



Design and Quality Management

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Quality:

The term quality is a very confusing concept, different people would look at quality in different ways; the job that it is in reference to would require a different standard of quality. For example, quality in terms of a mass produced product would entail the products build and life span, whereas quality for a public speaker would refer to the information that has been put across and how it was done.

Quality control is a large part of the production line of any product. Quality has to be ensured in a product all the way through the production cycle, from design and concept, right through to sales. Quality of a product originates from the research done into the need and requirements for the product so that a design brief can be made up for the designer to follow when producing ideas. A design brief makes sure that the designs will be of a specific quality and meet the requirements that had been previously researched. An example of requirements in a design brief could be for outdoor apparatus for a child's playground. They would need to be made of a strong, non-corrosive material that can withstand being outdoors in the elements. It would also have to have no sharp edges so that they aren't a safety hazard. This quality in the design must then also be carried on through production and then into retail. A level of quality must then be maintained once the product goes into sales so that it does well as a marketed product. The shop must make sure that the products are kept in good shape when they are on the shelves and ensure stock levels on the shelves are kept to a maximum to make sales as efficient as possible. This is also kept through a quality of advertisement and presentation to keep the public interested in the product after initially catching their eye.

Quality can be considered to be the most important part of a products success. If the product isn't of a high quality or advertised to be shown in a positive image then the product isn't very likely to be a success, thus resulting in a failure of said product and losing the company that is manufacturing and selling it a lot of money. This therefore makes quality of up-most importance as it is the aspect that ensures whether the product will be a success or a failure. If a company wishes for their product to be a success then they will do the best that they can to make their product be of a highest quality. Coupled with the quality of the product they will go into a lot of detail to make the advertisement of a high quality. The quality of advertisement is also subject to debate as to what is quality in terms of presenting the product to the public. Is quality about how well the product is presented to the public, i.e. how well the product is shown in the advertisement and the information given, or is it the effect that it has on the public and how well it stays in their memory. A key example of the latter type of advertisement, where it has an adverse effect on the public and stays in their memory is the 2007 Cadbury advert in which a gorilla plays the drums. Cadbury said that the idea of this advert was not to promote any product but to make an advert that promoted their name and that would be remembered by everyone. This clever marketing idea proved to be a success as it did stick around in people's memories for a long time.

To conclude, quality can be a measure of different aspects. The physical properties of the product that make it suitable for the job it is being designed for, or the adverse effect that it has on the public, making them either want to buy it or be a product that is widely recognised, remembered and respected.



Company name and logo:

The name of a company is very important. It presents a clear symbolisation of the company's attributes whilst also giving an impression to the potential customers which could affect their choice of purchase. Overall, a random name cannot be used, thorough reasoning for a company's name and logo is necessary. For this company, the suggested name would be 'Sound'. This word has several meanings, firstly the subjective sensation of hearing something; this word is easily associated with music, and thus is suitable name for a company in the mp3 player industry. Furthermore, the word sound is also associated with something being in good condition and reliable, reflecting a positive image of the company in an effective way to the consumers, giving the impression of 'sound' products as well as the product itself. The following is the suggested logo for the company Sound:



Figure 1: Suggested logo for the company.

As you can see, this logo consists of the stereotypical symbol for sound with contrasting colours. The combination of this eye-catching icon alongside a catchy multi-meaning name makes for an effective and attractive representation of the company.

The Industry:

The portable music device industry has grown at an astonishing rate in the last few years. Mp3 players have become the new 'must have item', gaining on competitive products such as: dvd players, cd players and cassette devices.

