Customer first thinking.

Marketing Science

An Interview with Koen Pauwels, Vice Dean of Research, Northeastern University

Koen Pauwels:

Koen Pauwels is one of the foremost marketing scientists in the world and the author of "It's Not the Size of the Data, It's How you Use it".

If you can make one broad generalisation about marketers it is that they probably hated math and science in high school.

Even today, with the business world awash in performance data of all kinds, marketers tend to fall back on long-held marketing truisms in the decisions they make. Anything to avoid number-crunching. The correct split between brand building and activation? Of course, it has to be 60:40! Isn't that what Binet and Field recommend? The optimal media budget? Let the media agency decide! The ROI of that last product launch campaign? Uh, not sure exactly, but we did see a short-term sales spike. The synergistic effect of offline and online advertising? No clue, actually, just know that our brand awareness scores are higher than ever.

No wonder the finance people scoff at the budget proposals that come out of marketing. Whenever they demand to see a clear link to business value – for some (any!) proof of effectiveness – all they ever get are performance forecasts built on a pile of dubious assumptions. In part, that is due to the abstract nature of marketing. There are many interdependent variables that come into play in

any assessment of spending effectiveness. There is so such thing as "spend this much, get this much in return". The approximate answers lie somewhere between what has happened in the past and what might happen in the future. And so a certain amount of educated guesswork is to be expected. But that crucial job of estimating marketing effectiveness based on known historical data needs to be far more rigorous, far more fact-based, and backed as much as possible by scenario modeling.

For brands with large media budgets, the usual approach has been to lean on market-mix modeling and multitouch attribution tools to come up with the right budget allocations. And while those automation solutions do help to calibrate the media mix, there are many other thorny questions that require a working familiarity with statistics to answer. Marketing has become a fiendishly complex business, with a myriad of media channels to consider, and a slew of direct and indirect drivers of market behaviour that have to be taken into account. Too many in fact for marketers to figure out on their own, no matter how good they may be at pivot tables.

So the time has finally arrived for marketing science to emerge from the halls of academia and come to the rescue of practitioners. Unlike data scientists, who apply statistical methods to customer data analysis, a marketing scientist is a social and behavioural expert trained in answering the toughest marketing questions. Need to know the optimal pricing strategy? Which market segments offer the greatest profit potential? The right balance between ad reach and frequency? Whether it is worth the trouble to pursue light category users? The best promotional timing? The most important drivers of market share? A marketing scientist can build simulation models that get marketers a lot closer to the truth. Or at the very least, to a defensible answer.

Perhaps the best known marketing scientist in the world is the slightly subversive Byron Sharp of the Australia-based Ehrenberg-Bass Institute whose best-selling book "How Brands Grow" won him a lot of fame for busting many cherished marketing beliefs such as "differentiate or die" and "perception drives behaviour". A lesser known but equally esteemed marketing scientist is the Belgium-born Koen Pauwels who is Vice Dean of Research at Northeastern University and heads up the DATA Initiative there. In fact, Marketing Week's Mark Ritson calls him "the best marketing academic on the planet". He has written a number of books of his own, one of which, "It's Not the Size of the Data, It's How You Use It", remains an indispensable guide to marketing dashboard design. He has also duelled occasionally with Professor Sharp over some of Ehrenberg-Bass' more contentious findings.

SS

Stephen Shaw (SS): Marketing science may be the least understood of all the marketing disciplines. How would you define it? And how does it differ exactly from data science?

KP

Koen Pauwels (KP): Marketing science is the investigation of human behaviour as it relates to the marketplace. Why do people buy what they do? How do competitors relate to each other? How do manufacturers deal with powerful retailers? How do consumers trade off privacy and convenience when they go online? All of these questions touch on human behavior.

SS

Is optimization the ultimate goal?

KP

Not really. I'm an econometrician by training, so I either analyze historical data or run field experiments to come up with my models - what I think you should do. And this could be to increase your price, reduce your advertising spend, or stop trying to make the product perfect because consumers are not willing to pay for it. I can tell you what your optimal marketing budget should be. But if you have no control over the allocation of that budget, you're just going to tell me I can't convince my boss to do that.

SS

Well, I would think you would be a wonderful ally to convince the CFO that they need to spend more money on marketing.

KP

About half the time I'm hired by marketing, half the time by finance. I find the different mindsets absolutely fascinating. Marketing folks tend to have a growth mindset. They see life as filled with opportunity. Finance folks are much more risk averse. They have a prevention focus. They think about life as disasters to be avoided. They want to know, what is the risk involved? And so very often, my job has nothing to do with data, but is making sure that people speak the same language and understand each other's perspective.

