

I-COM Data Storytelling Council Whitepaper

**FIVE AREAS MARKETING NEEDS TO ADDRESS
FOR BETTER DATA STORYTELLING**

June 2020

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BACKGROUND

The [I-COM Data Storytelling Council](#) explores the rules of data-driven storytelling that help everyone to tell more compelling, evidence-based stories for their organisation using data and statistics. Even as companies have embraced their new role as content creators, many have largely missed out on adopting a Data Storytelling culture: communicating your insights effectively and giving your data a voice. Narrative is the way we simplify and make sense of a complex world. Facts simply present data, whereas a story's narrative provides context, insight, interpretation - everything that makes data meaningful and analytics more relevant. Combining the right visuals and narrative with the right data creates a data story that can influence and drive change.

The following insights are drawn from the continuous work of the Council Members between January 2019 – April 2020.

The I-COM Councils are designed to address a specific topic identified by our Members. The overall goals are to provide insights on the latest opportunities and challenges as well as guidance and leadership for the entire Data community. To reach that goal, I-COM Councils work on whitepapers, articles and/or definitions which are published on the I-COM website.

FOREWORD

In the white heat of the digital marketing ecosystem, a week can be a chunky period in which a lot of change can happen. A month often feels like a seriously long time, and a year is an eternity. Development and progress in digital marketing appears to operate to a different heartbeat, an accelerated crucible of evolution in which only the fittest survive. Indeed, in nature as in business, it is under the most intense pressure that evolution speeds up, generations grow shorter, and mutations that were once thought of as quirks or outliers quickly become dominant and mainstream.

I-COM announced its intention to create its Data Storytelling Council in early 2019. The first meeting attracted interest from more than 100 I-COM members. We set our agenda, our topics, and our timetable little more than a year ago. Together, we embarked on our journey to meet, talk, and create a whitepaper covering the core topics listed on the contents page, above. Data storytelling is that sometimes apparent contradiction-in-terms juxtaposition that underpins success in the modern media age, enabling brands to move from “So what?” (what do the data mean) to “Now what?” (what should we do as a result).

Little did we suspect, however, as we prepared for our final topic meeting that the world was about to be plunged into its biggest crisis in living memory; the first truly global pandemic in the age of globalisation. Beyond its very real and human impact – millions of infections and hundreds of thousands of deaths – COVID-19 has side-swiped every nation, every business category, every citizen. At the time of editing the final manuscript of this whitepaper, more than half of the world’s citizens were on lockdown, with a few countries that had managed to push their R rates for infection below 1.0 starting tentatively to relax society-wide restrictions.

A few categories – online and offline grocery and retail, pharmacy, and subscriptions video-on-demand from Netflix to Disney+ – are booming. Many – from non-essential retail and automotive to live entertainment, including restaurants and cafés, sports and theatres – are totally unable to trade. Marketing budgets are being pulled, frozen, cancelled, or postponed. The term “the new normal” is shooting up Google Trends, but there’s very little certainty what this might actually be like.

What is certain is that the first global pandemic of our era is very definitely a pandemic crying out for the skills of brilliant data storytelling. In the few years before the start of what

some had dubbed “the new Roaring Twenties”, some politicians and commentators told the public that we’d had enough of experts and expertise. What those advising Governments and communicating with citizens have realised in the few short months of coronavirus is that we’ve never needed clear-thinking, straight-talking experts more than we do today.

And when companies and brands do emerge into an uncertain and shaky future, those that come back and grow strong again will be brands that stand on the shoulders of data storytellers. For it is data storytellers who make sense of and communicate the meaning of meaningful marketing metrics and those that will help their organisations on the road to corporate, national, and ultimately global revival. We hope that, in its small way, this paper can act as a North Star on that journey.

Thanks so much to the dozens of members and associates of I-COM who have contributed to this whitepaper and the ideas contained in it, on our regular, bimonthly calls. Particular thanks to those who led the presentations on the chapter topics and then so quickly and efficiently wrote-up both their thoughts, deftly incorporating builds and additions made by other members during our meetings. This truly is a team effort, and we commend it to the broader, global marketing data and measurement community represented among I-COM’s members. We can’t wait to hear what you think – from rapturous agreement to violent disagreement. We want to provoke a reaction, so do share your thoughts, perhaps most efficiently via publications@i-com.org

Keep well, keep safe, and see you at a future I-COM event, online and – in the not-too-distant future – in real life, too. And thank you for your consideration.

