Let Kano determine your bonus

In 1984 Prof. Noriaki Kano published his article [Kano] about the system to categorize requirements based on customer satisfaction. This classification of requirements is often used by requirements engineers and business analysts. It is also part of the CPRE education. Usually, though, Kano's model is used only partly, mainly to visualize what will delight the customers, what will they take for granted and what will they complain about when it is not delivered. This article aims to illustrate the entire approach Prof. Kano described, based on an example that will relate to many of us: the reward system for employees in organizations. And for the managers among you: if you would like to know how to please your employees in the cheapest way, you might learn something as well.

by Piet de Roo

Are your employees rewarded satisfactorily?

You have probably heard about the short lasting effect of a salary raise, about employees who are not even slightly happy when they receive a bonus and about people who get really mad when they no longer have their own parking place near the main entrance. Yet some can get very excited when their boss mentions them as the 'employee of the year'. These actions are all part of the reward system of the company and many times the effects are greatly misunderstood.

Some informal analysis

Let's have a look at some rewards and the effect they have on employee satisfaction.

Regular salary

At the end of a month the employee looks at his bank account, sees that his salary was deposited, doesn't even smile and gets on with whatever else he had to do. Unless he discovers that he didn't receive the right amount, but less. If he would then contact the company to find out that his salary was decreased intentionally by his manager, for whatever reason, he would probably get very mad.

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Personal Bonus
The salesman who checks his December salary knowingly that he more than reached his targets - apparently his boss had noticed that too and granted him a bonus proportional to his achievements - is rather satisfied. Last year he was disappointed, after not having reached the targets the bonus then was very small. Apparently the extra effort he invested this year paid off.

Incidental gift
After doing some overwork the manager calls the employee to his office. He thanks the employee for the extra effort he put into the project and hands him an envelope. 'Go and have a nice dinner with your wife on company budget. You've deserved it and so has she. Thank you for helping me out in this crisis.'
Three kinds of rewards with three kinds of effects...

- If you get your regular salary, it doesn't affect you, if you get less you get mad.
- If you get more because you put in more effort, you're satisfied. If you get less you're disappointed, even though you may have achieved less.
- If you get a restaurant voucher you are happily surprised. If you didn't get a voucher it wouldn't have affected you as you never expected to get one.

The Kano model
The Kano model categorizes requirements into three types depending on the influence they have on stakeholder satisfaction.

Must-be requirements do not have a positive influence on stakeholder satisfaction. If they are met, the stakeholder will take this for granted. If they are not met, the stakeholder will be dissatisfied. This is like your regular salary. Must-be requirements are also known as “basic needs”.

One-dimensional requirements if fulfilled have a positive effect on stakeholder satisfaction, if not they have a negative effect. This is like the achievement related bonus. One-dimensional requirements are often called “performance needs”.

Attractive requirements are like the restaurant voucher, they have a satisfying effect on the stakeholder if fulfilled. If not fulfilled, they have no effect at all. Attractive requirements are also called “delighters”.

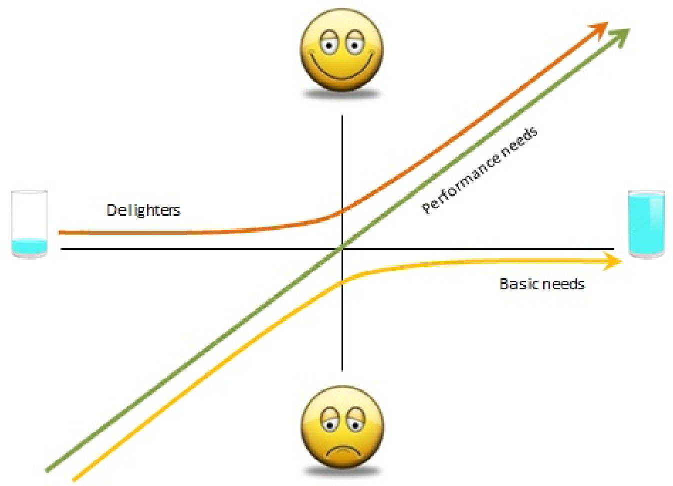

Figure 1 Kano model

The degree of satisfaction for each of the requirement types is depicted in Figure 1 Kano model.