SS

So you're an intermediary in many respects.

KP

Yeah, very much so. You asked about the difference between marketing science and data science. So, in marketing science, we start with a theory or hypothesis that we want to prove or disprove - that's the difference. I did my PhD at UCLA, and I gave up on economics relatively early because I couldn't live with the assumption that everybody's rational, and that managers are optimizers. I'm like, have you ever talked to managers? But econometrics I really liked because it just used data to come up with good insights.

I like to start from what is known about human behaviour. I formulate hypotheses, and sometimes I have multiple hypotheses that are in conflict with each other, which is why it's so cool to analyze it then. Whereas data scientists say, let's have the data tell us what's going on - which is sometimes cool because you uncover things that you could never have imagined – but it very often leads to completely unexplainable observations. "Why do people who buy x also buy y?". And how is that actionable in a campaign? And so I find that marketing scientists are typically just a bit better in relating our work to marketing.

SS

Well, answering the why, for sure. How would you characterize the state of marketing science today? Has it entered the mainstream of marketing yet? Or is it still viewed as the exclusive domain of marketing academics?

KP

That's a great question. I always joke that a lot of people went into marketing because they hated math in high school and university. But I do feel that the mathematical sophistication has really increased amongst senior marketing decision makers. You see people now at the top of marketing organizations who can ask really great questions about my model. But anybody can call themselves a marketer at any time. And so we have this constant influx of people into the industry who fancy themselves as growth marketers or growth hackers or digital marketing experts and very often there seems to be a fundamental disrespect of what came before. Yet human behaviour evolves very slowly. Knowing what has and has not worked in the past is important. And unfortunately a lot of today's marketers don't really take the time to educate themselves.

SS In your book you quote one of your clients as saying, "lots of data and lots of action, but no link between the two". I might amend that a little bit to say, 'lots of data and lots of insight, but no action' - meaning marketers still struggle to convert data-driven insight into meaningful strategy. Is it simply that they're not trained to ask the right questions?

KP That's a fantastic question. So, first of all, I completely agree with you. I would say, number one, marketers continue to have issues convincing risk averse decision makers who don't like marketing mumbo jumbo – who say, show me the money, show me a projected return on investment. There is also this fear whether a multitouch attribution or marketing mix model will work for my company, in my country, in my industry. And never forget, insight is built on the near past, right? Models run on historical data. What is the guarantee that it will work when you try to apply it now? And this is why obviously marketing is the toughest function in any company because the success of what you're going to do now depends on how potential customers react, competitors react, maybe whether interest rates go up and down. So there is just a lot of uncertainty.

A good marketing manager takes the model input and says, okay, this is fantastic, but I do have my own experience and intuition about what has changed. In most of my work I model how the competition is likely to react when you give a price promotion, or you do more advertising. So when I build my model, I factor that into the predicted net effect. But let's say the CEO of the main competitor was just fired, and the new CEO comes in and this is a guy who really wants to grow market share. So he's going to react way more strongly than the previous CEO. Or maybe they're in bankruptcy proceedings and they don't want to rock the boat, so they're not going to react. And so I always build in those scenarios that you as a manager can turn on and off. I always like to say it's 50% model, 50% manager, which means that you can get much better results if you combine human intuition.

SS In your book you say the "engine under the hood" of every good marketing dashboard is a VAR model. Just explain, if you can, in as simple a language as you possibly can, why you're such a strong believer and user of VAR modeling.

KP It's basically a very flexible way to take into account the direct and indirect effects of marketing but also the long term effects. And it's more than one equation. So my sales depend on a whole bunch of marketing actions. One big problem is with brand equity. Brand equity builds and builds over time and influences your sales, but over a much longer term than changing your search marketing. So I have a second equation explaining brand equity with marketing actions. Why is this important? A lot of times bottom funnel marketing dominates everything else. So things that build awareness, that build consideration, something that we as marketers care about, get completely washed away. But now if you have a second equation explaining awareness and consideration, you can distinguish these things. So you can say something like, hey, I have this brand new TV ad, and yes, a few people got convinced right away to buy it and that's my immediate sales effect. But my TV ads also make people much more likely to click on my online ads and over time they increase my pricing power because I will be able to increase prices without losing too many consumers. So that's why it's really useful to get to these direct and indirect effects.

SS I want to talk about the budgeting process which marketers perpetually struggle with, partly because they aren't doing the sort of scenario modeling you're describing. They struggle with credible forecasting, with making line item trade-offs. Why does budgeting remain such a trial for marketers, such a slugfest every year with finance?