— DR SAM KNOWLES
Founder & Managing Director of Insight Agents
& I-COM Data Storytelling Council Chair

INTRODUCTION

In their book *Big Data: A Revolution That Will Transform How We Live, Work, and Think*, Viktor Mayer-Schönberger and Kenneth Cukier calculated that, by the end of 2013, there were 1,200 exabytes (EB) of data stored on earth. 1EB is 10^{18} bytes – a billion gigabytes – and enough to fill forty billion, 32GB iPads, which would stretch from Earth to the Moon. By the end of 2014, we'd produced the same again – another 1,200EB. Recent estimates suggest that data production since the invention of the printing press will have reached 175 zetabytes (1ZB is 10^{21} bytes by 2023), and this will double by 2027. Big Data is getting bigger, and increasing deserves its capital letters.



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Founder & Managing
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The marketing communications ecosystem is increasingly full of data – measurements, figures, statistics. Data about marketing performance. Data about consumer behavior. And data about customer journeys. All sorts of organisations are generating more and more data: brands and agencies, businesses and charities, universities and governments. And the presence and ready availability of so much data presents marketers with a delicious paradox: it has never been more challenging and at the same time it has never been more possible to use data to understand, optimise, and mobilise the most efficient and effective marketing communications.

The fundamental challenge for marketers lies in finding and using only the most relevant data, in focusing on the corner of “little big data” that matters; it's a theme that I and my co-hosts of the [Small Data Forum podcast](#) – a sideways look at the uses and abuses of data big and small in politics, business, and public life – come back to time and again, whether we're dissecting Trump and Brexit or COVID-19. This “little big data” challenge requires marketers to learn how to ignore all the extraneous and diverting smog of data that surrounds their organisations and threatens to overwhelm them. Those that can – in Nate Silver's memorable phrase – separate “the signal from the noise” will find themselves at a distinct competitive advantage from peers and rivals and set themselves up for long-term success.

The key to better data-driven marketing lies in bringing into harmony the often fire-and-ice disciplines of analytics and story, to harness the power of data storytelling. The two skills that everyone in the modern knowledge economy needs to thrive are the ability to make sense of meaningful patterns in data and then to use these data-driven insights to persuade others to take action. Whether you're a CMO looking to persuade a CFO to increase overall marketing investment; whether you're an analyst in an eCommerce team looking for better rates from platform partners; whether you're a martech vendor with a whizz-bang new attribution solution you're looking to sell to brand owners ... in these and many more cases like them, the defining equation of marketing in the 2020s is this: Analytics + Storytelling = Influence.

In its wisdom, in Spring 2019 I-COM created a Data Storytelling Council. The purpose of the Council is to bring together the brightest and the best of I-COM's members – among them the world's leading marketers in the data-rich, digital marketing ecosystem – to discuss and debate the key challenges that effective data storytelling presents. But from the beginning, we agreed we wanted to be more than just a talking shop, more than a place where those lucky enough to attend would benefit. That's why we've produced this whitepaper, written by different members of the Council, to shape, refine, and share the fruits of our discussions over the past 15 months.

In the pages that follow, we explore why data storytelling's moment is now – perhaps even more so in the midst and wake of COVID-19 – setting out key terms and definitions. We look at the skills needed for data storytelling – within individuals and across teams. In a market characterised by under-supply and over-demand, we identify how brands and agencies can successfully navigate the talent crunch. We investigate how marketing organisations can set themselves up for success by building the right culture for data storytelling, how they can lead, and how they can judge the job they and their commercial partners are doing in this area. And we consider the approaches and tools required to measure success.

By 2030, we believe data storytelling will be the defining set of skills that enables brands to thrive. It is our aspiration that this paper can contribute to a decade of success for all I-COM members.

1 | STARTING WITH “WHY?”

