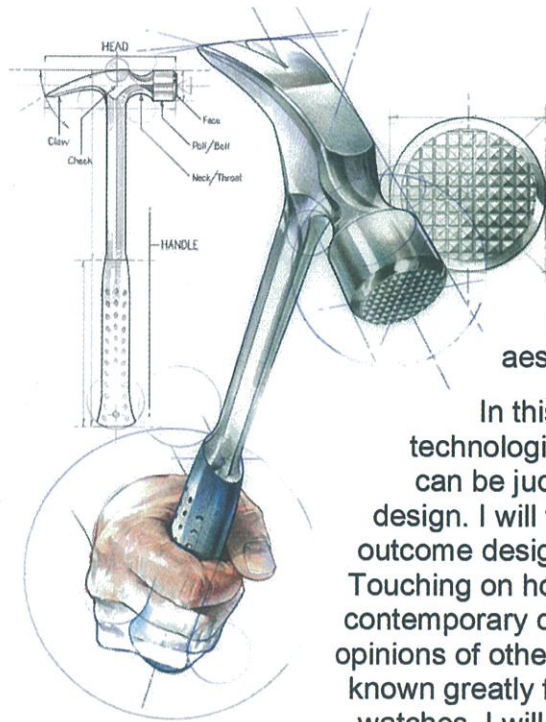


Understanding a critique of Technological design



Introduction

In today world there is good design and bad design all around us. We can see it in the tools we use, the building around us, to the desks and chairs we use every day. But how do we identify a good or a bad design, how do we determine the differences between them. Is there more to a good design than the looks, the aesthetics. What makes a design good?

In this report I will be discussing and critiquing a technological design. I will be looking at how a design can be judged to evaluate whether it is good or a bad design. I will then put this into practices on my chosen outcome design, the everyday wood working hammer. Touching on how this judgement criteria impacts contemporary design decision making. I will focus on the opinions of other designers to like Dieter Rams, who is known greatly for his simplistic design, like radios and watches. I will be using them when trying to understand

what a good design is, as well as drawing on the many other resources to draw my conclusion on what good design is in today world.

What is a Good design?

A good design makes the product appear better than it actual is whether in it form, function and in the aesthetics. Good design is not just what looks good. It also needs to perform, convert, astonish, and fulfil its purpose. It can be innovative or it might just get the job done. A good design cannot be measured by a finite way – multiple perspectives are needed. Some people think a good design is always the simplest possible working solution.

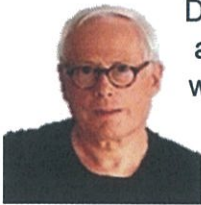
What is a Bad design?

We recognize bad design instantly when we can't tell we're looking at and can't figure out where to go. When any form of product is jam-packed with information, images and icons, order and comprehension is severely challenged. Brand guru Marty Neumeier says, "A wealth of information leads to a poverty of attention."

What is a good design as we see it in today's world?

I think that good design today incorporates the precise balance between the function working and the aesthetics. In a world we are currently, which is very concerned about the environment and the future ahead, a good design must consider its potential effected on the environment and how the process gone through to reach the outcome impact the broader world such as the pressure its manufacturing and production has place upon human lives. What pressure has it placed on the landfills, how long is it going to take to decompose? It also needs to be made certain that it design is sustainable and maintainable in the upcoming years and the probable effects on the earth must be measured.

What are the Elements of a Good Design?



Dieter Rams, a very well-known designer, who studied architecture and interior design, later becoming an industrial designer who works with consumer products. Rams goes by ten Elements (More known as Commandments) when it comes what makes a good design:

(Image from: <http://www.lifeofanarchitect.com/who-is-dieter-rams/>)

1. **Is innovative**, this means new methods are being featured, it's advanced and original.
2. **Makes a product useful**, means the outcome is able to be used for practical purpose in many different ways.
3. **Is aesthetic**, does it look good, including things like colour shape, balance, form, contrast and unity.
4. **Makes a product understandable**, the intended outcome is very clear in its purpose and functional. With the best product on looker should be able to understand their purpose without explaining.
5. **Is unobtrusive**, not attracting attention as it is used for its function meaning it is normally neutral which in turns leaves room for self-expression.
6. **Is honest**, which means the intended outcome is very straightforward.
7. **Is long-lasting**, meaning the design will endure the ages during it uses?
8. **Is thorough down to the last detail**, which means the design is complete right down to the last detail, which is very important to the designer.
9. **Is environmentally friendly**, which is in a manner that is not harmful to the environment around.
10. **Is as little design as possible**, Rams quote "less, is more" making a design out of simplicity.

