees. Next, old machine technology and bad arrangement of equipments/machines is another factor that needs to be investigated. The old condition of machines caused their cutting speed to be slower and this situation will increase their operation time. Bad arrangement of equipments and tools also cause the operators to waste their time to search the equipments and tools. Finally, smoke and heat resulted from welding activity make an uncomfortable condition of the working area. This situation is one example for workstation condition factor that influences the cycle time of tipping trailer frame.*

**Title** : CYCLE TIME ANALYSIS OF TIPPING TRAILER FRAME: A Case Study at a Heavy Equipment Industry

**Authors** : MUHAMMAD MARSUDI, HANI IBRAHIM SHAFEEK

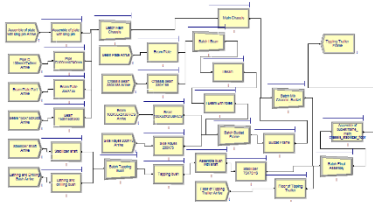
**Ref.** : File No.: 636-1373-1-RV.doc

Comments (Reviewer B)	Revision (response to comments) (Please see the blue color on the main paper)
<p><b>1. Section Abstract:</b> resources <del>utilizations</del> were</p>	<p><u>Section Abstract:</u> resources were</p>
<p><b>2. Section (1. Introduction):</b></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 5: more effective<del>ness</del> and productive.</li> <li>• Paragraph 1 line 8: always relevant <del>to be studied.</del></li> <li>• Paragraph 1 line 10:</li> </ul>	<p><u>Section Introduction:</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 5: more effective and productive.</li> <li>• Paragraph 1 line 8: always relevant.</li> <li>• Paragraph 1 line 10:</li> </ul>

	<p>today <u>is</u> not focused only <del>for</del> <u>on</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 11: but also the <u>cycle</u> time.</li> </ul>	<p><i>today is not focused only on</i></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 11: <i>but also the cycle time.</i></li> </ul>
	<p><b>3. <u>Section (2. Literature Review):</u></b></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 1: Cycle time is the total time required to produce a product(s) from the beginning to the end of the process.</li> <li>• Paragraph 1 line 3: These terms include ‘Time Line’, ‘Cycle Time’, ‘Time to Market’, ‘Speed’, and ‘Slip Rate’.</li> <li>• Paragraph 2 line 1: Japan is the only country that emphasizes the routine use of both cycle-time analysis and process simplification.</li> <li>• Paragraph 3 line 4: time of an order in most companies is actually less than 5 percent of the order-to-delivery cycle.</li> <li>• Paragraph 3 line 8: , most companies measure their performance against criteria such as equipment utilization, productivity or order completion date and think they are doing fine if they get high scores.</li> <li>• Paragraph 4 line 6: However, the technology is still underutilized</li> <li>• Paragraph 4 line 24 – 25: process and proposes a set of real-time location systems (RTLs)-enabled dispatching rules developed [17]. The quality in a fab</li> <li>• Paragraph 5 line 11: The proposed modelling approach has showed to provide more accurate</li> <li>• Paragraph 5 line 15: time and waiting times) for product tote movement</li> <li>• Paragraph 5 line 18: Lina et al.,(2009) had outlined</li> <li>• Paragraph 6 line 1: Cortesa et al.,(2010) present a real</li> <li>• Paragraph 6 line 9:</li> </ul>	<p><u>Section Literature Review:</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 1: <i>Reference is stated and numbered as [3].</i></li> <li>• Paragraph 1 line 3: <i>Reference is stated and numbered as [4].</i></li> <li>• Paragraph 2 line 1: <i>Reference is stated and numbered as [5].</i></li> <li>• Paragraph 3 line 4: <i>Reference is stated and numbered as [6].</i></li> <li>• Paragraph 3 line 8: <i>Reference is stated and numbered as [6].</i></li> <li>• Paragraph 4 line 6: <i>However, the technology is still underutilized.</i></li> <li>• Paragraph 4 line 24 – 25: <i>process and proposes a set of real-time location systems (RTLs) - enabled dispatching rules developed [17]. The quality in a fabrication process</i></li> <li>• Paragraph 5 line 11: <i>The proposed modelling approach has shown to provide more accurate</i></li> <li>• Paragraph 5 line 15: <i>time and waiting times) for product totes movement</i></li> <li>• Paragraph 5 line 18: <i>Lina et al., ( 2009 ) had outlined</i></li> <li>• Paragraph 6 line 1: <i>Cortesa et al., (2010) presented a real</i></li> <li>• Paragraph 6 line 9:</li> </ul>