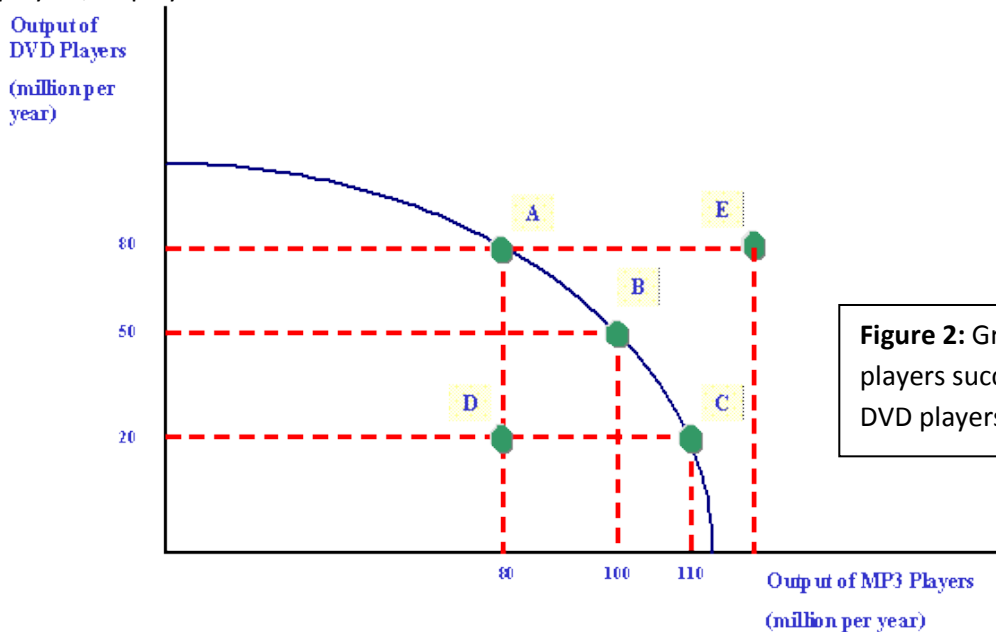


Figure 2: Graph to show mp3 players success against the fall of DVD players.

As shown in figure 2, as the popularity of mp3 players grows, the success of DVD players has depleted. This appears to be the case with other competitive products mentioned above thus showing the attainment of mp3 players within the industry and therefore presenting a fully rational choice of trade to go into, as a business.



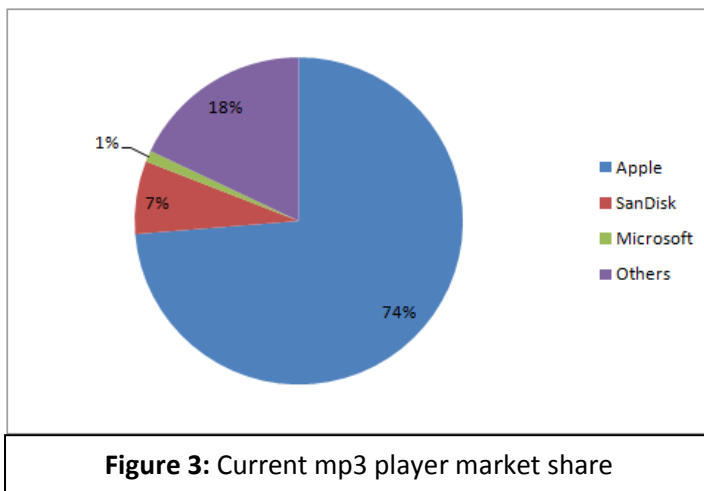
The purpose for segmenting a market is to allow your marketing/sales program to focus on the subset of prospects that are 'most likely to purchase your offering. If done properly this will help to insure the highest return for your marketing/sales expenditures. The most successful market for mp3 players is the younger generations. Approximately aged 13-25. This age group tends to follow the current trends more than any other.

Within today's society, mp3 players vary with regards to cost. This depends on the individual products success/demand. For example, the extremely popular 'simple' iPod Shuffle, can cost between £35-£50, whereas the more hi-tech, 'fancy' device such as the iPod touch would cost between £150-£400.

PERFORMANCE, QUALITY PROBLEMS!!

