Industry Study Report

Year 12 - 2011

SMCC 2011
Mr Ramos
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Structural Factors

- **Identify Management structures appropriate to the furniture industry**
  A flat organisational structure is favoured by companies within the furniture making industry today as it allows more streamlined communication between the management and the working teams. A typical flat organisational structure would look like this:

```
  Chief Executive Officer
     ↓
  Managers of departments
     ↓
  Production
     ↓
  Working Teams

  Finance
     ↓
  Working Teams

  Research
     ↓
  Working Teams

  Sales
     ↓
  Working Teams
```

This management structure gives the working teams of each section more access to the managers and also more access to information from the original teams.

- **Describe marketing techniques which would be used in the industry**

  According to Microsoft Encarta, 1994, ‘Marketing is the promotion of a product or service by an industry’.

  In relation to the timber products and furniture industries, this involves a wide range of mediums to successfully market and sell products. These mediums include:

  - Internet websites
  - Magazine articles
  - Newspaper articles
  - Advertisements across all mediums
  - Exhibitions
  - Showrooms
  - Television advertisements
### Advantages

<table>
<thead>
<tr>
<th>Internet Websites and Banners</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Wider range of customers within a wider age group.</td>
<td></td>
</tr>
<tr>
<td>- Stronger visuals within advertisements.</td>
<td></td>
</tr>
<tr>
<td>- Ease of access to a wide range of information for customers</td>
<td></td>
</tr>
<tr>
<td>- Set up costs</td>
<td></td>
</tr>
<tr>
<td>- If the website is not aesthetically appealing it can lose meaning and be overlooked by customers.</td>
<td></td>
</tr>
<tr>
<td>- Typically a small advertisement that may not catch the readers eye unless intended</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Magazines</th>
<th>- Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Allows for better targeting of audience, as you can choose magazine publications that cater to your specific audience</td>
<td></td>
</tr>
<tr>
<td>- Typically a small advertisement that may not catch the readers eye unless intended</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exhibitions</th>
<th>- Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Provides a one on one interaction between manufacturer and customer allowing for more questions to be answered about the product.</td>
<td></td>
</tr>
<tr>
<td>- Allows to the company not only to sell products but to gather market research on current products that may need alterations.</td>
<td></td>
</tr>
<tr>
<td>- Price</td>
<td></td>
</tr>
<tr>
<td>- Time</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Television Advertisements</th>
<th>- Message is temporary, and may require multiple exposure for the ad to rise above the clutter</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Television permits you to reach large numbers of people on a national or regional level in a short period of time</td>
<td></td>
</tr>
<tr>
<td>- Television being an image-building and visual medium, it offers the ability to convey your message with sight, sound and motion</td>
<td></td>
</tr>
<tr>
<td>- Limited length of exposure, as most ads are only thirty seconds long or less, which limits the amount of information you can communicate</td>
<td></td>
</tr>
</tbody>
</table>

### Identify factors that affect quality control within the industry

To ensure that there is a high standard of quality control within the industry; there are regular product inspections throughout the production and assembly of the product. At the beginning of each assembly station there is a visual inspection of the product to look for any surface defects on the product, and then at the completion of the job the quality controller will inspect and test each product individually, and record his findings on either a check list, table of measurements and results, record chart, or control chart, this is to ensure that all products are made to a high standard and all function flawlessly.
Technical Factors

- Describe CAD/CAM in reference to the focus industry

The use of CAD/CAM (computer aided design/ computer aided manufacturing) is largely used in the furniture making industry through the use of programs such as AutoCAD Inventor, and the CNC router. These programs and tools are all part of the new emerging technology’s used in the timber industry to increase productivity and mass production of products with more intricate designs.

The major CAD use in the industry today is the use of a computer aided drawing programs such as AutoCAD, Autodesk Inventor, and Autodesk Rivet. This program allows you to accurately construct a 3D drawing of the product using computer drawing techniques, and automatically transfer this 3D drawing into an orthographic projection drawing with a parts list. This has increased the production time of a product significantly as it has allowed for only one computer drawing to be created then altered accordingly rather that many alterations in hand drawings.

As well as the drawing components of the furniture industry developing, so are the tool’s used within the industry. Through the use of a CAM tools, such as the CNC router, it has allowed manufacturers to increase productivity significantly, and ensure the accuracy of the job. The CNC router allows you to insert a piece of timber and a computer drawing into the software and the router will cut the pieces to exact size for you. This has minimised overworking the employees, which in turn increases productivity, and assembly time of the product.
Discuss mechanisation, mass production and automation in relation to the industry

**Mechanisation** refers to the use of mechanical tools controlled by the operator rather than a manual tool used by the operator. A few examples of mechanisation within the furniture industry are the use of tools such as to replace:

<table>
<thead>
<tr>
<th>Mechanised Tool</th>
<th>Original Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Drill</td>
<td>Hand drill</td>
</tr>
<tr>
<td></td>
<td>Screw Driver</td>
</tr>
<tr>
<td>Router</td>
<td>Chisel</td>
</tr>
<tr>
<td></td>
<td>Hammer</td>
</tr>
<tr>
<td>Drop Saw</td>
<td>Tennon Saw</td>
</tr>
</tbody>
</table>

These are just a few examples of the mechanisation of tools within the industry. The main advantages of the mechanisation of tools are that it allows greater accuracy with less time. Although there are two main disadvantages of all mechanised tools, these include large initial/set up fees of the tool, and the need for a constant electrical supply to run the tool.