THE ROLE AND PURPOSE OF DATA STORYTELLING

Simon Sinek’s seminal talk at TEDxPuget Sound¹ is already more than ten years old, and it is enduringly popular. At time of writing, it remains the third most popular TED talk of all time, with approaching 50 million views. Sinek’s central observation – at the heart of his talk, his 2011 book *Start with Why*, and myriad keynotes since – is that those organisations that can identify and clearly articulate why they exist are those that thrive. If your focus is on what you do – and even the higher-level how you do it – you’ll be caught in a downward spiral of features and benefits and never give your team or the market the reasons to believe in your organisation. Six times in his 18-minute TED talk, Sinek chimes his mantra: “People don’t buy what you do, they buy why you do it”, creating a movement behind corporate and brand purpose that helped to shape business thinking in the twenty-teens.



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When it became clear that first the internet, then social media, and finally wholesale digital transformation would become the defining drumbeats of modern marketing, many brands decided to invest. They didn't think they had time to stop and think and ask why they should be involved. For fear of missing out (FOMO) and of their rivals stealing competitive advantage, they plunged in and ploughed increasingly large (and often suspiciously round) proportions of the marketing spend into what was new **because** it was new. For willingness to experiment and test and learn as new media and means of communication were being developed, they should be applauded. The lessons learned – and budgets squandered – by many brands and categories suggest being ‘a bit more Sinek’ about revolutionising marketing spend would have been wise. They should have started with “Why?”.

The same is true for data and data storytelling. When it became clear that data could hold the key to more effective and impactful, more targeted and more relevant marketing, there was a headlong rush in many brands – encouraged by many consultancies – to invest in data and analytics. The what (data) and the how (analytics) were clear; the why was often a bit more nebulous. Again, a little bit more exploration about the reasons behind investing in data by individual companies and brands – as distinct from the more obvious and general purpose of marketing analytics – would have been helpful. ‘Being more Sinek’ is a reliable prescription for doing things for the right reasons. For understanding the purpose of investing in data and analytics. For being able to answer those challenging “Why are we doing this? For what purpose?” type questions from C-suite colleagues.

¹ [“How great leaders inspire action”](#)

THINKING, FAST AND SLOW

The cognitive psychologist Daniel Kahneman – author of the 2011 popular science best seller *Thinking, Fast & Slow* – has drawn together the science that shows we make our decisions emotionally and then justify them emotionally. We make decisions using our emotional brain, the so-called limbic system, using what Kahneman calls System 1 thinking. This set of brain structures is evolutionarily ancient, and we share them with all other mammals, with reptiles, and with birds; they're governed by the amygdala, the brain's emotional barometer. As humans, we go on to justify and validate the decisions we make using our uniquely homo sapiens rational brain – Kahneman's slower, more deliberative, more cognitive System 2 thinking. The grey and white matter of the frontal lobes of the cerebral cortex is ours and ours alone, and responsible for humankind's dominance of the Earth. In addition, these structures and the capacities they mediate are behind the invention of marketing and all the digital technology wrapped around it today.

The System 1 / System 2 duopoly of decision-making applies to marketing – from both the marketer's point of view (which campaigns or channels to choose) and the consumer's perspective (which brands to buy and favor) – as well as to marketing analytics. Remember: we make our decisions emotionally, and we justify them rationally. We make decisions based on emotional arguments that are presented to us; we justify them to ourselves based on logic and data.

This is precisely why data storytelling is so important and impactful in the modern marketing function. Data storytelling is, in microcosm, a perfect representation of Kahneman's explanation of how it is we make decisions. It combines the often fire-and-ice domains of emotion and analytics. In emotion – assessed and judged by quick-and-dirty System 1 thinking – we have story, story structure, storytelling. And in analytics – assessed and judged by slower and more deliberative, cognitive System 2 thinking – we have data, data-driven insights, and rational explanation. Indeed, the fundamental equation of success in the knowledge economy of the 2020s (and in our case marketing) is Analytics + Storytelling = Influence. Put these two core disciplines together effectively and for the long term, and you're setting yourself up for success.

THE TROUBLE WITH EDUCATION AND PSYCHOLOGY

The challenge for a modern marketing organisation is how to find, retain, and develop individuals who can become part of multidisciplinary teams that serve business objectives through data storytelling. There are two principle reasons – two problems – that explain why data storytelling often isn't found within single individuals (though there are some exceptions).

