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The KJ-Technique: A Group Process for Establishing Priorities

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Back in the late 1970's, the US government commissioned a study to look at effective group decision making. In the study, they asked 30 military experts to study intelligence data and try to construct the enemy's troop movements.

Each expert analyzed the data and compiled a report. The commission then "scored" each report on how well it reported the actual troop movements. They found that the average military expert only got 7 out of a 100 elements correct.

Each expert then reviewed all of the other experts' reports and rewrote their initial assessment. The average accuracy for these revised reports was 79 out of a 100.

What was different between the first report and the second? The experts didn't have any new information. All they had were the perspectives of the other experts. When they added those perspectives to their own, their accuracy increased ten-fold.

Deriving Priorities When Resources are Limited

In design, our resources are limited. Priorities become a necessity. We need to ensure we are working on the most important parts of the problem. How do we assess what is most important?

In our consulting work, we've found that, like the military experts, our clients usually have most of the answers already in their own organization. The trick is to get all the people with the right perspectives to reach consensus quickly.

For this, we've turned to a group consensus technique we've been using for years, called a *KJ-Method* (also sometimes referred to as an "affinity diagram"). The KJ-Method, named for its inventor, Jiro Kawakita (the Japanese put their last names first), allows groups to quickly reach a consensus on

priorities of subjective, qualitative data.

Sometimes, we'll be in a situation when every team member has different opinions on how we should proceed, such as identifying who the most important users are for an upcoming study. Other times, we'll have collected tons of subjective data, such as our observations from hours of user testing. We find the KJ-Method to be very effective for organizing and prioritizing opinions and subjective data.

The Accuracy of the KJ-Technique

One of the most amazing things about the KJ-Method is how well it objectively gets groups to the top priorities. Different groups can analyze the same data and will often come to the same results.

A few years back, we conducted an experiment where we had 15 teams use the method simultaneously. Each team consisted of ten usability specialists, each from different organizations. Their goal was to take their own individual experiences and prioritize an action plan as a team. We focused the exercise around the question, "What are the biggest obstacles to producing quality products that you face in your job?"

Each person started by listing their own personal obstacles. Then, using the process, they spent approximately 40 minutes reaching consensus. By the end, we asked each team to list the top 3 items.

When we compared the all 15 teams' results, they all had basically the same top items: Need to define requirements better; Need to understand the users better; and Need to have better communication with their design team.

It was amazing how each of these teams came to basically the same top priorities, even though they each started with individual data. We've repeated this experiment 3 times, always with very similar results. The KJ-Method really does work to get an objective group consensus out of a collection of subjective, opinionated data.

The KJ-Method: Step By Step

The KJ-Method is simple and easy to do. It focuses the group on the task at hand and is excellent at eliminating unnecessary discussion and distractions from the goal. It's a tool that everyone should have in their designer's toolbox.

We've got it down to an eight-step process that we can do with any size group in less than an hour. Here's how we do it: We use two colors of removable sticky notes, such as yellow and blue. We like the standard 3x5 size or the 4x6 size, if we can get it. We need a room with a lot of wall space. Typically, a large conference room will work well. We also need a facilitator. This is a person who will move the group from one step to the next. (While a facilitator can also contribute as a group member, politics may make this less than desirable. The safe road is to have the facilitator play a neutral role.)

We'll need a whiteboard or flipchart for the final ranking step.

Step 1: Determine a Focus Question

The focus question drives the results. Every session will have its own focus question. Sample focus questions are:

- Who are our users?
- What features do users need?

- What goals do users have when they come to our site?
- What did we learn in our usability study?
- What are the biggest obstacles preventing our products from selling?

We can only work on one focus question at a time, so we pick the most important one first. (An experienced team can do two rounds of KJ's in an hour allowing them to deal with two important questions.)

Step 2: Organize the Group

Get folks together for an hour. We want people from different parts of the organization, to get their different perspectives.

Step 3: Put Opinions (or Data) onto Sticky Notes

Putting one item on each sticky note, we ask each group participant brainstorm as many items as they can think of.

Step 4: Put Sticky Notes on the Wall

In random order, each participant puts their sticky notes up on the wall. Then, they read other people's contributions. If, at any time, they think of something else that should go on the wall, they need to jot it down on a sticky note and add it to the collection.

Step 5: Group Similar Items

Once everyone has had a chance to add their contributions to the wall, the facilitator instructs the group to start grouping like items in another part of the room. This is what we say when we're facilitating

“Take two items that seem like they belong together and place them in an empty portion of the wall, at least 2 feet away from any other sticky notes. Then keep moving other like items into that group.”

“Feel free to move items into groups other people create. If, when reviewing someone else's group, it doesn't quite make sense to you, please feel free to rearrange the items until the grouping makes sense.”

“You're to complete this step without any discussion of the sticky notes or the groups. Every item has to be in a group, though there are likely to be a few groups with only one item.”

Notice that we've not allowed the group any discussion about the contents yet. We've found that premature discussion often focuses on *borderline* items -- things might be unimportant to the focus question. If they aren't important, then spending any time discussing them is a waste.

In later steps in the process, we have time to discuss the important items. Therefore, by preventing conversation now, we save time for the important conversations later.