**Mass Production** in the furniture industry refers to the large scale production of a single item. The mass production of an item’s efficiency differs with different company’s and the products use. For example in a large scale company such as IKEA, mass production is fast reliable and allows for many products to be made at once, although in a much smaller business, mass production fails as it over produces a single product and leaves large stock piles of finished products waiting to be sold.

Mass production was created at the end of the industrial revolution; its greatest example is the production line of the Model T Ford in 1913.

There are many advantages and disadvantages to the mass production of a single item, these include:

<table>
<thead>
<tr>
<th>Advantage of Mass production</th>
<th>Disadvantage of Mass Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency of production: less time taken to produce goods</td>
<td>Boredom of workers</td>
</tr>
<tr>
<td>It is cheaper to make products in large quantities (whole sale price on materials)</td>
<td>Low job satisfaction from workers as they are not able to actually create something from nothing.</td>
</tr>
<tr>
<td>Specialised workers – workers only need to be trained and skilled in a single task.</td>
<td>Large stockpiles of assembled goods ready to be sold go to waste and therefore depreciate in value</td>
</tr>
<tr>
<td></td>
<td>More chance of an imperfection with the changing of hands and workers, and movement of the item</td>
</tr>
</tbody>
</table>
Automation within the furniture industry refers to the use of machines, (i.e. robots) to take over manual tasks that would normally be commenced by a human. In simpler terms this refers to using a robot to do something a human would normally do. Automation has become more and more popular within the furniture industry as it has allowed for less staff to be on shift at the same time, instead of an entire assembly line of staff, there are only a couple controlling the machines as they do the work.

The use of automation within the furniture industry has greatly improved the product efficiency and reliability of the products, although the automation of industries has some major disadvantages in relation to the common worker. Through the use of automation, many workers have become redundant, and as a result, loose their position in the workforce or are forced to be trained in another area.

In summary: Through the use of technologies such as mechanisation, mass production and automation, the furniture industry is able to grow to new and greater heights in relation to the production of the product and the way the product is created.

Environmental and Sociological Factors

- **Discuss the implications of pollution in relation to the industry**

Pollution plays a major role in the success or demise of a furnishing company. If the company does not have adequate waste disposal systems in place, the pollution and environmental impact can be devastating.

Most pollution is formed through the 3 types of waste; solid, effluent (liquid) and gaseous.

- Solid waste comes in the form of off cut timber and usually ends up in a landfill, although the transport and storage can cost company’s more than the original purchase price of the timber.
- The effluent waste comes in the form of liquid and is very harmful to wild life in the surrounding areas to the industry.
- Finally the gaseous pollution can take form in the emissions of gasses from heavy machinery (i.e. petrol/diesel fuelled machinery?)

Although it is not just the production of the product that can cause pollution to surrounding areas, there is also noise pollution produced from the workers/ machines working through their products, and also from cars and trucks pulling into factories to pick up/deliver parts.
• **Describe conservation in relation to the industry (limited resources - use of materials, timber/manufactured boards, waste minimising and recycling)**

Conservation in relation to the timber industry refers to the use of processes such as recycling of materials and reprocessing materials into new products. A great example of conservation and the recycle of materials is the use of manufactured boards and MDF. These boards are created from offcuts of a wide variety of timbers, moulded down and bonded together using an epoxy resign, to create a new board. The use of boards like these have let the furniture industry grow to new heights as it has allowed it to pay less for materials, but still produce the same quality and standard of material.

• **Discuss the effects of Environmental Impact Statement (EIS) and sustainable development that apply to the industry**

An environmental impact statement is a detailed study of the potential effects of a development on a particular area. These should be conducted whenever a new site is needed, or an addition to an existing site is needed. An EIS assesses the potential damage to a local area in terms of its ecology, and air and water quality.

Sustainable development (SD) refers to the aim to meet human needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come. This is widely used in the furniture industry by choosing a location for a site of a timber products factory far enough away from the city so that it does not affect homes, schools, hospitals, and offices but still easily accessible through means of private and public transport for the employees.
Personnel Issues

- Describe personnel issues that businesses have to address in the organisation (training, roles of union, EEO, etc.)

With any industry, whether it is in the graphical side or in timber products, there are always personnel issues that need to be addressed by the management team. These issues include:

- The training of new staff
- Hiring new staff
- Equal Employment Opportunities (EEO)
- The role of the union within the company

These personnel issues in the industry today are very important in keeping the balance between the management team and the common worker. When hiring new staff, techniques such as using the Equal Employment Opportunity board to find the staff minimises discrimination and unlawful harassment. EEO means that the workplace has a certain set of rules, policies, practices and behaviours, which are fair and do not disadvantage people on the basis of race, age, gender, nationality, and appearance.

Also another major personnel issue related to the furniture industry is the hiring and training of new staff. In present days, most workplaces are automated, therefore many of the workers need to be multi skilled so that they are able to not only build things with their hands, but also control the machines as well. This has created a large overlap in the workforce as companies do not need many workers to be on the assembly line, but still need them to supervise and maintain the machinery. This has produced major cutbacks in the amounts of workers within the workforce.
Bibliography

- Industry Study Text Book