The first is a problem with education. Around the world, education systems at secondary and tertiary – high school and university – level are designed to make students specialise in either arts (the traditional home of story) or sciences (where analytics of many types lies, underpinned by data analysis, statistics, and mathematics). Students tend to excel in arts or sciences but often not both, and so choices made at 14, 16, and 18-plus routinely play up one strength at the expense of the other. They tend to make us more artsy or more sciencey, and this goes on to dictate the types

of roles we fulfil and the types of businesses we work with. Yet this division runs contrary to the needs of all sorts of organisations, who increasingly need more blended, data-literate generalists who can use data as the underpinning to their persuasive storytelling and argumentation.

The second is a problem of psychology, which exacerbates the problem with education. The problem with psychology is the often-willful misinterpretation of both scientists (who find something of interest in one of the brain's hemispheres) and the simplistic, generalist news media who latch onto these findings. As a consequence, there is a popular misconception that just as individuals are either artists or scientists, so they are either – or predominantly – right-brained (artistic) or left-brained (analytical). With the exception of a handful of neuroscientific cases where developmental abnormalities or brain tumours necessitate the removal of one or the other hemispheres of the brain, we are all right- AND left-brained.

We understand individual words as lexical units in the left-brain; we assemble them into sentences and arguments with structures in the right-brain. And however well-meaning psychologists and neuroscientists are when they talk about the function of different structures and different halves of the brain – witness Iain McGilchrist's *The Master and His Emissary*, the book and the film² and the lengths he goes to in order to show how the two hemispheres work together but how society may overvalue one at the expense of the other – popular misrepresentations of the left /right-brain schism have set us back rather than moved us forward.

RESOURCES, HEADCOUNT, AND CULTURE

When it comes to building capability within a marketing organisation for data storytelling, there are further challenges CMOs and other C-suite leaders face beyond the consequences of directive educational systems and misreadings of psychology, although both of these have hampered attempts to harness the power of data storytelling. Of course, if marketers and HR buy into the arts/science, story/data, left/right-brain schism as so many have for so long, it means we go looking for individuals who fulfil one function or the other or the unicorns who can do both brilliantly. A critical article from the Harvard Business Review in early 2019 reveals why this is a mistake. Suitably enough, the article is titled “Data science and the art of persuasion”³.

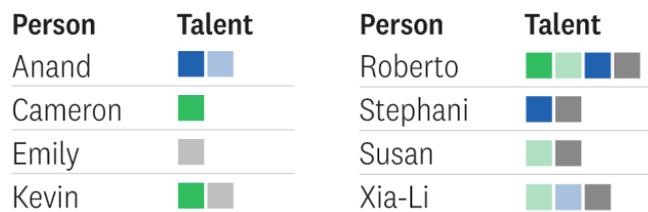
² <http://iainmcgilchrist.com/the-master-and-his-emissary>

³ <https://hbr.org/2019/01/data-science-and-the-art-of-persuasion>

First, identify the talents you need to have access to:



Next, map talents to team members:



Finally, assess how much depth you have for each type of talent:



From: "Data Science and the Art of Persuasion,"
by Scott Berinato, January-February 2019



Figure 1. How to build a talent dashboard for data storytelling – from HBR

Scott Berinato's piece shows how – in organisations from a small start-up to a global multinational spread across dozens of markets and operating hubs – the approach to data storytelling should be to build a talent dashboard that identifies each team member's relative abilities in six key disciplines. These disciplines include: project management, subject expertise, data wrangling, design, data analysis, and storytelling. Having identified the talents your organisation has access to and mapped talents against existing team members, you are able to assess the depth of talent you have for each discipline and so can look to plug any gaps with future hires.

In the chapters that follow here, different members of the I-COM Data Storytelling Council explore in detail what marketing organisations need to do to identify the talent they need to fulfil their data storytelling needs. But data storytelling isn't just about headcount of function – in what is, admittedly, the most under-resourced gene pool in modern corporate life. It's also about culture, and creating and inculcating the right, sustainable culture for data storytelling can be every bit as challenging as finding a data analyst with a flair for data visualisation but who isn't looking for a rock star's salary. This whitepaper also explores strategies to address data storytelling culture.

