Benefits of consumer behaviour research in a virtual world

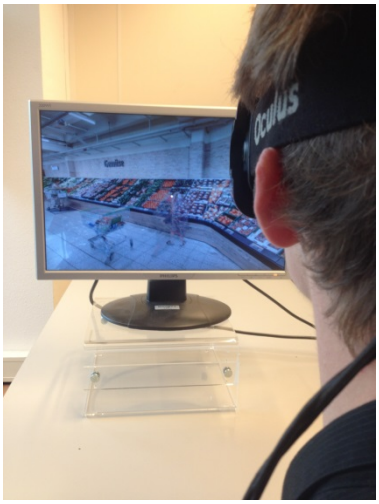
LEI
WAGENINGEN UR

A respondent walks through the virtual supermarket wearing virtual reality glasses. She walks up and down the different aisles, looks this way and that, turns right into another aisle, examines the various products on the shelves and then makes a choice. She picks two jars of peanut butter. Researchers monitor the consumer unseen, following in her footsteps and studying her purchase behaviour. They imperceptibly collect a wealth of valuable data during her brief walk through the digital supermarket.

Is this the future of consumer research? No, this has been going on for a while. The first study with a virtual supermarket took place years ago at Wageningen UR. LEI Wageningen UR's social and economic research institute, has a wealth of experience with various research projects involving virtual reality (VR). Over the years, the technology has been further improved, offering companies new, unprecedented possibilities for market research.

Not just for gadget geeks

Virtual reality is currently really taking off. Nowadays everyone can connect VR glasses to their smartphone and step into a virtual world. Make no mistake: this is not just a thing for gadget geeks. For just two euros, you can purchase a simple pair of DIY cardboard VR glasses and take a ride on a rollercoaster using your smartphone.



Virtual reality technology offers new opportunities for game developers, the media, advertising professionals, companies and researchers. Currently virtual reality-based consumer research is not yet being conducted on a large scale. However, the latest technological developments allow researchers to use it and deploy it on a larger scale.

'Beter-leven' meat: how to make people buy more animal welfare approved products?

Virtual reality allows you to conduct research into consumer behaviour in supermarkets. This was the case for example, when 'Beter-Leven' (Better Life) meat, an animal welfare approved meat, was launched. The most important question was how can you make people choose animal welfare approved products over the less friendly variety? You can put the Beter-Leven meat in various places in the shop. You can use VR-assisted research to test which is the best position for such a product, and which choices people make and why. The use of VR increases the feeling of the choice being real, while by using a 'flat' screen for example one needs to imagine the space and the arrangement of it. VR gives the consumer a more realistic experience and the researcher better insights into consumer behaviour.

The advantages of VR-assisted research

Not just how, also why

You can supplement questionnaire-based market research with VR-assisted research, using a specially-developed programme. There are several advantages to this. Consumers can understand the situation better. Instead of imagining it, they can actually visualise the environment around them.

A main advantage is that you can test multiple versions of the real world, while being able to control everything. In the real world it is not or hardly possible to do this and many factors disrupt the data. By combining questionnaires with virtual reality, you can understand how people behave but you can also find out why they behave like this. The combination of the two leads to better insights into consumer behaviour and the validity of the measurements will also be higher.

Do consumers prefer unpackaged organic fruit and vegetables?

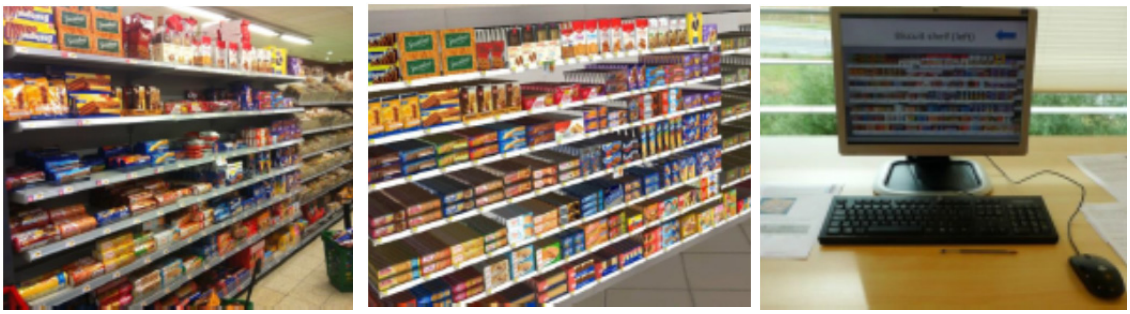
A growing number of supermarkets are selling packaged fruit and veg. This raised the question of whether consumers were more inclined to buy organic fruit and vegetables. An experiment in a virtual supermarket revealed that consumers tended to prefer organic fresh produce when it was not wrapped in plastic packaging. A second experiment in the virtual supermarket showed that consumers prefer unpackaged fruit and vegetables over the packaged options, both for organic and non-organic products. Eliminating packaging thus seems to be a promising intervention for increasing the turnover.