This step is complete when all the items are moved from the original wall into groups.

Step 6: Naming Each Group

Using the second color of sticky notes, we ask each participant to assign a name to each group. Here are the instructions we give:

“I want you to now give each group a name. Read through each group and write down a name that best represents each group on the new set of sticky notes I just gave you.”

“A name is a noun cluster, such as 'Printer Support Problems'. Please refrain from writing entire sentences.”

“As you read through each group, you may realize that the group really has two themes. Feel free to split those groups up, as appropriate.”

“You may also notice that two groups really share the same theme. In that case, you can feel free to combine the two groups into one.”

“Please give every group a name. A group can have more than one name. The only time you’re excused from giving a group a name is if someone has already used the *exact* words you had intended to use.”

Again, notice here that we’re not allowing the group to discuss the name. Everyone gets a chance to get their own views out, regardless of the politics and personalities involved.

This step has a hidden agenda: the final review. By insisting that everyone read every group, it forces the participants to review everything on the wall and consider it. This is critical for the next step: voting.

Step 7: Voting for the Most Important Groups

When we have finished this step, every participant will have democratically shared their opinion on the most important groups. This will be independent of any coercion amongst their peers or factors like the number of items in each group. They’ll purely use their own viewpoint to choose those groups are most important to answering the focus question.

To get through this stage quickly, we break it up into three parts. First, we have each participant grab a piece of scrap paper and write down the names of the three groups that they feel are most important.

We’ll repeat the focus question at this point, so they know which question they are answering. For example, if our focus is “What features do users need?”, we’ll give these instructions to the participants:

“On a piece of scrap paper that you will neither post nor share, I want you to write down the three names of groups that you think best answer this question: What are the *most important* features that users need?”

“If a group has more than one name, you are to choose the name that *best* represents the most important features in that group.”

Occasionally, participants will have trouble narrowing the groups to just three. We’ll often instruct the people having trouble to write down five, then cross two off. While this often produces a giggle, it turns out to be helpful to some participants.

The second part of this step happens when they have their three choices. We ask them to rank them from most important to least important. We’ve found that doing this separately from identifying the top three makes it easier on the participants.

After we've ensured that everyone has their three top choices and has ranked them, we give the last part of the instructions: to record their votes on the group sticky. If, for example, the group sticky notes are blue, we'd use these instructions:

"I want you to go to the blue sticky that best represents your first most important choice and put three X's on it."

"You can then go to your second most important choice and put two X's on it."

"Finally, go to your third most important choice and put a single X on it."

When we're done, everyone will mark six X's on the group names that they feel are most important.

Again, notice that there we've not allowed any group discussion up until this point. Even though they've worked as a group, we've prevented discussion from eating up any portion of the meeting.

This is because, up until now, we've not known what items were most important. It just doesn't make sense to spend time discussing unimportant items.

Step 8: Ranking the Most Important Groups

Once everyone has marked their votes, we grab all the group sticky notes with votes on them and place them on the whiteboard (or flipchart). We'll order them by the number of votes each sticky received, with the highest numbers at the top.

At this point we ask the group to gather around the whiteboard and we read off, in order of importance, the names of each group that received votes.

Because some groups may actually represent identical priorities, we allow the team a few moments to consider combining groups. We have a simple process for doing this. Here's how we explain it to the participants:

"We now need to see if there are any groups that we should combine. You can nominate two groups that you think are the same thing."

"We'll then take a preliminary vote, to see if anyone thinks they aren't the same. If anyone believes they are different, we'll spend a little time discussing why they believe that."

"After the brief discussion, we'll take a final vote. That vote needs to be unanimous for us to combine the items and their scores."

"Remember, the two groups being considered need to be *identical*. That means you could substitute one for the other. A group that's a subset of the other group does not qualify for combining."

As each pair is nominated, we take the preliminary vote. We let the participants discuss amongst themselves why they are for or against combining. As facilitator, we let everyone have their say and pay close attention to the group dynamics, to prevent people from getting their opinions bullied.

Since we insist on unanimous agreement for combining items, it gives great power to a single person. However, since the items were already scored, it's hard to abuse the power in any meaningful way. Someone who is trying to hold up the process by being argumentative won't get very far.

Every time we combine two items, their scores are added together and they are moved higher in the

list. Usually, we reach a point where there are three or four items which are ranked much higher than the rest. At this point, the facilitator can stop the process, since any further combinations are unlikely to change these top priorities in any meaningful way.

At this point, the facilitator declares the exercise finished and reviews the top three or four ranked items. These are the top priorities for the focus question.

Reaching Consensus in Record Time

When the KJ-Method works (and it has rarely failed us), we reach group consensus much faster than any other method we've had. Because we've encouraged people from all over the organization to participate, the resulting priorities will typically stand the test of time and won't come under constant challenge.

The KJ-Method is a fascinating mix of independent brainstorming, group dynamics, and democracy. It allows a team to be creative and critical in a productive manner, where strong personalities and politics play second fiddle to the independent perspectives and experience of the team.

The KJ-Method is such a valuable tool that we sometimes wonder how we'd ever get our job done without it.

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