	stations and the activity of the workers [23].	<i>stations and the activity of the workers [26].</i>
	<p><b>4. Section (3.2. Production Process Flow):</b></p> <ul style="list-style-type: none"> <li>• Figure 1. Process flow to produce tipping trailer frame</li> <li>• Paragraph 1 line 5: These three main workstations are</li> <li>• Paragraph 1 line 8: beam plate (356 X 1556)</li> <li>• Paragraph 1 line 10: After being processed at the cutting station, the components of the main chassis were assembled and welded with the assembly part of plate with king to become the main chassis by worker B. By welding process, beam plate part was assembled with chassis beam 330 x 155 part by one workers (worker C) at bucket frame station. The assembly of beam plate and chassis beam 330 x 155 parts were sent to drilling station. I-beam with holes should be made at this station by one worker (worker E). Lastly, the I-beam with holes will be passed to the bucket frame station. The I-beam with holes will be assembled and welded with side raves 200 x 75 and the beam 100 x 50 x 2438 RCS in this bucket frame station by worker D. By welding process, the main chassis (produced at Main Work Station 1) was assembled with the bucket frame (produced at Main Work Station 2) by worker D. Two stabilizers that have been manufactured at stabilizer station by worker E were fixed into the assembly of main chassis and bucket frame to produce a tipping trailer frame.</li> </ul>	<p><u>Section Production Process Flow:</u></p> <ul style="list-style-type: none"> <li>• The dimension has been added to the beam plate on the bottom-left-hand corner of the diagram.</li> <li>• Paragraph 1 line 5: <i>These three main workstations are</i></li> <li>• Paragraph 1 line 9: <i>beam plate (356 x 155)</i></li> <li>• Paragraph 1 line 10: All tenses are changed to be past tense. Relate to the comments of Reviewer 1, a few lines of explanation are added to this paragraph to give more complete information about the assignment of workers to facilities as mentioned in Table 2.</li> </ul> <p>Completely, this part of paragraph is modified to be: <i>After being processed at the cutting station, the components of the main chassis were assembled and welded with the assembly part of plate with king to become the main chassis by worker B. By welding process, beam plate 150 x 150 x 300 IB for bucket frame part (prepared by worker C) was assembled with chassis beam 330 x 155 part (prepared by worker C) by one worker (worker D) at bucket frame station. The assembly of beam plate and chassis beam 330 x 155 parts was sent to drilling station. I-beam with holes was made at this station by one worker (worker E). Lastly, the I-beam with holes was passed to the bucket frame station. The I-beam with holes was assembled and welded with side raves 200 x 75 and the beam 100 x 50 x 2438 RCS in this bucket frame station by worker D. By welding process, the main chassis (produced at Main Work Station 1) was assembled with the bucket frame (produced at Main Work Station 2) by worker D. Bush part (prepared by both worker A at lathing &amp; drilling bush workstation and worker E at tapping bush workstation) and shaft part (prepared by worker A at stabilizer shaft workstation) were assembled and welded by worker E to be a stabilizer part. Two stabilizers that have been manufactured at stabilizer station by worker E were</i></p>

