Efficiency enhancement of modern manufacturing industries through the development of Value-added Employees using Value focused thinking approach

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Abstract:
In this competitive market place, the management focused on improving overall efficiency of the organization, lead time reduction, quick response to market, make things work optimal, delivering elegant customer service; etc. Quantitative improvement in the existing business is not enough; in addition to qualitative improvements, management must spend more time looking for entirely newer, cost effective, and innovative ways of meeting the corporate goals. This paper suggests them a methodology to develop value added employees through value focused thinking approach using Vethanthiri Maharishi’s Yoga and Meditation practices in order to achieve the same. It insists the manufacturers to find and analyze the gap between the existing employees’ thinking level and the management’s expectations and improve them through relevant value focused thinking approach. In this paper, a pump manufacturing industry at Coimbatore, India was chosen for the case study. A sample of 30 employees from various departments like Marketing, Research and development, Design, Planning and Purchase, Stores, Quality, Winding and Varnishing and Assemblies were taken for the analysis. Necessary training was identified and provided to them. The data were collected for a period of six months like before training and after training. This will enable them to become autonomous and value added employees. It helps the employees to work piece-fully, think innovatively in order to develop themselves as the value-added employees. The development of such employees leads to a positive outcome with stable and increasing profitability. When these objectives are reached, the manufacturers will hopefully stand stronger and be more productive than it is today.

Key words: Value focused thinking, value added employees, qualitative improvements, Vethanthiri Maharishi’s Yoga, Meditation and mental agility.
1. Introduction

Present scenario, manufacturers face the challenge of deciding which option to take when making critical decisions in regard to improving their performance. Anilkumar (2009) expressed that value emphasized the need to consider function and cost in a structured and systematic way, as part of any strategic decision process. Based on the statement given by Douglas (2010) the value is a measurement allows the industries to identify what to measure as well as inform, them about how to measure it. The value of employees could be developed through value focused thinking. Edward and Richard (2002) evaluated that the value focused thinking could be developed using Vethanthiri Maharishi’s Yoga and Meditation practices. At the beginning of the research, it is necessary to understand the inter relationships between human, nature and business.

![Figure 1. Integration model of human, nature and business](image)

The integrative aspects of human, earth and business are shown in figure 1. TIESD (2003) evaluated that the linkages of the social, economic and environmental aspects would be a key consideration for the business / organizations’ development. Manoj and Sunil (2010) reported that the linkages would be desirable to mix practical perspectives from various parameters of human, nature and business, with the specific focus on the applied aspects of sustainable development.

The basic concept of this paper is to identify and analyze the gap between the present level of employees’ thinking and the industries’ expectations. The necessary and relevant training is to be provided on value focused thinking for the selected employees in order to develop them as autonomous employees. So that they will manage the problems rose during the operations very effectively and provide best solutions then and there. Furthermore, they will become value added and autonomous employees. In this paper, a pump manufacturing industry was taken for a case study. The problem statement was formulated after the discussion had with top level management and pump experts.
2. Problem statement

High skilled employees and their new creative and innovative thinking power is one of the important assets for an organization. Organizations are lacking to identify and impart relevant training programmes to their employees in order to trigger their thinking power. If they do it effectively, all the employees of their organizations are themselves become value added ones. The Vethanthirii Maharishi’s Yoga and Meditation practices set out to trigger the thinking power of the employees and strengthen the organization’s performance. This helps the employees to think more relevantly, creatively and innovatively in order to find out innovative solutions in their fields. The parameters those required to develop value added employees are taken as research problem and solution methodologies are proposed.

3. Background and literature review of the paper

Charles (2004) reported that Benjamin Graham, widely considered the father of value investing, set down his central beliefs on how investors may achieve better-than-average results. Holler (2009) pointed out that 13% of teaching problems were successfully solved after 25% of employees have trained in value focusing thinking. Claimed by Stein and Lilith (2010) a study of professional services firms found that institutions with engaged creative and innovative teaching techniques were over 40% more productive after the completion of value focused training programmes.

Yoga is an ancient health science that usually includes regulated breathing, moving through various postures, and meditation. According to Krishnananda (2005), yoga and the psychology of spiritual practice led the mind of human. Michalsen (2008) evaluated that at study 15 out of 16 participants in the yoga group (94%) and 6 out of 8 (75%) reported having significant improvements after the yoga and meditation training. Li-An (2011) insisted that meditation is described as reaching a higher state of consciousness. The benefits of meditation are noticeable like improves physical health, reduces stress, meditation experience in a work setting adds values to the practitioners.