Competition:

The leading company within the mp3 industry is Apple. As you can see in figure 3, Apple currently possess 74% of the mp3 market. The main reasoning for Apple's major success within this industry is the highly reputable, well-known product: iPod. There is an outstanding quantity of products branded with iPod, ranging in prices from a few pounds to hundreds. Product diversity is also a participating factor within Apple, there are products aimed at all markets, ranging in complexity and memory creating potential for Apple to achieve market capitalisation. Overall, it is clear that Apple are the top leading mp3 player brand and are the company to try and



match, as a business, within this industry. Given that Apple have a fast turnaround of new released products, there is not specific leading product for longer than a few months, however, the iPod touch product line is viewed as the 'must-have' item within today's society.

Marketing and Sales: (How would you market your new range of products).

For a company starting out, the way the market is approached is extremely important. As shown in figure 4, there are four methods that a company can take in order to infiltrate the market: Rapid skimming, slow skimming, rapid market penetration and slow market penetration. In Skimming Pricing Strategies, products are introduced at a high price to skim off the cream of the customers who are price-insensitive. This is useful if the market is small and costs need to be recovered quickly. A Rapid Skimming Strategy uses high price and extensive promotion to face competition and establish market share quickly. When no serious competition is expected, a Slow Skimming Strategy may be used - high price

New Product Launch Strategy

		Promotion	
		High	Low
Price	High	Rapid skimming	Slow skimming
	Low	Rapid market penetration	Slow market penetration

Figure 4: New product launch strategy



with low promotion. Penetration Pricing Strategies are used for entering large markets at a low price. This enables a company to build up a major market share quickly. Marginal Pricing and Experience Curve effects provide long term profit and a defence against competition. A Rapid Penetration Strategy uses low price and high promotion. When the market is not expected to react to promotion, a Slow Penetration Strategy, with low price and low promotion, is used.

For this particular industry, Rapid market penetration is most suited as the route to introduce the company to the market. Due to the high competitive market, it would be smart to firstly enter the market with a reputation of affordable, reliable products and then once the company builds its reputation, prices can be adjusted accordingly to popularity and availability.

The most suitable marketing techniques for advertising this company would be E-marketing as it is cheap, time effective and reaches a much wider market than other strategies such as: direct sales and conferences. **MORE**

Utilising Employees

The key to utilising employees is finding ways to motivate them. This can be achieved through a variety of methods:

- Varied and interesting work - perhaps giving the opportunity to travel
- High-quality training and development - e.g. encouragement to study for professional qualifications
- An 'open door' culture in which managers are approachable
- Authentic management and leadership whose behaviour is consistent and genuine
- Respect for a good work-life balance - eg offering the opportunity for flexible working
- Fairness at work, including promoting equality and diversity
- Proactive and regular communication
- Regular appraisal and positive feedback - restating business objectives and recognising your staff's contribution
- Requests for feedback, either in person or via staff surveys, on how employees feel about their roles, the support they get, and improvements to the business
- The chance to socialise with colleagues at organised events
- Recognition and reward for ideas

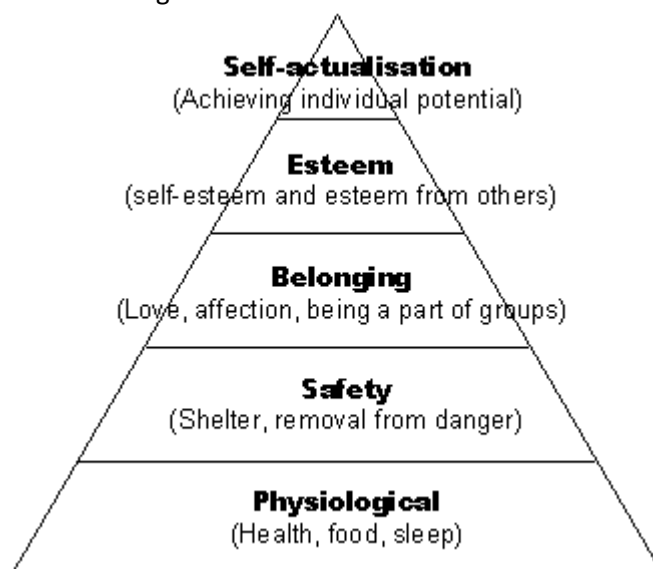


Figure 5: Maslo's hierarchy of needs.