IN SUMMARY

We used to think that data and storytelling was a question of “either/or”, forcing a binary choice between head and heart. As the discipline develops and like good improvisational actors, we now know it’s much more a case of “both/and”, seeing the chance to blend data and story as an opportunity. In an era that some political leaders like to caricature as fake news and post-truth, the rational underpinning to emotional storytelling has never been more important. One of the (currently pretty few) welcome impacts of the coronavirus pandemic is the resurgence of experts and expertise and the realisation that all opinions are not, in fact, equal if one of them is well-informed by veridical data and the other is just a knee-jerk, gut reaction.

As cognitive creatures, humans like there to be simple – even single-factor – reasons behind the stories they tell. The data storytelling community has a responsibility to ensure that data isn’t dumbed down and that nuances aren’t lost in the rush to create a compelling, coherent, and consistent narrative. However tempting, this approach offers short-term gain at the expense of long-term pain. If data stories don’t do justice to the work that’s gone into in-depth analytics and complex methodologies – that is, if they prove to be good stories that aren’t rooted in analytical rigor – then leaders will naturally come to distrust them when they turn out to be false.

To be properly insightful and drive transformational change within an organisation or with customers, the best data-driven stories ultimately need to be statements of truth. Statements of truth that are simple (but not simplistic) and that end with a meaningful “So what? Now what?”; “the data show this and this is what we need to do as a consequence”.

2

THE SKILLS NEEDED FOR DATA STORYTELLING

LEGACY VIEWS ABOUT THE ROLE OF DATA SCIENCE CAN HINDER GOOD STORYTELLING

It is important to recognise that the term “Data Storytelling” is a double-edged sword. Businesses increasingly require complex data analysis that drives business decision-making into narratives that are consumable, understandable and able to be democratised across organisations – to both technical and non-technical people alike.

However, one of the fundamental challenges facing organisations is that many still hold on to an assembly-line mindset, where the same technical personnel who perform data ingestion and cleansing functions (preparing data for analysis) are also expected to perform analyses and subsequently summarise them in a way that can be understood by a non-technical audience. This can go all the way to the C-suite, where decisions about where to invest, divest, add or cut resources get made. As such, would-be data storytellers may not have a seat at the top table, where their work is often “dumbed down”, misinterpreted to fit a narrative (intentionally or unintentionally) that can lead to erroneous conclusions and decisions. Perhaps part of this legacy mentality about the “schism” between left and right brain classification is partly to blame for this dichotomy. It has led too many organisations to adopt an unconscious bias in their thinking: data scientists crunch numbers, others do the storytelling. The results can often be misleading.

COVID-19 DATA STORYTELLING HIGHLIGHTS HOW DIFFICULT THE TASK IS

A case in point would be the COVID-19 pandemic, and how information is presented and subsequently interpreted based upon flawed data storytelling in the majority of the reports released to the public. Examples of incorrect conclusions arrived at by millions of people – based upon the storytelling narrative – include the rate of infection spreading, countries or population centers per capita infection rates, comparisons of country data with others, and so on. Those crunching the data are in the best position to explain the very important nuances, such as the reason infections in an area may have spiked dramatically is the due to the simple fact that more tests were administered over the same time period, or that certain areas that were seemingly unaffected are simply the result of having little to no testing. The amount of data storytelling that is flawed in relation to the COVID-19 pandemic only underscores the point: for data scientists to be part of the storytelling process – be they private sector or government – a new paradigm needs to be adopted under which those that analyze data stay with their findings and work as part of the storytelling process.



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SVP Strategic
Partnerships & Global
Data Supply of Eyeota

Perhaps one of the main reasons why the assembly line, linear approach from analysis to the presentation of results is more susceptible to flaws is that very few individuals possess the skill set required to do all the tasks needed to create credible, defensible data stories which can be acted upon with confidence⁴. As specialisations in expertise continue – bringing us deeper, more innovation in very specific areas – it creates an opportunity to alter the paradigm out of necessity. This may well lead to experts in different disciplines being harnessed in such a way that we see the diverse skill sets come together to provide the proper balance of business context, data preparation, data analysis and finally, the ability to “speak for the results”. As Nate Silver observed in his book *The Signal & the Noise*: “The numbers have no way of speaking for themselves. We speak for them. We imbue them with meaning”. Charts, graphs, and data points left to their own devices can be easily misunderstood. It is all too easy to mislead – be it intentionally or unintentionally, depending upon the way information is presented. This classic example from Darrell Huff’s famous book *How to Lie With Statistics* – published in 1954, but it still holds good today – exemplifies the point:

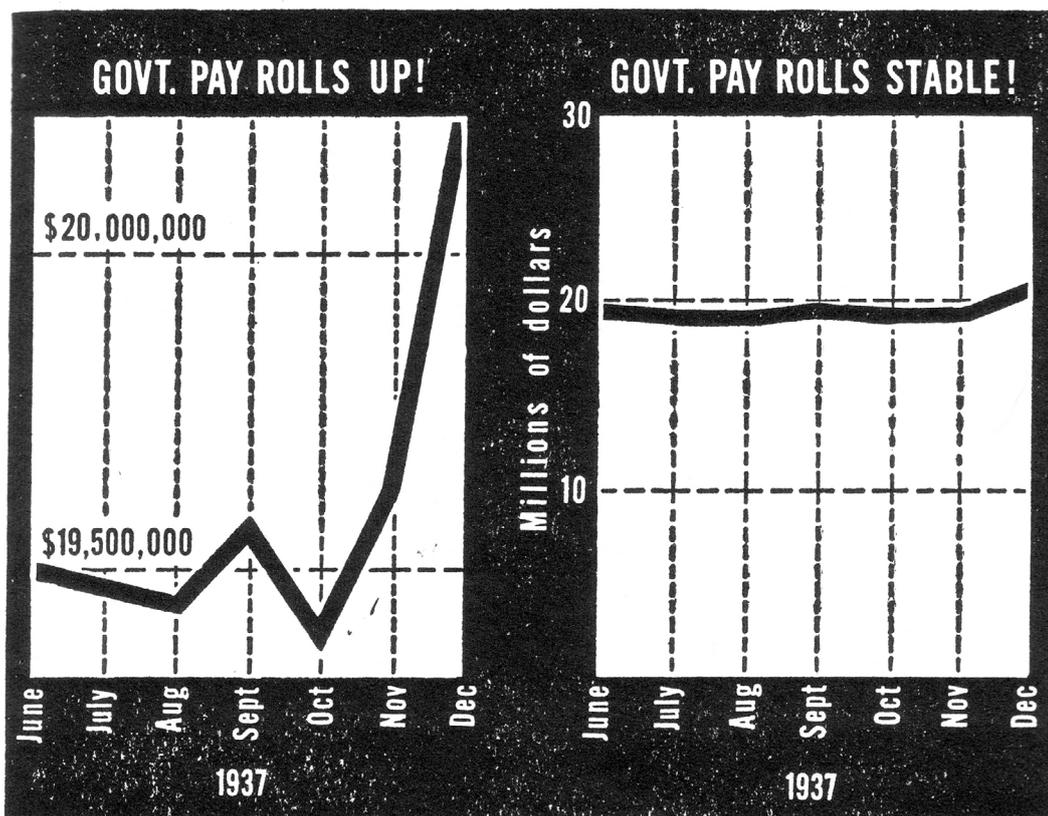


Figure 2. From Darrell Huff's *How To Lie With Statistics* (1954)

The same data presented on two different scales will elicit a response from most non-technical people (and C-suite executives) that creates an incorrect narrative. And once digested and acted upon, these misinterpretations can have detrimental consequences to an organisation that acts upon the incorrect telling of a data-driven story.

⁴ HBR: “Data Science & The Art of Persuasion”

SOLVING FOR THE DISCONNECT - IT'S ALL ABOUT HAVING THE RIGHT SKILL DIVERSITY

So, how does one build an organisation that possesses the right skills needed for data storytelling – the right philosophy – the right bench to foster an enduring culture of impactful data storytelling? It begins with, if necessary, a pivot in the way that data science (and data scientists) are viewed and structured within an organisation. As noted previously, there are still too many organisations keeping their data scientists buried within the bowels of their technology functions. The problem with this model is the data science function is cut off from any meaningful understanding of the business' strategy and objectives. What's more, they operate within a technological constraint-based framework. Instead, they should be putting pressure on the technology function to evolve to the market and to the business, instead of being told that they must accept and work within their current environments. Here's a five-point action plan to help change the paradigm.

