HOUSE OF QUALITY REPESENTATION FOR A BEEFED ROLAX

**What is House of Quality?**

House of Quality which is part of Quality Function Deployment is used to enhance sales and profit while satisfying customers and reducing the cycle time of new product development. Our beefed rolex will use this HOQ to integrate informational needs. We also used HOQ to understand the voice of the customer and to translate it to the voice of the engineer who is going to design the product.

**The steps involved in constructing the HOQ**

1. Recording voice of the customer(their wants or needs)
2. Ranking the importance of the requirements
3. Translate customer wants into the technical descriptors or the How’s of the technical needs. How are the Designers going to design a product that will meet the customer needs?
4. Examine relationships between design between design and the customer requirements
5. Ranking what is important in terms of Design
6. Look at relationships in design requirement themselves
7. Customer rating of competitors(their perception of us to our product)
8. Organizational difficulties on delivering required product.
9. Recording targets with technical evaluation of the competitors.

**Description of the HOQ of Beefed Rolex.**

**Record the voice of the customer.**

This answers question “What do the customers want”, these are always recorded on the left hand side of the HOQ in the requirements column.

Here we make an assumption that the customer reported that maybe Taste, High nutrition, Visual appeals and value for money were more important to them. This customer information is taken from the customer surveys carried out.

**Rank the Importance**

Here we use an assumed scale of importance for example 1 (lowest) to 4 (highest) according to the customer survey and what they considered of importance to them.

**Translate the customer requirements into technical descriptors (design Requirements).**

This will answer all the how’s. How can we design a better rolex that will meet the customer needs? Our technical needs we assume are Price, Size, Quantity of eggs, Quantity of Beef.

**Examining the relationship between design and customer requirements.**

We use a key to show the strength of the relationship with the value attached to them. Taste and price have no relationship and we can’t correlate them neither does it also influence the size of the beefed rolex.

First want (Taste)

* It will strongly influence eggs and beef to be added into the product thus we record them as strong relationships.

Second want (High Nutrition)

* Price will not influence nutrition
* It has weak relationship with size of the product
* Depending on the amount of eggs, that is how nutritious the product will be thus a strong relationship between the two.
* The amount of beef will influence the nutrition of the product strongly.

Third want (Visual Appeal)

* It will have no effect on price so we don’t correlate it
* Large size of the rolex will look so appealing to the customers thus the strong relationship.
* Eggs in the rolex will strongly influence visual appeal.
* Also amount of beef will strongly influence the product visual appeal.

Fourth want (Good value for money)

* Value for money is strongly correlated to price and size but weakly correlated to eggs but also positive correlation with amount of beef.
* This once again depends on my assumptions. However another person can take a different perspective.

**Compute the absolute importance.**

We multiply the value of importance with the correlation value so as to get the final total

Convert the symbol to its exact value e,g the absolute importance of size is calculated as (2\*1) +(1\*3) +(3\*9) =32

Now after getting the absolute importance, we can now get Relative Importance by ranking what is important in terms of design.

The priority of design requirements by the engineer are as follows;

1. Quantity of Eggs with 66
2. Quantity of beef with 48
3. Size of the product with 32
4. Price comes last with 27

This indicates that the customers don’t mind about the price of the Beefed rolex but rather the eggs and beef in it.

**Relationship between design requirements themselves**

We use the key values to demonstrate this relationship

Price and Size have a positive relationship, this is because the customer expects a higher price for a big sized rolex.

Price and Eggs have a strong relationship

Size and eggs, they have also a strong relationship

Eggs and Beef, they have no relationship

**Rating of the competitors by customers**

This is how the customers compare our business to the competitors of our beefed rolex.

Look at the perception of customers in terms of requirements of what our competitors offer as well as what we offer.

Use the competitive score. This can be argued because the designers and customers have different preferences.

To get the absolute importance of the competition advantage we just add the scores up.

We can see that our company rates above our competitors, it delivers well and meets the customer wants as compared to the competitors.

**Look at organization difficult.**

This is how easy or difficult it is for our company to be able to deliver on price, size, quantity of eggs and beef in the rolex.

Set the ranks basing on what the company is capable to deliver.

**Record the targets.**

We do a technical evaluation with the ability of the company to meet those targets and march those of the competitors.

Set the targets depending on the design requirements of our product.

Draw a line or a curve showing how well our company is in meeting the set targets in relation to our competitors.

It is a curved shape showing that our company has high targets and is able to meet them as compared to low targets of the competitors.

* 1. **The voice of the customer**
  2. **Identifying the customer needs**

Our first task was to identify the customer needs which were described in customer’s own words through interviews or focused groups, they identified many needs. Their assumptions, excitement needs and articulate needs.

These are derived from the surveys conducted on the customers of the product and in our case we assume that these are the most pressing customer needs i.e. Taste, High Nutrition, Visual Appeal and Good Value. These are ranked according to how they were important to the customer during the customer surveys

* 1. **Structuring the Needs**

To handle the many customer needs, the team structured them into four primary ones (taste, high nutrition, visual appeal and good value) and the remaining concern is to group them

* 1. **Prioritizing the Needs**

The customers want all their needs implemented, but some needs are more important than others for instance in our beefed rolex Taste is more important than Visual Appeal, therefore using the importance level we are able to code this priority into our HOQ. Some needs are really costly to implement and this could lead into increasing the price of the product which is undesirable.

* 1. **Comparing customer perceptions.**

Some customers in due course of needs gathering, they provide some information about the market and the competitive advantage of our product to others, this information is useful when we are designing our beefed rolex. We also determine which feature of the product fulfils most the customer needs best.

1. **The designer’s voice**
   1. **Identify Design Attributes**

The other rooms in the House involve translating customer needs into design needs, our team for the company is focused on identifying measurable requirements that will fulfil customer needs. These include size, price, and quantity. These are attributed values that can be measured.

* 1. **Comparing Designer’s Measures**

The beefed rolex has to be designed in respect to other competing products, therefore the time constraints should be determined. This helps to determine how the customers’ needs can be implemented

* 1. **Developing a relation matrix**

Now our design team determines how the design attributes influence which customer needs and how much. The idea here is to specify the strongest relationship while leaving the most of the matrix 60 to 70 percent blank.

* 1. **Developing the roof matrix**

This quantifies the physical relationships among the design attributes, forexample improving the size of the beefed rolex affects quantity of beef and the price as shown on the roof matrix. The design team now uses the creativity of improving both without degrading the other.

* 1. **Making other estimates**

In addition to the above, the design teams also estimates the cost, feasibility, and technical difficulty for changes in each of design attributes.

**NOTE**: Developing HOQ is time consuming the team can spend a number of months just preparing to begin design work. By the time should be well spent. But this time helps the company avoid unnecessary and costly redesigns and other reworks.