To Dieter Rams this was the basis to a good design. Which can then be use for a judgment criteria for any product.

What does a good design mean to me?

In my opinion a good design is something which is innovative and is constantly improving our day to day life. A good product design is one which consider a range of different qualities and also thinks outside the box in the designing of it. I believe that a good design is made up of a variety of different elements. My personal choice of elements would be to make a good design, as follows:

1. The function would be as intended
2. Is sustainable as we look forward into the future
3. Be simplistic and original (innovation)
4. Look aesthetically pleasing without the down fall of the function
5. Be affordable for what it actual is.



The checkered faced hammer would demonstrates these elements as the function has been improved by the checkered face. These hammer have been crafted to prevent the hammer from glancing of the nail head, after hitting the nail incorrectly. It meets it function perfectly and builders and framer value this hammer as it results in decreasing the amount of swings

required to nail in a nail. This design is still simplistic and aesthetically pleasing, while still been affordable, as it is not any dearer than normal hammers.

(Picture from: <http://www.krafttool.com/products/by-category/drywall-plastering/hammers/by-sku/DW364>)

What do other people think and say a good design is?

In the world of design, somebody else opinion of a good design can be very different to our own. Different people will have their own different ideals and perception on what a good design is. But in most exemplars people only look at exterior appearance of a product to determine it as a good or bad design. Before going onto the functional workings of the product. A person who is planning on buying a product will take into account the cost of purchase and also the cost of maintenance. This makes the element, being affordable, and a very valuable element. Also a majority of people states that the product is needed to achieve it purpose and function efficiently. This is also a big judgement of whether a design is a good one or a bad one

How views of design change

Because of the diverse world we live in today, every person has develop different opinions and ideas on what good design is. Over the years the opinions and ideas have changes due to many different historical occurrences which have changed the world. Events such as the World Wars, Industrial Revolution, and the Digital Revolution have all bee factors that have contributed towards our changing opinions of good design. Good design can be viewed as different even between individuals and groups and cultures and over periods of time. This is largely because the different people's perspectives, values, and various needs have changed, not to forget the major development of the technology.

Design have also been effected by the different fashions and trends, as the people responding differently and embrace different designs whether it matches with their current tastes. Also with the improvement of technology also comes the much higher expectation from the demanding consumers wanting higher quality products, resulting in a much more specific criteria for which a design is judged.

During the Industrial Revolution when machines were first being introduced, changing the way individuals completed different tasks, as were now assisted by machinery. This allowed Mass Production which opened up opportunity's for consumers and producers alike as the efficiency at which the products were being manufactured with both manual and machine labour meant they were more readily available to the consumers. The resulted in the people's basic needs were being meet easier than before, increasing their expectations. A recent change that many designer are facing is that the consumer are looking at the future to see the effect the product has on the earth. A major globally issues presently is sustainability and climate change. Thus affecting the way people are seeing how they will be affecting the world in the future. The Life cycle of products are very popular way of seeing the effect it will have on the world. This not only includes how long the product is likely to last but if it can be recycled, re-used or to fulfil another potential purpose.

Why are Contemporary Judgement Criteria important for design decision making?

At the time of judging the traditional wooden handle hammer it would have be acceptable for the time period that it was designed in. But would it still be acceptable in a different time period, such as the digital age? This is very important for a design to take into account as how long is the product outcome going to last. Will it still be acceptable in a future time period? This are all things that a designer has to consider when design a product. Would a more solid handle like the metal one be better? Metal is a fairly modern concept in hammers and it transfers to much vibration compared to the wooden handle hammer which adsorbs the shock of each blow to the nail. So Contemporary Judgement Criteria is very important for design decision making as is the design (hammer) suitable for the era it was designed in?