Figure 5 shows Maslo's hierarchy of needs, he believes that in order for a person to be truly efficient, they must achieve the 5 needs, starting at the bottom of this pyramid with psychological needs, working their way through the levels and achieving self-actualisation. Physiological needs are to do with the maintenance of the human body. If we are unwell, then little else matters until we recover. Safety needs are about putting a roof over our heads and keeping us from harm. If we are rich, strong and powerful, or have good friends, we can make ourselves safe. Belonging needs introduce our tribal nature. If we are helpful and kind to others they will want us as friends. Esteem needs are for a higher position within a group. If people respect us, we have greater power. Self-actualization needs are to 'become what we are capable of becoming', which would our greatest achievement.

Overall, by using the above strategies in order to meet the needs of the employees, the employees can achieve self-actualisation and thus be motivated within the workplace. As long as the strategies are used effectively and efficiently, there should be no need for new employees as the current employees would be effective with regards to production.

Structure and Quality

As Sound is a small company, the suggested structure for this business should have a long chain of command and a short span of control. The span of control is the quantity of employees who are directly supervised by their manager. The chain of command describes the line of authority in an organisation who reports to whom.

Below is a basic structure for the business (figure 6):

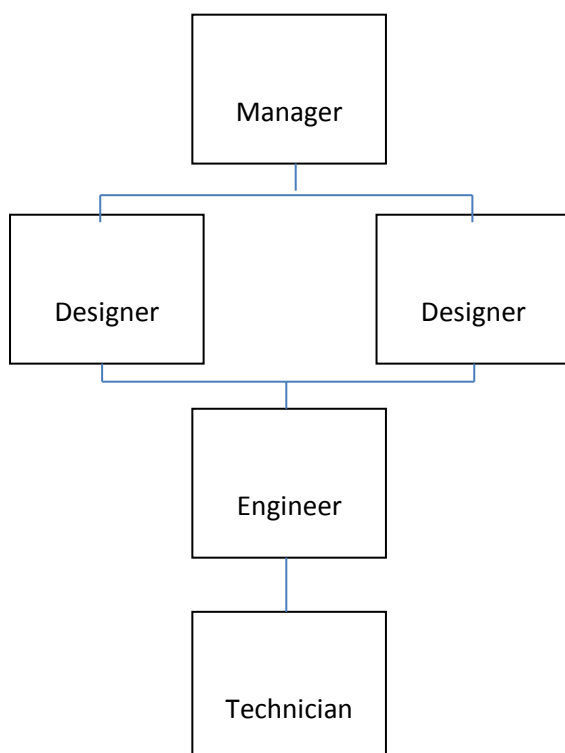


Figure 6: organisational structure of Sound

Monitoring quality within a business can be done through the use of Total Quality Management. Total Quality Management (TQM) is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through on-going refinements in response to continuous feedback. TQM processes are divided into four sequential categories: plan, do, check, and act (the *PDCA cycle*). In the *planning* phase, people define the



problem to be addressed, collect relevant data, and ascertain the problem's root cause; in the *doing* phase, people develop and implement a solution, and decide upon a measurement to gauge its effectiveness; in the *checking* phase, people confirm the results through before-and-after data comparison; in the *acting* phase, people document their results, inform others about process changes, and make recommendations for the problem to be addressed in the next PDCA cycle.

The methods that can be used in order to monitor quality within a business are:

- Team meetings
- Focus groups
- Customer feedback
- Surveys/questionnaires
- Evaluations/reviews
- Financial reviews
- Continual improvement
- Factual approach to decision making
- Mutually beneficial supplier relationships

Contingencies:

In the event of the business not being successful, certain contingencies must be undertaken; therefore it is extremely important that such scenarios are planned. Due to Sound being a small company, the best contingency plan would be for an expansion to take place with regards to product diversity. Offering a wider range of technology would reach a bigger demographic and thus draw different customers.