KP So I think the most important thing is to give finance folks the comfort that you will be a good steward of the company's resources. Here's a typical scenario. Every year, the marketing department comes with a new funding request for a shiny new thing. And then, of course, they can't prove it's going to be effective because it's new. So you can't look at past ROI. But then what can be cut? And they say, nothing. Everything is absolutely 100% necessary. And so that is the kind of ask every year that puts finance people on the defensive and they say, no.

What really builds trust is that you as a marketer are more proactive. Let's say search marketing has hit diminishing returns. So now every dollar we spend on search marketing is not worth it. Maybe we can even cut down a bit, because our brand is now so well known that we can get most consumers for free. And so, for instance, very famously, eBay figured this out, right? So that if they just cut all of their Google spend, they would lose hardly any customers. Doing these small experiments and saying to finance, I really

want you to fund this but then at the same time, here are two or three things that you can cut, that is just going to be very much appreciated.

SS Plus the ability to draw a line between those expenditures and its impact on the KPIs that the C-suite really cares about. I think that's one of the challenges, isn't it?

KP Alignment of marketing with business goals is 50% of the whole battle! One year it may be that the business really wants to get a lot of new customers. So customer acquisition is the big thing. Another year, it may be to get more out of existing customers so cross-selling is much more important. Knowing what the business really wants you to do and then, of course, translating that into marketing KPIs.

SS Mark Ritson has said, referring specifically to US. marketers, that there is "an ignorance of effectiveness". You're on record as agreeing with that statement. What do you think accounts for this blind spot, relative to other regions, such as Europe and certainly Australia?

KP One of the reasons is that I don't think a lot of marketing managers are incentivized based on what is really effective. I think the other thing in the States is that jobs evolve very quickly, so you're not typically in a position to see the benefits yourself. In Europe, people tend to hold positions longer, and they actually get rewarded by their companies for doing things that are, in the long term, in the best interest of the company.

Let me share a story. When I was in Istanbul in Turkey I worked with Ülker, which is a huge manufacturer of chocolate goods. They had just bought the Belgian company Godiva. They spent about $100 million advertising just in Turkey. I went to their Chief Marketing Officer, a very clever individual, and told him half of his advertising was ineffective – that I could literally save him $50 million. And he never questioned that I could do that. He just said to me, "Look Koen, if I do what you say, my company gets $50 million. I don't get one cent of that. But if I lose half a percentage market share, I get fired."

SS Byron Sharp is one of the few marketing scientists - maybe the only one, you being the other - to have broken through the walls of academia and earned a certain notoriety amongst marketers. His book "How Brands Grow" really resonated with a lot of marketers at the time. Why do you think he was able to do that?

KP He was very understandably debunking some of the more obscure or esoteric things that marketing had come to believe. And I completely agree with him on that. He popularized ideas that were already well researched in several data sets across several countries. For example, what's known as the "double jeopardy law".

So basically double jeopardy is saying big brands are different from small brands. Big brands have a lot more penetration. A lot more consumers have bought them at least once, and they buy them more often than the buyers of small brands. If you are, for instance, a niche coffee brand, you may have your very loyal followers, right? And typically, marketers say you should go for a niche and try to get lots of heavy buyers, and then they will spread the word. But the problem is that even if they love your niche brand, they also have to buy for their family and for visitors. And so small brands stay small for several reasons. Not enough people have tried them once, but also the people who tried them and even liked them didn't necessarily spread the word. And then, of course, I would add that retailers really favour big brands. At the time he wrote the book these were very novel insights for general marketers. That kind of science hadn't really made it into the mainstream yet.

SS One of his more provocative claims is the relative importance of differentiation versus distinctiveness. His argument is that distinctiveness should be at the center of brand strategy. I think your answer is, "Well, it depends".

KP So I think what the Ehrenberg-Bass Institute has shown over the years is that creating and maintaining differentiation is hard. The point we disagree on is that just because it's hard doesn't mean you shouldn't try to do it. And because it is hard, I believe that there's huge benefits. You have so much more pricing power if you differentiate. But they have a great point that it's just very hard to create it. So many things have to go right. Whereas distinctiveness is really interesting. Distinctiveness is like McDonald's Golden Arches, right? It's not specific to the product. You're not going to like their nuggets or their fries more. But it really reminds you of the brand, out of home and everywhere. They don't have to state their product and their price positioning every time. They can just show you the Golden Arches. Distinctiveness tells you there's a huge benefit in

having people remember you with an icon or a certain logo. Unless you are really, really, really, tanking, keep it, because otherwise you're throwing everything overboard.