Judging a Technological outcomes design

The Estwing Nail Hammer vs Traditional Wooden Handle Hammer



In the section I will be directing my focus on the Estwing Nail Hammer, which is a redesign of the traditional wooden handle hammer. This comparison will be used to make a judgement on whether a design is good or not based on the factors selected from the design criteria. Both the hammers are similar in size and weight and have both been designed to accomplish on thing. Nail in a Nail, and maybe remove one.

However each different type of hammer go about this common goal in a different way from each other. I will be exploring the 2 types of hammer to see how well it meets and satisfies the criteria of a good design set by well-known German Designer, Dieter Rams as well as the element I think makes a good design.

One of the biggest factors which determine a good design with both Dieter Rams and My principals is Innovation. Innovation is one of the best ways of evaluating a design because it shows the extended and outside of the box thinking which has been undertaking by the designer in order to achieve the require outcome which will be able to function well and as required, look good and prove to be a unique design. The designers of Estwing hammer has been able to show there innovative thinking through there latest hammer due to the one piece hammer which has been forged to reduce the shock movement throughout the hammer. Also the ability to forged different surfaces to achieve greater and more defined function, such as a brick hammer, framing hammer, and roofing hammer. Where different attributes are require to enhance the performance of these tools. Compared to the traditional wooden handle where only the head can really be develop into something more specialised as the wood can be shaped at the loss of potential strength. This has resulting in the Tradition Wooden Hammer overall design staying same, not changing a great deal with most of the features still resembling the first hammers ever build. This shows that the traditional Wooden handle hammer haven't been able to be innovative and has resulting in the Metal Hammer been designed. The traditional hammer have lack innovation and does not demonstrate the same innovative thinking that has been present in the Metal Handle Hammers such as the Estwing.

The innovation in the Estwing Metal Handle has mainly been in the function not the overall appearance which has still stayed the same. Simplistic and Original as appearance is not going to greatly affect the overall goal of a hammer, driving in nails. Although the metal has allow design to engrave names, arrive out different finishes which produce a sleek and elegant look for the hammer. Also the finish on the metal hammer can improve the aerodynamics of the hammer. Allowing it to slice thru the air more efficiency and faster. The aesthetics are here but are not resulting in the downfall of the function. The finish on the Metal hammer allow the hammer to be cleaned more easily than the rough finished wooden hammer. Also the shiny metal handle may be enough to attract potential customers as it may grab their attention better that the wood handle hammer. Also the wooden handle lends itself to being the low-range hammer compared to the latest technology incorporated into the metal handle, and also it finish looks to be slightly cheaper compared to the shiny metal.

Additionally the Estwing Metal Hammers function and performance also exceeds that of the traditional Wooden Handle Hammer. The way in which the design can move the centre of gravity to enhance the swing in a metal handle hammer compared to the wooden handle. This allows the metal handle hammer to be balance correctly form head to handle where the weight distribution is very important. Once the designers have got the centre of gravity perfect the hammer seems to swing itself.

This good balance results in less stress on the tendons and muscles, which helps to eliminate common injuries which have been associated with swinging a hammer. Although it is much easier to correct this needed balance in the Metal handle Estwing, the wooden handle is said to be the best material to have as a handle only due to the transferred vibration. As the vibration is tiring and painful, the good cross-sectional strength, excellent durability, and a degree of resilience in the wooden handle to absorb the shock of repeat blows is a great attribute within the hammer to have. Besides the metal handles offer a blend of stiffness, light weight, and durability the wooden hammer is the best material to handle the repeated vibration. Furthermore, the head-handle assembly needs to remain 100% secure as could result in serious injury. This is much easier to be achieved in the Metal handle Estwing as they are forged as one piece. The design has successfully removed the chance of the head moving or breaking from the neck and handle. Compared with the traditional Wooden Handle hammers where the wooden handle needs wooden or metal wedges to hold the handle firmly in place. The Metal handle also allows design to be innovative and contoured grip made of a synthetic rubber. This gives greater comfort to the end user and also prevents the hammer slipping when the end user's hand becomes sweaty. Wooden Handle hammers cannot have a separate grip due to the loss of the much needed strength in the correctly shaped handle not leaving any room for contouring for a gripping handle. Consequently the synthetic rubber around the handle increases the shock resistance of the metal handle hammer. This rubber grip also offers protection against accidental over strikes whereas the wooden handle doesn't.