4. Objectives of the paper:

As stated by Lucienne and Amaresh (2009), the objectives are to help researchers and research groups to rigorously and efficiently plan, implement and communicate their research. Jonker and Bartjan (2010) expressed that the objective states, what is to be accomplished by the research and for whom (or with whom), as well as what the probable result will be (knowledge, a
model, suggestions for improvement, a change) and why this is relevant (for those involved)? From the above understanding, the objective of this paper is:

1. To identify the gap between the present employees thinking level and the organization's expectations.
2. To provide value focused thinking training to the selected employees.
3. To predict and analyze the data before and after the value focused training.

5. Research methodology

The research methodology provides an understanding of how the research was conducted and organized in order to obtain information that could be helpful for data collection, analyze, and conclude. As stated by Andrew (2000), research methodology is introduced to indicate a potentially fruitful direction for the analysis of event sequences in further research. The research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. Yogeshkumar (2009) expressed that the research approach clearly establishes the nature of the problem and the logic underlying the investigation. The solution given in this paper has been carried out by using the research approach as shown in Figure 2.

As per the research approach, the conceptual literature concerning the concepts and theories, and the empirical literature consisting of studies made earlier, which are similar to the one proposed. The next step will be the prediction of present level of the employees thinking power through a brainstorming session. Based on the outcomes achieved, a current state map of the employees' thinking level has to be prepared. After thorough analysis, the required trainings

![Figure 2. Research approach](image-url)
are to be provided to improve their thinking level. Then another brainstorming session has to be conducted and analyze the same and provide the trainings for value focused thinking. Repeat and fine-tune the same procedure until the goal is reached.

6. Case study

Bill and John (2001) expressed that case study leads to obtain very novel idea and no longer limited to the particular individual. Kothari (2004) outlined that a case-study is an in-depth approach to reach the basic relationship between the theoretical and practical aspects. In order to examine the practical feasibility of development of value added employees through value focused thinking, a traditional pump manufacturing industry in Coimbatore, India had been chosen for the case study. At the beginning of the case study, it is necessary to select a relevant product in the selected manufacturing premises.

6.1 First brainstorming session

David and Rusel (2009) evaluated that a brainstorming session (Figure 3) is a journey of discovery. The brainstormers can imagine new ideas as buried treasure, waiting to be discovered. The first brainstorming session was conducted in the selected pump manufacturing environment comprising of top, middle and low level management, customers, dealers, distributors, vendors, suppliers, etc. The internal participants are classified according to their product knowledge and experience as high skilled, medium skilled and low skilled. The external participants like customers, vendors and suppliers are unable to classify according to these categories.

![Figure 3. Brainstorming session](image)

6.1.1 First brainstorming participants’ index:

David (2001) stated that when the research has several dimensions of a concept or different measurements of a dimension, it may need to combine them into a single index. One simple way for getting an overall index is to provide scale values to the responses and then sum up the corresponding scores. The first brainstorming session was conducted with 30 participants from various departments like Customers (10), Vendors and suppliers (5), Marketing (2),
Research and development (2), Design (1), Planning and Purchase (2), Stores (1), Quality (2), Winding and Varnishing (2) and Assemblies (3). The external participants like Customers, Vendors and Suppliers were invited by the management. The internal participants were selected based on their experience and knowledge. The brainstorming participant’s index is presented based on the suggestions given by the participants during the first brainstorming session. Table 1 focuses on the suggestion levels of participants in the brainstorming session. The customers and technical professionals have the highest mean and median suggestion levels relative to the other occupational groups.

Table 1. First Brainstorming participants’ suggestions index

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Participants</th>
<th>Suggestions (Mean)</th>
<th>Standard error</th>
<th>Suggestions (Median)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Customers</td>
<td>10.14</td>
<td>0.40</td>
<td>2.00</td>
</tr>
<tr>
<td>2</td>
<td>Business professional</td>
<td>0.95</td>
<td>0.03</td>
<td>0.17</td>
</tr>
<tr>
<td>3</td>
<td>Technical professionals</td>
<td>3.47</td>
<td>0.33</td>
<td>0.05</td>
</tr>
<tr>
<td>4</td>
<td>Technicians &amp; Operators</td>
<td>0.66</td>
<td>0.03</td>
<td>0.05</td>
</tr>
<tr>
<td>5</td>
<td>Vendor &amp; Suppliers</td>
<td>0.45</td>
<td>0.04</td>
<td>0.02</td>
</tr>
</tbody>
</table>