When a business undergoes expansion, it generally brings wealth to the business, with more profit coming from new customers as well as more popularity. The drawbacks are that if the business global economy drops, so the value of the pound decreases, it also means that the business won't receive as much capital as they would like. If the company were to expand with regards to size and place, there is a threat that they could find that tastes abroad are quite different to the UK, so they might lose interest as well as customers after only a few months. Overall, in the event of the business not being successful, it would be sensible to expand the product line, gaining customers and more revenue and then if this is successful, expanding the business in terms of location and size could be the next step.

Financial projections

As the company is undergoing rapid market penetration, the forecast projection for the upcoming year cannot be guaranteed, however, due to the strategy chosen, we can estimate the trend of sales, but specific figures cannot be defined. Other factors should also be taken into consideration such as the month of December would be expected to have the highest amount of sales due to Christmas; furthermore January would be expected to pose the lowest amount of sales within the year due to social trends i.e. money is generally tight after Christmas and January is conventionally the least successful month with regards to sales.

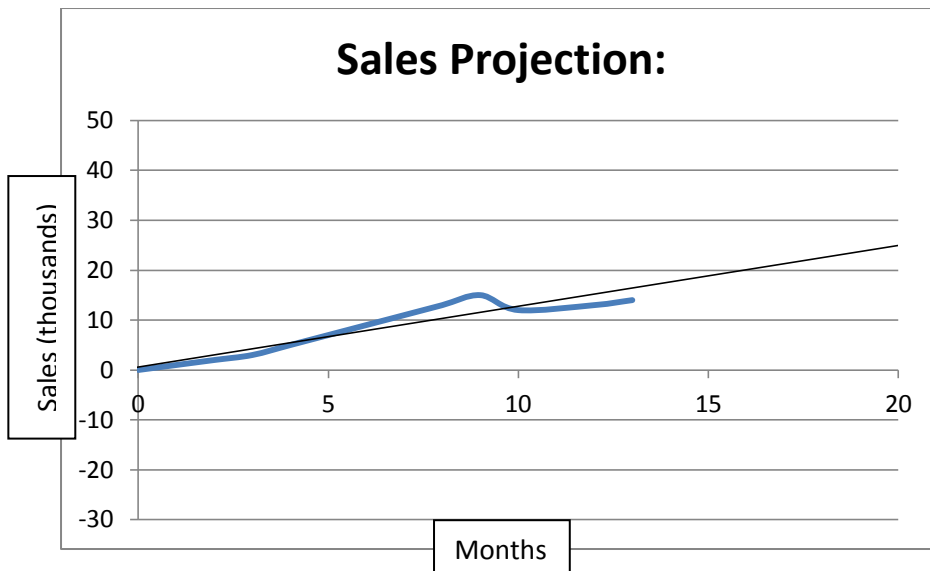


Figure 7: Sales projection for the first year.