Also the lack of a visible grain within the metal handle has served as an advantage over the traditional wooden handle Hammer making the Estwing Metal Hammer very unobtrusive, which is an element of a good design set out by Dieter Rams. The grain in the metal handle is not attracting any extra attention from the potential customer which aligns itself with the quote of Dieter Rams "Less is more". On the other hand the old traditional wooden handle hammers can rattle and shake over time with the wedges become loose, and the wooden end grain deteriorates causing the head to become wobbly and maybe over time flying off.

Another point is that the metal handle hammer is light weight compared to the traditional wooden handle hammers. This makes the hammer very easy to transport. Also the strength of the one piece forged metal hammer has meant increased resistance to dents and scratches in transport from one job to another. This means the appearance on the metal handle hammer lasts in its original state a lot longer than the wooden handle hammer. Also the metal handle hammer are a lot longer lasting as they don't deteriorate like the wooden handle hammer would do if not looked after correctly. But the metal handle hammer would also rust if exposed to the climate. The wooden handle has the ability to be repaired, replaced and maintained compared to that of the metal handle hammer. The wooden handle can be removed and replaced to serve a longer life.

With regards to the honesty of the design, both hammer types demonstrate that they meet the need and demand of the user, only the metal hammer appears to be a high market hammer. Both hammer types sole purpose in life is to drive nails in and both of them achieve this with their on slightly different results and different methods. What the metal handle hammer has lost in shock adsorbing to the wooden handle hammer, has been made up in the technological advancement in the design and the innovativeness of the contoured synthetic rubber handle.

When it comes to the design being understandable people may have their own different take and opinion on these to hammer types. This can largely be due to the change in time and how people view a good design. Also the elderly men who have been brought up with the wooden handle may not be willing to transfer to the more advanced metal hammer. They are both operated in the very same way which is very simple. As both design are extremely simple and minimalist as there is only one way to hold both hammer, by the handle. This removes any complication of the product making it very understandable. If the Wooden handle hammer was transported back into the 1950's it would definite fit in with the people and the existing tools as it clearly resembles what was expected at that time. On the contrary, if the Estwing Metal hammer was transferred back in time, to 1950, it would generate completely different opinions because of it ultra-modern appearance and technical advancement which is so different to what the people were used to back then.

The other very important factor in the contemporary criteria used to judge a good design is the sustainability and eco-friendliness. It is very vital that a design meets that mark for its environmental friendliness because it signifies that it will not harm or damage the environment and any possible effect has been limited. For the Estwing metal hammer it has considered it environmental impact quiet well by design something constructed from one piece limiting the waste of product going to a land fill. The metal hammer has only one part the forged hammer and the handle compared to the wooden handle hammer where wedges, a head, a handle are required to make a hammer. They have also use recyclable materials, which can be melted down it another product once it has reached its end of it useful life. Whereas the wooden handle hammer isn't as sustainable as it require timber and tree to construct and then is only binned or burnt.

Nowadays price and cost of the end product also play a big role in the decisions we make and don't make. We constantly try to find the same product somewhere different but cheaper. We are looking for cost effectiveness for what we are paying for and expect it to be balance with the functional expectations of a product. The only major downfall of the metal hammer is the price. A Estwing 20 oz. hammer is \$74.50 (https://www.bunnings.co.nz/estwing-claw-hammer-steel-20oz_p00127078) compared to the wooden handle hammer \$12.50 (https://www.bunnings.co.nz/fuller-claw-hammer-7oz_p00841821) . The Metal handle hammer is considerably more expensive when compared to the wooden handle. But the website www.vaughanmfg.com says "The most expensive hammer you can buy is the cheap

hammer which can become a dangerous liability in its short lifespan. A quality hammer can be a lifetime investment.” (<http://www.vaughanmfg.com/pages/tool-center/how-to-select-a-hammer>). This statement is very true as you pay for quality but some people don't understand the long term benefit compared to the short term fix. But since both hammers fulfil their intended purpose of driving in nail and don't provide any other special features, the price tag of the Estwing is quite exaggerated since the \$21.50 one completes the small task only for a short amount of time.