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Applying the Kano model
Application of the Kano model begins with identification of the requirements. In my analogy this means identifying the various ways of 'rewarding' the employees, i.e. listing the factors that may have influence on employee satisfaction. From the example we see the following factors, or requirements for the reward system:

- Current salary
- Standard salary raise
- Inflation compensation
- Company bonus
- Individual targets bonus
- Personal bonus
- Personal compliments
- Public compliments
- Incidental gift

Step two in the Kano process is analysis of the effects the degree of fulfillment of these requirements will have on employee satisfaction. This is done by creating a Kano questionnaire. The questionnaire consists of two questions for each of the requirements, namely a question in the functional form and one in the dysfunctional form. The questions look like this:

- Functional: If this requirement is met, how does that make you feel?
- Dysfunctional: If this requirement is not met, how does that make you feel?

And the answers can be one of:

- I like it that way
- It must be that way
- I don't care
- I can live with that way
- I dislike it that way

Note that 'I like it that way' indicates a higher degree of customer satisfaction than 'It must be that way'.

In step three we analyze the answers that the stakeholders filled in. As they have to answer two questions for each of the requirements this may lead to contradictory statements. The table below is an instrument to evaluate the answers.

		Dysfunctional question				
		Like	Must	Don't care	Live with	Dislike
Functional question	Like	Q	A	A	A	O
	Must	R	Q	I	I	M
	Don't care	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

The functional form of the requirements can now be categorized as follows.

- M means this is a Must-be requirement.
- O means this is a One-dimensional requirement
- A means this is an Attractive requirement
- I means this requirement is Indifferent to the customer (so is it a requirement?)
- Q means the requirement is Questionable (were the functional and dysfunctional questions formulated correctly? Did the customer understand the questions? Double-check!)
- R means the Reverse of the functional requirement seems to be required. (Swap the functional and the dysfunctional questions and ask again).

Note that the table differs from the one in [Sauerwein]. If both the functional question and the dysfunctional question are answered with 'It must be that way' the requirement is considered questionable rather than indifferent.

To get an insight of the rating of the requirements, taking into account the answers of all stakeholders, the frequency of the answers is calculated. For the example this could look like this:

Noriaki Kano

	A	O	M	I	R	Q	Total	Category
Standard salary received	0%	0%	80%	20%	0%	0%	100%	M
Yearly salary raise	0%	0%	60%	40%	0%	0%	100%	M
Inflation compensation	0%	0%	70%	30%	0%	0%	100%	M
Company bonus	0%	55%	0%	45%	0%	0%	100%	O
Individual targets bonus	0%	70%	0%	30%	0%	0%	100%	O
Personal bonus	25%	25%	0%	50%	0%	0%	100%	O
Personal compliment	25%	25%	0%	50%	0%	0%	100%	O
Public compliment	50%	0%	0%	25%	25%	0%	100%	A
Incidental gift	65%	0%	0%	35%	0%	0%	100%	A

Here the category (M, O, A) is determined by the highest percentage in the table.

According to Berger [Berger] there is another possibility to categorize the requirements taking into account the rating of all stakeholders. Berger calculates the 'extent of satisfaction' (CS) and the 'extent of dissatisfaction' (CD) as follows:

$$CS = (A+O)/(A+O+M+I)$$
$$CD = -(O+M)/(A+O+M+I)$$

This yields the following result:

	A	O	M	I	R	Q	Total	Cat	CS	CD
Standard salary received	0%	0%	80%	20%	0%	0%	100%	M	0	-0.80
Yearly salary raise	0%	0%	60%	40%	0%	0%	100%	M	0	-0.60
Inflation compensation	0%	0%	70%	30%	0%	0%	100%	M	0	-0.70
Company bonus	0%	55%	0%	45%	0%	0%	100%	O	0.55	-0.55
Individual targets bonus	0%	70%	0%	30%	0%	0%	100%	O	0.70	-0.70
Personal bonus	25%	25%	0%	50%	0%	0%	100%	O	0.50	-0.25
Personal compliment	25%	25%	0%	50%	0%	0%	100%	O	0.50	-0.25
Public compliment	50%	0%	0%	25%	25%	0%	100%	A	0.67	0.00
Incidental gift	65%	0%	0%	35%	0%	0%	100%	A	0.65	0.00

Do you recognize this? I think it says that if you want to please your employees you are most effective by giving them a compliment in public or an incidental gift. And if you don't, they won't bother. If people don't get their salary it probably is due to some administrative mistake. But if you want to encourage them to look for another job, don't give them any raise nor inflation compensation.

References

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