In practice, distinctiveness is very hard to maintain. And distinctiveness is absolutely key in the kind of big, fast moving consumer goods categories that they analyze. So typically their data comes from fast moving consumer goods in developed markets and relatively big brands. And for those brands, yes, your competitors have by this time negated your points of differentiation. So what you're left with is very often distinctiveness. Whereas I think for smaller brands that really want to grow a lot, also in emerging markets, getting and maintaining a point of differentiation is just both very possible and very rewarding if you can do it.

SS The other contentious finding is that reach trumps frequency and that marketers should try to attract as many light buyers as possible. He even seems to dismiss the relative importance of heavy buyers. Is he right?

KP So one of the key assumptions in his work is that you can't really change people's habits. Consumers are who they are. So if you're a medium buyer of my brand, and I want you to develop into a heavy buyer, he is assuming that's almost impossible. It's virtually impossible to get you to buy more, right? So given that, retention is not something to worry about unless you're losing way too many consumers. So if you want to grow, and this is why his book is called "How Brands Grow", you should really focus on getting new people to try your brand. And these will be the light buyers because heavy buyers already know the brands. And so your marketing will get to them anyway because they pay attention to it. So it's the people who only very occasionally buy in the category that you want to go after.

Where I think he gets a bit too extreme is, for instance, reach versus frequency, right? His point of view is you should always maximize reach because for the first exposure, you get the most benefit. Now maybe if I'm introducing a new type of chewing gum, he's correct. But if I want to convince you to join my new bank and take out a mortgage, then I will have to reach you a lot more times. For certain products, you have to have a higher frequency both offline and online. So I think it really depends on the category. Like, on Amazon, most people are actively exploring or buying new products.

Should we have more or less frequency? You could say we should have more frequency because people are actually in the mode for buying. But you're paying attention and maybe you don't have to see the ad four times. Maybe once or twice is enough. And then you can check the reviews. So these are fascinating research questions that I would love to explore.

I believe that if you have limited resources for smaller brands, you should first try to get market share. You should try to identify people who have a very strong need and are willing to pay for your product – like selling nuts to squirrels. And then if you have money left or if you want to really grow beyond that group, then you can go for higher reach.

SS Sharp also says - and this is so counterintuitive to me - that attitudes follow behaviour, not the other way around. Customers are naturally polygamous. He doesn't really believe in the idea of a loyal customer. What do you think about the importance of loyalty?

KP I always make the distinction between behavioural and attitudinal loyalty. So behavioural loyalty is where people buy more and more from you over time. For example, at one of the banks that I worked for, they thought they were specifically targeting people in their advertising who never banked with them before. Yet most of the new account opens were with people who already banked with them and just didn't know that they also offered this particular financial product. Marketers sometimes make the assumption that their customers know as much about the brand as they do.

So I completely agree that you can increase behavioural loyalty and there are huge benefits to doing so. Where I agree with Byron Sharp is attitudinal loyalty is extremely rare. So yes, I like your bank, I've been a customer for a while, but if another bank offers me a much better deal, then maybe I will switch. So I do agree that very few consumers have this absolute love for the brand People do feel that way about some brands: Apple, Harley Davidson. But I agree with Byron, it's very hard to achieve, it's very rare.

As I said, Byron Sharp is a behavioralist. He believes that asking people about their attitudes is completely useless. And he has a point. People don't always think what they say and don't say what they do. So he says first you change behaviour and then the attitudes will follow. In other cases though Byron is just completely wrong, and attitudes do change before behaviour. One of the reasons that Jeff Bezos

finally allowed Amazon to advertise is because they got into devices, Echo and Alexa. He figured out people's attitude had to change before they're going to buy it. And that's going back to the low involvement versus high involvement decision making that we know very well as marketers.

SS And if you provide a superior experience, you can even overcome a shaky value proposition just by virtue of the fact that you're treating people right.

KP Exactly. Yeah. And that is something really important that is completely not in "How Brands Grow". There's a big difference between saying you shouldn't spend 80% of your company resources to retain customers and saying you should completely ignore it. Because if you mess up being nice to people you can really go south.

SS Where do you see marketing science going in the next five years? I get the sense that it is going to finally become the mainstream discipline I referred to at the top of this conversation.

KP I agree with that. I foresee see a lot more people on both sides of the divide working very well together and also understanding each other's language. So I'm extremely optimistic about the future of marketing science and marketing as a profession. I think that new technology adds a quiver in our arsenal, right? But that doesn't mean that everything is completely different and that we have to throw out what we knew before.

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