F – test 176.92  Probability-F <0.001
χ² - test 2800  Probability- χ² <0.001

From the above observations, differences in mean suggestion levels are highly significant across participants by an F-test (p-value <0.001). Differences in medians suggestions across participants are also highly significant (p-value <0.001). Thus suggestions vary significantly by business professional, technicians, operators, vendor and suppliers, but the suggestions of customers and technical professionals not vary significantly.

5.1 Training programme for value focused thinking.

An opportunity for an employee to continue to grow and develop through training and development is one of the most important factors for an organizational growth. Alex (2009) reported that many great ideas have come from those devoid of specialized training. The management has decided to send the value focused team to (i) Yoga and (ii) Meditation.

5.1.1 Training - Yoga

Nicole (2007) expressed that the first step of yoga is conquering the employees’ mental abilities and develops concentration (figure 4). The employees have to clear their head of all thoughts. Imagine they are in the balanced position, relax and imagine everything is calm and flowing. After a week or two of training they will be able to maintain that position for longer and...
longer. Normal employees have eyes that are between loose and focused. A really focused pair of eyes will get an employee's attention. Then focus on one particular object. Scare the objects away but they must keep their focus on the one object they focused on before.

Figure 4. Yoga – Health exercise

Figure 5. Meditation – Mind concentration

5.1.2 Training - Meditating

Fleischman (2011) insisted that another method for developing mind concentration is meditating. It helps the employees to learn, grow, see what is really going on, find some degree of balance, feel and express emotions such as love and appreciation, and do what they need to do to take care of them, in other words, embody their intrinsic strength and wisdom, even in the face of pain and suffering. A sample meditation position for mind concentration is shown in figure 5. The above trainings' programmes were conducted in the factory premises for the selected employees those participated in the first brainstorming session, over a period of six months with well experienced trainers in the respective area. After the completion of the necessary trainings successfully, the second brainstorming session was conducted.

5.2 Second brainstorming session after training

The second brainstorming session was conducted in the same premises with the same group of participants. Table 2 focuses on the suggestion levels of participants in the second brainstorming session. It shows the means, standard errors, and median values of the participants’ suggestions index by occupational group for all participants. The customers and technical professionals have the highest mean and median suggestion levels relative to the other occupational groups.

Table 2. Second Brainstorming session participants’ suggestions index

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Participants</th>
<th>Suggestions (Mean)</th>
<th>Standard error</th>
<th>Suggestions (Median)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Customers</td>
<td>10.647</td>
<td>0.38</td>
<td>1.9</td>
</tr>
<tr>
<td>2</td>
<td>Business professional</td>
<td>1.186</td>
<td>0.022</td>
<td>0.149</td>
</tr>
<tr>
<td>3</td>
<td>Technical professionals</td>
<td>3.817</td>
<td>0.297</td>
<td>0.048</td>
</tr>
<tr>
<td>4</td>
<td>Technicians &amp; Operators</td>
<td>0.759</td>
<td>0.026</td>
<td>0.046</td>
</tr>
</tbody>
</table>
From the above observations, differences in mean suggestion levels are reduced at an average of 15% across participants by an F-test (p-value <0.001) when compared to the first brainstorming session. Differences in medians suggestions across participants are also reduced by around 7.5%. Thus, the overall suggestions given by customers, business professional, technical professionals, operators, vendor and suppliers were improved considerably. Ultimately, based on the outcome analysis of the second brainstorming session, it was clearly understood that the thinking level of the participants was improved considerably.

Table 3. Comparison of before training Vs after training

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Participants</th>
<th>Suggestions (Mean)</th>
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</thead>
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<tr>
<td></td>
<td></td>
<td>Before training</td>
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<td>Before training</td>
</tr>
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<td>Customers</td>
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<td>Technicians &amp; Operators</td>
<td>0.66</td>
<td>0.759</td>
<td>0.03</td>
</tr>
<tr>
<td>5</td>
<td>Vendor &amp; Suppliers</td>
<td>0.45</td>
<td>0.56</td>
<td>0.04</td>
</tr>
</tbody>
</table>

| F – test          | 176.92 | 203.458 |
| Probability-F     | <0.001 | <0.001  |
| X²- test          |        | 2800    |
| Probability-X²    |        | 2618    | <0.001 | <0.001 |

These results demonstrated in the table 3 that the differences in mean suggestion levels are not significant across participants by an F-test (p-value <0.001). The suggestions were improved considerable by business professional, technicians, operators, vendor and suppliers. Thus, the employees thinking level was improved considerably.