Through these factors and principles of a good design that I have covered and how well the products satisfy them can be the determining factor of how truly a successful design is. An outcomes which succeeds commercially is also a good sign that a design is good. The metal hammers perfect balance of function and simplicity will leave a positive and lasting impression on the user as it re-defines the concept of the modern day hammer. The Overall design of the Estwing Metal Hammer has thoroughly impressed me with how they have re-designed the traditional hammer use many advanced procedures and turned it into a product which boasts simplicity with durability and perfectly functionality. The different shape and form it has taken has demonstrated the influence a good designer has had in pushing the boundaries and is out of the ordinary. To me I view client satisfaction as a very important factor when showcasing design because you a product which please and also satisfies the user.

Conclusion

Overall a good design is one which incorporates a lot of different elements and characteristics. The element with in a good design all have to work well together and not contradict each other, to then make the design successful as we know a success can be judged in a number of different. Ways. Some key elements which should be in a design to make it a good design should be function, sustainability, original, simplistic, usefulness, understandability, meeting the client needs. By having a design which includes these elements it would ensure the design outcome has the potential to be successful in the broadest sense.

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Assessment Schedule – 2016**Technology: Undertake a critique of a technological outcome's design (91617)**

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria.

Issues from the Specifications

Achievement	Achievement with Merit	Achievement with Excellence
<p>Undertaking a critique of a technological outcome's design involves:</p> <p>explaining the concept of good design and;</p> <p>why criteria for judging the quality of design change</p> <p>explaining views of design and judgement criteria used to determine the quality of the design of technological outcomes</p> <p>appraising the design of a technological outcome using design judgement criteria.</p>	<p>Undertaking an in-depth critique of a technological outcome's design involves:</p> <p>discussing why contemporary judgement criteria are important for design decision making</p> <p>evaluating the quality of the design of a technological outcome using design judgement criteria.</p>	<p>Undertaking a comprehensive critique of a technological outcome's design involves:</p> <p>discussing the impact of judgement criteria on design decision making</p> <p>justifying the evaluation of a technological outcome's design.</p>

Grade: E

By comparing and contrasting, the candidate is able to undertake a comprehensive critique of a simple technological outcome.

The critique is comprehensive.

The evaluation is in depth.

Discussion and justification is evident throughout.

Appendix 1

Markers must exercise professional judgement to decide if a report demonstrates understanding. The following appendix provides guidance for markers making this judgement.

A report must use information to demonstrate understanding.

Reports described wholly or substantially by one or more of the statements in the left column demonstrate understanding.

Reports described wholly, or substantially, by one or more of the statements in the right column do not demonstrate understanding.

Where the report is made up of both used and reproduced information, the marker must decide if the report is successful against the standard when the reproduced information is ignored.

Evidence of use of information	Evidence of reproduction of information
<p>Candidate's report describes and explains the candidate's use, in their practice, of information relating to the standard.</p> <p>Information from the candidate's practice, research, the practice of others, and teaching is related to the candidate's technological experiences.</p> <p>The report describes experiences you would expect to come from a course of instruction derived from The Technology Learning area the NZC.</p> <p>These could include but are not limited to</p> <ul style="list-style-type: none"> • testing and trialling within a modelling process • developing a conceptual statement • developing a conceptual design • development of a brief • material selection • refinement of a brief • development of a prototype • development of a one-off solution • further examples may be added. 	<p>Information is presented in isolation from the candidate's Technological experiences. It offers nothing or little to suggest the information is related to a course of instruction at level 8.</p>
<p>Information from research, the practice of others, or teaching is reported in the candidate's own voice.</p>	<p>Information is NOT in the candidate's voice. The word choice, sentence structure, sentence length, punctuation and so on are not what a candidate could be expected to produce.</p>
<p>Referenced, complex research information unchanged by paraphrase is related to other information in a manner that unambiguously constructs meaning. (very rare)</p>	<p>Unreferenced, complex, research information is presented as though it is the candidate's own work.</p>
<p>Where the marker suspects a report is a deliberate attempt to deceive, the report should be referred to the panel leader using the Irregular Booklet process.</p>	