How women become more data savvy and break the gender bias

In our increasingly digital world, being able to work with data is becoming unavoidable. In the technology industry specifically, the value of using data well is second to none. Yet when a recent report from TechNation revealed that only 26% of the industry's workforce are women, it becomes evident that there is a barrier preventing women from entering the industry.

This International Women's Day, the theme is 'Breaking The Bias', aiming for a gender equal world free of bias, stereotypes and discrimination.

A report from _McKinsey_ found that 38% of women in the technology field feel that gender discrimination holds back growth. The whole sector suffers from historic and self-perpetuating bias. Vital digital skills such as working with data are biased towards boys and this perpetuates the bias in the workforce. It means that our future generations of girls, continue to be excluded from these high growth, highly paid, sustainable jobs.

As part of my commitment to help increase female representation in businesses, I've partnered with BT to showcase how the power of data can

empower females; from entrepreneurs to those looking to enter the workforce for the first time. BT's Skills for Tomorrow programme, helps to provide digital skills to 25 million people.

As a data and technology entrepreneur, here are my top tips on data, from the essential skills of how to use it to what it contributes to better decision-making all the way through to why its transforming the world of AI.

What is data?

Simplistically, there are two forms of data; personal data and attribute data. Personal data identifies an individual; your name, address, email and social handles. It allows us to connect to you as an individual. This is often called PII data and is the most sensitive from a data protection and privacy perspective.

Attribute data connects transactions or behaviours to your personal data such as what, where and when you bought it. This reveals our habits, our preferences, our behaviour. For example, through analysing attribute and transaction, store owners can identify a repeat customer and potentially, what they are most likely to buy next, based on their purchase history. This knowledge helps the store manager to know what matters most to this customer and therefore what offer is most likely to engage them and win their next purchase.

You can also infer data from actual transactions but this requires modelling and is perhaps for another conversation.

Using data to provide a better customer experience

Data is a powerful tool that allows you to know your customer/colleague and bring you closer to their wants and needs. This allows you to speak to them in a more relevant and personalised way. Proprietary data sits within your business. It is the most valuable and confidential type of data that you never share outside of the business. Transaction data is not always connected to an individual identifier, a person. This is why historically, so many organisations created loyalty programmes to link a person and his/her transactions. Today, this data is often collected from automatic billing, payment and scanning systems.

Personalising interactions by analysing data, no matter whether it's external or internal stakeholders, can help to add value, create and sustain better and more relevant engagement and communication.

Using external data to improve your business

Reference data comes from outside your organisation. It has been created by a third party for another purpose and can be licenced for a once-off or annual fee. It is valuable because it can provide context for your own data. Typical reference data allows you to, for example, compare your business and customers with those of your competitors. You can licence the traffic or footfall of streets or train/tube stations, or map the number of workers and/or residents in your business catchment area.

Your business and its performance will be impacted by where you are sited (good or bad location), how long you have been there and what other stores are nearby that are complimentary or competitive. The rise of online commerce allows customers to compare range and price more easily. Customers may visit but they are likely to compare prices online. On-line search means that they can find the best deal and exactly what they need so if you have a store, you have to have a good reason (or many reasons) for why you have a better range or set of products than others.

Turning insight into action for business growth

Data science is all about finding patterns within the different layers of data – patterns that reveal the 80:20 rule which is which 20% of your customers provide 80% of the profit. This becomes incredibly powerful over time because you can see trends and behaviours revealing which segments are growing, which only visit once, which products are most popular and when. This insight and these trends allow you to plan better offers and promotions and to assess who to contact about what and when. The better you use and respect your data, the better your business will grow and be more valuable to you.

Segment and tailor your communication

If you send the same message to every one of your customers or stakeholders, it's going to reflect poorly on your business. People are not all the same and they don't always want the same things. It is a sign of respect to take the trouble to understand a customer (or colleagues) and their wants and needs. That's why personalisation and customisation is so important. Personalisation shows you care about a customer (even if you have grouped customers into key bands or cohorts, where their behaviour and spend is similar). By

communicating with them in a relevant way, you can drive tremendous loyalty, engagement and long-term competitive advantage.

1. Beware your own bias

Data science is more accurate than our personal memory and bias. If you stand and watch or listen to customers, you may find that you have a biased recall on the ones you remember. They may not be typical. But, when you analyse large numbers of customers and create data summaries, you will see an accurate report on reality. Sometimes the truth can be unpleasant. For example, you may find that 40% of your customers only ever buy once, or that only 5% of your customers buy more than one product. In many businesses, customers don't come back at all and that's called the attrition rate. If attrition becomes a bigger number than your acquisition rate (how many new customers you have each year or season) then your business is in decline.

Make the most out of analytic tools

There are many tools out for a modest outlay that can help you analyse your data, simply. An excel spreadsheet is one of the simplest and most powerful analytic tools. Social media platforms host a range of analytic tools eg google analytics. Once you understand your customers and market, you can plan communication. There are more tools that help you to do this from the very simple to the complex eg mailchimp or salesforce.

Learning data and digital skills

Learning data science, building your digital skills and knowing how to create a data strategy is a powerful combination for any employee or employer today. These skills can impact every aspect of your business; from pricing, product development, supply chain or communications.

Understanding and using data effectively is vital but, as we spoke earlier, the bias between the sexes, shows that many more men than women are learning and adopting this science.

My hope is that we can encourage more girls to pick STEM (Science, Technology, Engineering & Maths) subjects at school. This ultimately, will empower women in business and help us to break the bias we see today across industry. My final top tip is to head online and search for the free resources and tools out there – the _BT Skills for Tomorrow_ website is a great place to start for digital skills, as well as _The Female Lead_ which is catered to sharing knowledge to empower women.

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