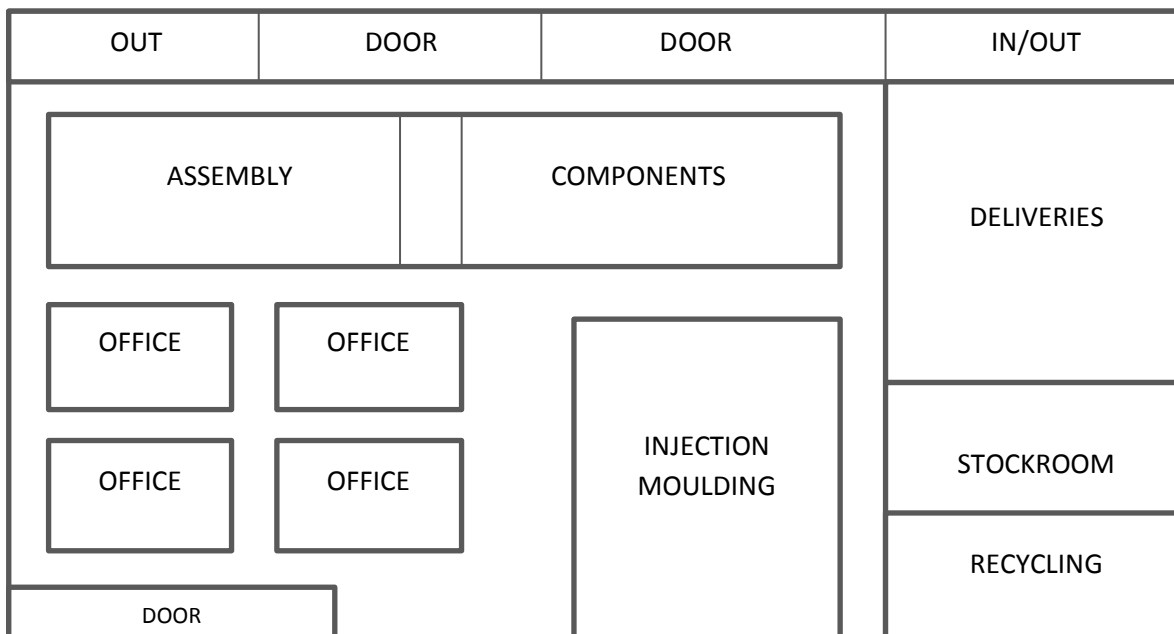
As shown in figure 7, the general sales projection is positive. This is based on judgemental estimations based on the pricing strategy and social factors discussed above. The black line shows the financial projection based on rapid market penetration as a strategy to enter the market. The blue line follows the same projection, however taking social factors discussed above taken into account. As you can see, the trend peaks and drops at seasonal times such as Christmas. Overall, the sales should continue to increase due to growth in popularity and success.

Factory Layout

Lean manufacturing is a key concept with regards to factory layout. The aim of lean manufacturing is to eliminate 'waste', this can be with regards to materials, time and defected products. The layout of a factory is extremely important in order to create effective production. Key lean manufacturing factors include:

- Waste minimisation
- Perfect first time quality
- Flexibility
- Continuous improvement
- Pull processing

Figure 8: Suggested layout for factory.





In order to achieve lean manufacturing, careful thought must be taken out with regards to planning the factory layout for any business. Figure 8 shows the suggested layout for the factory.

As shown in figure 8, this factory layout incorporates lean manufacturing principle. Products are pulled from the consumer end, not pushed from the production end, all sections are within close proximity to necessary areas i.e. offices down one end of the factory, whilst the manufacturing, deliveries and recycling sections surround the stockroom.

Evaluating the business

There are several strategies that can be taken out in order to evaluate a business' products and success. The most successful methods are: trial products, focus groups, surveys, customer reviews and staff reviews.

A good strategy for reviewing a business' merchandise is market research, most commonly, the use of surveys. Surveys are relatively inexpensive (especially self-administered surveys). They are useful in describing the characteristics of a large population. No other method of observation can provide this general capability. They can be administered from remote locations using mail, email or telephone. Consequently, very large samples are feasible, making the results statistically significant even when analysing multiple variables. Many questions can be asked about a given topic giving considerable flexibility to the analysis. There is flexibility at the creation phase in deciding how the questions will be administered: as face-to-face interviews, by telephone, as group administered written or oral survey, or by electronic means. Standardised questions make measurements more precise by enforcing uniform definitions upon the participants. Standardisation ensures that similar data can be collected from groups then interpreted comparatively (between-group study). Usually, high reliability is easy to obtain--by presenting all subjects with a standardized stimulus, observer subjectivity is greatly eliminated. However, a methodology relying on standardization forces the researcher to develop questions general enough to be minimally appropriate for all respondents, possibly missing what is most appropriate to many respondents. Surveys are inflexible in that they require the initial study design (the tool and administration of the tool) to remain unchanged throughout the data collection. The researcher must ensure that a large number of the selected sample will reply. It may be hard for participants to recall information or to tell the truth about a controversial question. As opposed to direct observation, survey research (excluding some interview approaches) can seldom deal with "context."

