

Product Configuration: A Research Approach for the Times



By Rajan Sambandam & Pankaj Kumar

White Paper Series

Research produces the best results when it is most realistic. When consumers are made to go through the same decision-making process that they would have used for actual purchases, the information they provide tends to be more reliable and useful. This is one of the trump cards of research methods that get consumers to make choices (i.e.) experimental approaches in survey or mock shopping environments. When consumers make choices like they would in the real marketplace there is a stronger relationship between the two.

The trick then is to be able to derive sufficient useable information from those choices in order to form judgments about decision-making that can help companies in their marketing efforts. Methods that have gained in popularity through the last couple of decades (such as discrete choice conjoint analysis) have done this quite successfully. They have used advanced statistical analysis that is still increasing in its complexity and ability to draw ever deeper insights. Compared to an era when preference information was gathered primarily through ratings scales and other context-free approaches, these choice-based methods had a significant advantage in terms of their realism.

Consumers as Producers

But the reality of the marketplace has also shifted in the last decade, thanks to a little thing known as the Internet. Among its many significant advantages is its ability to allow consumers to become, effectively, producers. Think of how you buy a computer today. It's not the manufacturer showing you fully formed products to choose from (a process that a technique like discrete choice conjoint analysis imitates), it's you telling the manufacturer what you

want included in your product. In a sense you are building (or configuring) the product.

This process started out with products like computers that are more suited for this kind of consumer-driven building but is spreading to other areas, often quite unrelated. Now you can build your own clothes, shoes, credit cards, digital and entertainment services, insurance products, industrial equipment – the list goes on. And it will keep on going because the Internet is the central reality of our lives today. So, if consumers are increasingly inhabiting a world where they get to build their products, does it not make sense that research would be more realistic if it imitated that process to get better quality information?

the task more realistic and enjoyable – primarily because, unlike an approach like discrete choice conjoint, configuration is significantly less repetitive and tedious. By metaphorically looking over consumers' shoulders as they make choices, we are able to glean interesting information on how they make decisions. Conjoint analysis is generally what is called a *de-compositional* approach. People tell you something about the whole product and you then derive what is important to them. Building your own product is a *compositional* approach because respondents to a study have to make explicit decisions at each stage and build their product one piece at a time. This latter approach increasingly makes sense in a world where people are in fact building their own products.

Texo

Which Level of High-Speed Internet service would you choose?

- Fast (15 Mbps download; 3 Mbps upload): **+\$45**
- Faster (20 Mbps download; 4 Mbps upload): **+\$55**
- Fastest (30 Mbps download; 7 Mbps upload): **+\$65**
- Beyond Fastest (50 Mbps download; 10 Mbps upload): **+\$100**
- I wouldn't choose ANY of these High-Speed Internet options: **+\$0**

Your Selections	
Television	
Economy Package	\$40
HBO, with On Demand	\$15
Do not add HD programming	\$0
DVR Service	\$15
3 Regular or HD cable boxes	\$30
MLB Extra Innings (full season)	\$200
Internet Access	
Faster (20/4 Mbps)	\$55
Phone Service	
Monthly Total \$155	
One Time yearly total \$200	
One Time Fee \$0	

<< >>

All options that can be added
Basic TV | Special Packages | Hi Def | DVR | Telephone Services | Telephone Lines | Internet Access | Internet Speed | WiFi Service

0% 25% 50% 75% 100%

The answer is yes, of course. Because not only are we then keeping up with the reality of the marketplace, it also turns out that getting consumers to build their own products has other significant advantages. They will find

How Configuration Works

So what actually happens in a configuration study? It starts with the all-important design phase where an in-

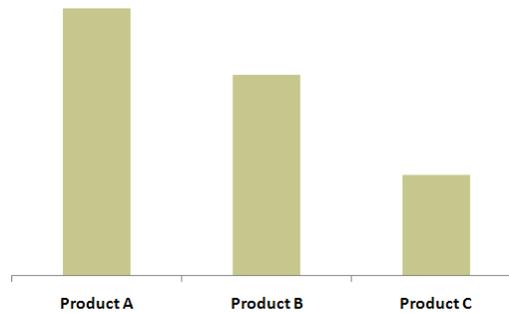


depth discussion of the product or service in question is needed. Every feature and option that a company wants to offer and that consumers may desire has to be listed out for potential inclusion in the study. If you don't ask they can't tell you anything about it. The next and perhaps even more important step is the imposition of constraints. If you are building your laptop on a manufacturer's website and you knew you were going to get it for free, wouldn't you build your dream product with little regard for the real world? The same thing will happen in the research if you don't impose price information (or other relevant constraints) on every option presented to respondents. In some industries this is straightforward. In others (such as insurance products) input from other internal departments is required to make numbers as accurate as possible. This is actually a useful situation as it gets more stakeholders involved with the study and makes them more receptive to the results.

There are a few more steps to finishing the design, but these are the essential ones. Note that unlike in a discrete choice conjoint type of study there is no statistical underpinning to these designs. Such a feature is both an advantage of those methods (because of the efficiency) and a disadvantage (because of the lower flexibility). A configuration study design has complexity, of course, but it is of a different variety, and the flexibility of the design phase can be an order of magnitude higher. So products with numerous complex interconnections (if color is red shape cannot be round, if plan is X then feature Y cannot have price Z, etc) can be quite easily handled.

Programming creativity allows for an interesting and interactive experience for the respondent. It is easy to see why this kind of research is more enjoyable for a respondent. At each

stage the respondent picks the option to include, and clearly displayed price information makes the choice realistic. Running totals and options to make changes to the product allow respondents to design a product that fits the budget.



Results can be as simple as percentages of people who picked each option. Nothing hard to explain about that, right? Yet this information is very useful and translates easily for managerial decision-making. But that is just the tip of the proverbial iceberg. Loads of information are available about the decisions people made at each step (and what that could mean), the most sought after options, the most frequent trade-ups and trade-downs -- all in an easy to understand format. Respondents are effectively segmenting themselves based on their preferences, but one could certainly segment them further in different ways.

In Conclusion

What the configuration process is doing is this. It takes a complex product and associated decision-making process, uses a simple interface for gathering input and produces simple but powerful output for decision-making. Normally complexity is needed to accomplish this on both the front and back ends, but this method can do without that. This has the ancillary benefit of making the research and results easily explainable to executives who may not buy into

mathematically complex methods that produce results in unintelligible ways.

This is not to say mathematical complexity is not possible here. It is very much possible, but this white paper is not the place for it [see the companion piece *Configuration: Evidence for Effectiveness* for what else is possible and a real example]. The point here is that useful information about a complex process can be obtained in a simple format to aid practical decision-making.

One question that could be asked at this juncture is the appropriateness of the method for products and services where consumers don't get the opportunity to build their own. The evidence around us is that products and services are increasingly going in this direction so it could just be a matter of time before that happens for a product in question. Beyond that, consumers now know what building their own product is. They have done it themselves in other categories so the task is not unfamiliar. By making them go through that process for the specified product (even though it may not be sold as such), we still derive all the other advantages of this method.

Should you be considering this approach for your new product development activities? At minimum it needs to be investigated and you will benefit from that.

Rajan Sambandam is Chief Research Officer at TRC and Pankaj Kumar is Managing Director of Quantelligence, the marketing analytics division of TRC. TRC is a market research company located near Philadelphia, PA.

TRC is a full-service market research provider located in Fort Washington, PA. We deliver insightful results, a range of methodological and analytic options, and a passionate customer service commitment to every client we serve, and with every project we do.