Consumers must be able to identify

Market research partly relies on consumers' ability to empathise and identify with the situation. While you can make good predictions with various research methods, these methods still strongly depend on conscious answers, attitudes and perceptions. Traditional methods come close to explaining real consumer behaviour. However, people usually do not know their own behaviour and have many biases which leads to uncertainty. We can reduce this margin of error by helping respondents to show their real behaviour: it's all in their experience.

Virtual reality can add this experience layer, allowing companies to acquire better insights and collect new behavioural data. VR-assisted consumer research has already yielded a lot of new insights on a small scale: from insights into what people look at and which expressions they have when doing this to insights into how to best present flowers. In a next phase, we want to learn from this research and incorporate the best behavioural predictors in a mobile app in order to transform VR-assisted market research into a fully-fledged market tool.

As VR shopping is about to become a reality, companies may also benefit from mapping online VR behaviour. In addition to the benefits of simulations for understanding consumer behaviour, we can also incorporate VR research into the virtual reality shops of the future.



A real supermarket compared with a virtual supermarket and 2D research (http://www.measuringbehavior.org/files/2014/Proceedings/Van%20Herpen,%20E.%20-%20MB2014.pdf)

Distinguishing influences from each other

A great advantage of VR is that it allows you to incorporate differences and thus understand where differences in behaviour originate. Whereas it is sometimes difficult or even impossible in the real world to distinguish between key factors, you can design a VR experiment in such a way that this is no problem at all in the analysis. You can for example design eight environments which are exactly the same, except for the one component that you want to learn something about. The participating consumers have no idea that they will be randomly dropped in one of these eight worlds. If you let a sufficient number of people participate in the experiment, their behaviour on average should be the same in all eight worlds, with one exception, if the adjustment you made has an effect, and that is exactly what you are looking for in such a set-up.

Deeper insights and higher validity

Virtual reality-assisted research results in deeper insights and a higher validity. This form of research is interesting for market research companies that want to extend their consumer research with a valid method that yields extra valuable data. Companies with products that have high visual complexities or that are highly dependent on their context (flowers for example), may stand to benefit from using VR-assisted research. By combining psychological characteristics and behavioural data the insights you get can improve from knowing what is happening to understanding why it is happening.

Are flowers a difficult product to research?

Respondents in consumer behaviour studies about flowers often find it difficult to choose between 2D images. VR can mimic the environment with 360° photos to such an extent that consumers find it easier to identify with the selection process. The 'flat' image of the flowers no longer is an obstacle. VR does allow you to also gain a better insight into the selection process for complex products and environments.

Precondition 1: technology that works properly

You need very specialised equipment to properly conduct VR-assisted research. This equipment has already been developed, from a 3D environment to very realistic VR on a head-mounted display (screens that project images before your eyes and move as you move). If the technology does not work properly, this will disrupt the research. You have to create the most natural or easy experience possible, for which you require specialised knowledge.

A 360° image of a supermarket. The blue areas are the main areas to which the consumer's eye is drawn. Combined with questions and data about choices and behaviour, researchers gain a better understanding into consumer behaviour.

Precondition II: knowing what you are about to measure

It is vital that you know what you want to measure with VR-assisted research. You can focus on the choice of a specific product, but there are countless other variables you can measure. You start by determining which question you really want to answer and which factors influence this. The possibilities are often endless. The choice of the right outcome measures, factors and influences, knowledge about the chain, consumer behaviour and the possibilities of VR are vital in this framework.

Using VR assisted research together

Virtual reality can generate a lot of added value for research, especially compared with standard consumer research. By introducing VR in large consumer panels, we can add context on a large scale and better predict consumer behaviour. This knowledge allows companies to make better choices.

LEI Wageningen UR has years of experience conducting VR research and an excellent track record in terms of virtual research, from the introduction of animal welfare approved meat and the effects of packaging on consumer perception right up to consumer behaviour on various forms of information about the food chain. Our knowledge of the chain and the combination of behavioural and psychological insights allows us to set up a good virtual experiment. Based on a company's specific research question, we adapt the tool and the VR app we developed. We know exactly how you can set up a VR-assisted study, implement it and, above all, how you can use the measurements thanks to our expertise.

Like to know more?
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