Staff reviews, also known as appraisal are also a key tool in order to evaluate performance within a business. Managers get busy with day-to-day responsibilities and often neglect the necessary interactions with staff that provide the opportunity to coach and offer performance feedback. A performance management process forces managers to discuss performance issues. It is this consistent coaching that affects changed behaviours. If done well, a good performance management system can be a positive way to identify developmental opportunities and can be an important part of a succession planning process. Performance Appraisals should be a celebration of all the wonderful things an employee does over the course of a year and should be an encouragement to staff. There should be no surprises if issues are addressed as they arise and not held until the annual review. It is very important that all organizations keep a performance record on all employees. This is a document that should be kept in the employee's HR file. Furthermore, motivated employees value structure, development and a plan for growth. An effective performance management system can help an employee reach their full potential and this is positive for both the employee and manager. A good manager takes pride in watching an employee grow and develop professionally. There are a few drawbacks, appraisals and reviews can become rather time consuming. If the process is not a pleasant experience, it has the potential to discourage staff. The process needs to



be one of encouragement, positive reinforcement and a celebration of a year's worth of accomplishments. It is critical that managers document not only issues that need to be corrected, but also the positive things an employee does throughout the course of a year, and both should be discussed during a PA.

Intellectual property Right

In order for Sound to protect their IPR, certain legalities must be carried out. There are four types of protection available for a business: copyright, designs, trademarks and patents.

Copyright protects original works such as: documents, pictures, photos, music, software etc. there is no registration procedure. The life of the copyright spans 70 years beyond the life of the author. With regards to Sound, the logo should be protected by copyright. Designs protects visual appearance of a design, it is based on drawings or photos of a design. The duration of this protection lasts up to 25 years. Trademarks are used to protect distinctive words, numbers, sounds, designs, shapes and colours, in this case, Sound should protect any motto's they may create and the company name. Life of a trademark is indefinite. Lastly, the most important form of protection is a patent. A patent protects the basic concept of the product. Once a patent is set, no other companies can produce the same product. Sound should patent all products in order to prevent competitive companies manufacturing very similar products with a different name. In most cases, patents are the most vital form of protection.

Managing innovation can be achieved through taking active feedback from staff, customers and other competitors; this can be achieved through the use of the research strategies discussed in the above chapter.

Conclusion

Overall, through the use of bright, contrasting colours and a catchy company's name creates an effective eye-catching representation of the company. Research has shown that the mp3 market is clearly justified; the biggest brand within this industry to date is Apple, due to their astonishingly popular product, the iPod. Rapid market penetration shall be used in order to introduce the company to the market, this projects a gradual build of revenue once the company has asserted themselves fully and gained a good reputation. Once the company become well-known, prices can be adjusted based on popularity and availability. Motivation is a key skill to maintain within a business, in this case, Maslo's hierarchy of needs is used in order to assure that employees are fully motivated and therefore utilised. The structure of the business has been adapted to a longer chain of command and a shorter span of control ensuring effective and efficient production. In the case that the business was not successful, certain contingency plans have been put into place such as expansion with regards to products in order to appeal to new demographics through the use of diversity. The factory layout incorporates the lean manufacturing concept i.e. close proximity where necessary with regards to machinery etc. Certain methods such as appraisals and surveys shall be taken out in order to evaluate the business performance. Legal protection is very important within a business. Patents, trademarks and copyright shall be carried out in order to protect logos, motto's and concepts of products. Overall, Sound must take into consideration all mentioned above in order to become a successful business.



Assessment (for both questions):

Assessment of all questions will be based on the following:

1. Depth of Analysis and discussion.
2. Presentation and accuracy of reporting.
3. An engaging and detailed description of concepts and processes
4. Use of relevant case studies, market data and references.
5. Balanced structure
6. Coherent, persuasive and demonstrating deep understanding and analysis.
7. The use of figures, tables and graphs to demonstrate concepts and market data.

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