7. Result and discussions

As stated by Murray (2008), positive results helps create and maintain team spirit and commitment to the team objectives, most importantly, it may drive innovation within the team. Positive results help, create and maintain team spirit and commitment to the team objectives, most importantly; it may drive innovation within the team. The research results are significant, taking into account that traditional industry has to be changed into global competitive, innovative and technology developed industry. The various outcomes were discussed below.
7.1 Employees thinking level

These results demonstrated in the table 3 that the differences in mean suggestion levels are not significant across participants by an F-test (p-value <0.001). The suggestions were improved considerably by business professional, technicians, operators, vendor and suppliers. Thus, the employees thinking level was improved considerably.

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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Before training</td>
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</tr>
<tr>
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F – test 176.92       203.458
Probability-F <0.001   <0.001
χ²-test 2800            2618
Probability- χ² <0.001  <0.001

7.2 Employees decision making quality level

The employees’ decision making quality level plays a vital role during the organizational developments. The employees’ decision making quality level before and after training is shown in figure 6. These results demonstrated that the participants could make higher-quality decisions in the context of complex problems. Decision quality is enhanced because the value focused thinking process encouraged the participants to first think about their values and then to carefully consider the problems among them.
7.3 Improving employees’ and organizational values

New creative and innovative processes are the fundamental building blocks for defining and organizing the work required to create value. As such, it is the vehicle for articulating the value creation dimension of an enterprise. The employees can identify ways often will be considered “outside the box” alternatives because they are not biased toward the status quo solutions. They are only limited by the creativity of the analysis. These value-added employees are having the direct impact on product quality, selling cost and customer service after sales. Cumulatively these factors are influencing to create value to the employees, organizations and also customers. The table 4 shows the different parameters and their values before training and after training.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Description</th>
<th>Before training</th>
<th>After training</th>
<th>Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employees’ value</td>
<td>25.75</td>
<td>30.65</td>
<td>15.99 %</td>
</tr>
<tr>
<td>2</td>
<td>Organizational value</td>
<td>45.25</td>
<td>45.85</td>
<td>18.99 %</td>
</tr>
<tr>
<td>3</td>
<td>Customer value</td>
<td>55.50</td>
<td>65.25</td>
<td>14.94 %</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>126.50</td>
<td>151.75</td>
<td>16.64 %</td>
</tr>
</tbody>
</table>

Value creation (151.75 – 126.5) = 25.25
8. Conclusions

This paper proves that the value focused thinking through Vethanthiri Maharishi’s Yoga and Meditation practice is a powerful tool to improve the employees’ thinking and decision making abilities. It identifies the employees’ value gap between the existing products / processes that helps the organizations to create high-value projects that support organizational goals. It offers advice, tools, methods and systems to deal with what is often called the “soft side” of business. This paper emphasizing that developing value added employees is the philosophy needed to create higher-value alternatives. This innovative approach has yielded extremely positive benefits to all manufacturing industries internationally.

The suggestions for future research can be valuable for future endeavors and alternative goals even when they are disappointing or unexpected. As described by Lucienne and Amaresh (2009), the description of future work will discuss those questions and hypotheses that came up but that are not addressed, because they fall outside the scope of the research or because the current understanding seems sufficient to continue with the next stage. The suggestions for future research are given below:

1. All the employees are divided into sub-groups, and the relevant trainings are to be provided periodically.
2. The research can be extended to other manufacturing industries by implementing the same practice.
3. Some innovative software can be developed with experts, especially for Yoga and Meditation training in order to improve the employees’ values.
4. 100 % yoga and meditation trainings can be provided to their employees in order to achieve the organizational goals.

It is hoped that this paper will be helpful for the manufacturing sector to generate new ideas / innovations / solutions. It gives a clear idea about the development of organizational values through employees’ values along with the innovative approach. It also insists a new idea to the manufacturing industries and or service providers to improve their quality, productivity, performance and customer satisfactions significantly.
References