		<p><i>fixed into the assembly of main chassis and bucket frame to produce a tipping trailer frame by worker E at assemble of bucket frame main chassis stabilizer floor workstation.</i></p>
	<p><b>5. Section (3.3. Goal of the Study):</b></p> <ul style="list-style-type: none"> <li>Paragraph 1 line 1: XX Engineering Sdn. Bhd. faced continuously <b>ly</b> increasing</li> <li>Paragraph 1 line 5: the <b>possibility possible</b> improvements of the existing production lines can be <b>executed executed</b>.</li> </ul>	<p><u>Section Goal of the Study:</u></p> <ul style="list-style-type: none"> <li>Paragraph 1 line 1: <i>XX Engineering Sdn. Bhd. faced continuously increasing</i></li> <li>Paragraph 1 line 5: <i>the possible improvements of the existing production lines can be executed.</i></li> </ul>
	<p><b>6. Section (4.1. Stopwatch Time Study and Direct Observation/Investigation):</b></p> <ul style="list-style-type: none"> <li>Paragraph 2 line 1: direct observation/investigation <b>observes reveals</b> other</li> <li>Paragraph 2 line 5: if the old machine is always make trouble and</li> </ul>	<p><u>Section Stopwatch Time Study and Direct Observation/Investigation:</u></p> <ul style="list-style-type: none"> <li>Paragraph 2 line 1: Relate to the comments of Reviewer C, this part is deleted.</li> <li>Paragraph 2 line 5: Relate to the comments of Reviewer C, this part is deleted.</li> </ul>
	<p><b>7. Section (4.2. Arena Simulation Development):</b></p> <ul style="list-style-type: none"> <li>Paragraph 2 line 4: The “1” indicates that <b>is</b> there</li> <li>Paragraph 2 line 6: analyze the <b>resulted resultant</b> data</li> </ul>	<p><u>Section Arena Simulation Development:</u></p> <ul style="list-style-type: none"> <li>Paragraph 2 line 4: <i>The “1” indicates that is there</i></li> <li>Paragraph 2 line 6: <i>analyze the resultant data</i></li> </ul>
	<p><b>8. Section (5.2. Arena Simulation):</b></p> <ul style="list-style-type: none"> <li>Figure 4: <ul style="list-style-type: none"> <li></li> </ul> </li> <li>The title of Table 2: Table 2. The result of Arena simulation in <b>term terms</b> of cycle time</li> <li>Figure 5. The result of Arena simulation for instantaneous utilization</li> <li>Paragraph 2 line 2: <b>running</b> the Arena simulation</li> </ul>	<p><u>Section Arena Simulation:</u></p> <p>Relate to the comments of Reviewer C, the numbering of Section (5.2. Arena Simulation) is changed to be Section (6.2. Arena Simulation). And the numbering of Figures 4 and 5 are changed to be Figures 5 and 6.</p> <ul style="list-style-type: none"> <li>Figure 5 (previously is Figure 4): The figure is enlarged.</li> <li>The title of Table 2: <i>Table 2. The result of Arena simulation in terms of cycle time</i></li> <li>Figure 6 (previously is Figure 5): Vertical axis of the figure is labeled.</li> <li>Paragraph 2 line 2:</li> </ul>

	<ul style="list-style-type: none"> <li>• Paragraph 3 lines 1 – 4: From Table 2, it can be stated that the highest value added cycle time is at <b>main chassis workstation main chassis</b> which was 13.84 hours. .... The second highest non value added was <del>22.63</del> hours at <b>workstation chassis beam 330X155 workstation</b>.</li> <li>• Paragraph 3 line 5: Both these two highest non-value added stations were located at Main Workstation 2, therefore to improve manufacturing cycle time of this studied production line, this Main Workstation 2 should get more attention than other main workstations.</li> <li>• Paragraph 4 line 2: This machine was used at some workstations those were pipe</li> <li>• Paragraph 4 line 8: utilizations, the use of a certain welding machine should not be limited to a certain task only. If possible, this machine also should be used for other tasks so that its utilization can be increased. The same action can be applied for increasing the worker utilization.</li> </ul>	<p><i>running the Arena simulation</i></p> <ul style="list-style-type: none"> <li>• Paragraph 3 lines 1 – 4: <i>From Table 2, it can be stated that the highest value added cycle time is at main chassis workstation which was 13.84 hours. .... The second highest non value added was 22.63 hours at chassis beam 330 x 155 workstation.</i></li> <li>• Paragraph 3 line 5: Other statements are added to this sentence to state the specific ways to possibility reducing the non-value adding times, so that: <i>Both these two highest . . . . . attention than other main workstations. In this case, by referring to Table 2 we can assign Worker A to help worker C to work together at beam plate 150 x 150 x 300 IB (for bucket frame) workstation or chassis beam 330 x 155 workstation. By this scenario, the non value added cycle times at both beam plate 150 x 150 x 300 IB (for bucket frame) and chassis beam 330 x 155 workstations can be reduced.</i></li> <li>• Paragraph 4 line 2: <i>This machine was used at some workstations which were pipe</i></li> <li>• Paragraph 4 line 8: Other statements are added to these sentences to state and indicate how the improvement of welding machines can be done.  <i>utilizations, the use of a certain welding machine should not be limited to a certain task only. If possible, this machine also should be used for other tasks so that its utilization can be increased. This means for example, by referring to Table 2, besides to be used for welding task at Main Chassis workstation, welding machine for Main Chassis is also used for welding task at Assemble of bucket frame main chassis stabilizer floor workstation. Based on the simulation result, by doing this action the utilization of welding machine for Main Chassis can be increased from 0.24 (see Figure 5) to 0.41. The same action can be applied for increasing the worker utilizations. As</i></li> </ul>
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		<p><i>an example, if Worker A is assigned to help Worker C to work together at chassis beam 330 x 155 workstation, the utilization of Worker A increases from 0.33 to 0.37.</i></p>
	<p><b>9. Section (5.3.1.2. Unbalanced task distribution):</b></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 4: The <del>unbalance unbalanced</del> task</li> <li>• Paragraph 1 line 6: has been suggested segregating the operator to a workstation attributable</li> <li>• Paragraph 1 line 8: will <del>be</del> responsible</li> <li>• Paragraph 1 line 12: skill and experience will <del>decline reduce</del> the cycle</li> <li>• Paragraph 1 line 15: workstation that <del>are</del> appropriate to take in the task.</li> </ul>	<p><u>Section Unbalanced Task Distribution</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 lines 4 - 15: Relate to the comments of Reviewer C, this part is deleted and to be summarized to be part of future study.</li> </ul>
	<p><b>10. Section (5.3.2.2. Bad arrangement of equipments and machines):</b></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 1: tools cause the operators <del>to</del> waste their time</li> <li>• Paragraph 1 line 6: the company <del>is suggested to should</del> arrange</li> <li>• Paragraph 1 line 11: prearrange <del>the</del> time <del>to the</del> for the operator to store</li> <li>• Paragraph 1 line 16: been cleaned or <del>in dirty condition not.</del></li> <li>• Paragraph 1 line 19: being damaged and exposes the factory to dangerous condition</li> </ul>	<p><u>Section Bad Arrangement of Equipments and Machines</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 lines 1 - 19: Relate to the comments of Reviewer C, this part is deleted and to be summarized to be part of future study.</li> </ul>
	<p><b>11. Section (5.3.3. Problems of the workstation condition):</b></p> <ul style="list-style-type: none"> <li>• Paragraph 1 line 6: in a workstation sometimes disturb the <del>nearing nearby</del> station.</li> <li>• Paragraph 1 line 7: such as welding and cutting (<del>used using</del> plasma)</li> </ul>	<p><u>Section Problems of the Workstation Condition</u></p> <ul style="list-style-type: none"> <li>• Paragraph 1 lines 6 - 7: Relate to the comments of Reviewer C, this part is deleted and to be summarized to be part of future study.</li> </ul>

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	<b>13. Section (References):</b>  <b>References</b>	<u>Section References</u>  References has been improved and formatted as per the SAJIE template.
8	26 Maret 2014	Editor Jurnal menginfokan bahwa revisi manuskrip yang dilakukan sudah sesuai, dan ada juga komen dari Reviewer B yang menyatakan bahwa: “the paper is improved a lot and well done”. Editor juga menginfokan agar alamat kontak <i>author</i> diubah menjadi alamat e-mail pada institusi. Info lainnya adalah tentang pembayaran R2000 melalui staf administrasi Jurnal, serta info tentang manuskrip artikel yang siap akan diterbitkan termasuk info format templatnya.
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