1. **Data scientists should have an equal seat at the table as the CMO, CTO, and others.** Consider employing a Chief Analytics Officer (CAO) and building a center of excellence under them. Many organisations have done this with great success, as the business-impacting capabilities that data scientists possess will be elevated, as they move from "order takers" to "collaborators".
2. **Determine the talent you need in your organisation to achieve your business objectives.** Remember, it is unreasonable to think the same person can perform all of the necessary functions that lead up to and make for great data storytelling. To build a high-performance team, you'll likely need people adept at data manipulation and data structures for accessing, cleansing, standardising data for analysis. You'll also need data analysts, well-trained in designing proper experiments, such that hypothesis testing is structured according to fundamentally sound mathematical and statistical principles. Once you have identified the skills you need, perform an inventory of your current staff's skill sets to identify who has experience of what. Often, you will find that there are personnel with existing experience and skills that are required but simply not being leveraged.
3. **Expose your data science team to your business strategy and objectives.** They are one of your secret weapons in developing creative solutions to help you realise these objectives in our increasingly data-driven world. Again, an equal seat at the table as the other core traditional functions will accelerate their contribution. Advocacy is key here and a huge part of the CAO's responsibilities. They should always be looking for opportunities to engage their team in high-profile, high impact initiatives and then providing a stage for the team to present its findings – yes, to tell its story – instead of having someone else do it for them. Exposure builds trust and excitement within the data science function, one that typically lives in this paradoxical world of hearing how their skills are in huge demand, but little sunlight is cast upon them in terms of exposure within their own enterprises. This is changing but we still have a long way to go.
4. **The team will likely need a Project or Program Manager who can straddle the line between business needs and the work product being produced.** They should be excellent communicators, navigators that can be counted upon to keep balance and order in the universe. If there is a

disturbance in the force, they feel it first and work with constituents to rectify it. This could be projects running late or how to handle the impact of a sudden left turn. These team members need to understand the big picture and never lose sight of it, while at the same time being deep in the day-to-day realities associated with the work being produced. They help to foster the collaborative, agile environment within the center of excellence, connecting many dots and managing expectations.

5. **Engage your marketing organisation – or augment it with external resources – in the data storytelling process.** Some disciplines are simply more gifted than others at communicating. I have often observed that, if you engage talented writers and storytellers early in your process so that they have a good idea of what you are trying to do, this simple act of inclusion pays dividends later, when it comes to striking the right balance between too much / too little information, making concise statements / assertions, and overall helping frame the storyboard in a way that reads naturally.

IN SUMMARY

The guidelines provided here are just that – guidelines. Every organisation needs to find the model that works best for them. That said, the world of business – and particularly the world of marketing – continues to spew out more data exhaust every day. This means that the ability to access, manipulate, analyze, and articulate clear and concise data-driven stories is only increasing.

To affect meaningful culture change and create more effective data storytelling, organisations should seek to build teams that comprise all the complimentary skills required – just flick back to **Figure 1.**, above. It has become increasingly clear that world-class data storytelling is a community activity and isn't just a singular function. Identify what you need, assess your gaps, and recruit to fill those gaps. Organisations that choose to embrace this challenge – and move to establish a more impactful data storytelling culture – will reap the benefits and obtain competitive advantages over their more “traditional” peers who see data science as a purely technical, assembly line function.

3 | NAVIGATING THE TALENT CRUNCH

Building an effective data storytelling capability in any organisation requires above all else a focus on attracting, inspiring, and enabling the right talent with the critical mix of business and technical skills.

THE SEARCH FOR TALENT

It all starts with finding the best talent, yet it's well documented that demand for data folk outweighs supply. The Royal Society found that the need for workers with specialist data skills in the UK has more than tripled over the last five years⁵. Recruitment job board, *Indeed*, reported a 29% increase in data science jobs listed in 2019 alone⁶, and Europe needs 346,000 more data scientists by the end of 2020⁷.

However, this is not the only challenge that needs to be considered. Data skills are varied and it's critical not to mistake data storytelling with data science. The 'data scientist' is a relatively new, rockstar job role, and you can find lots of explanations online as to what skills are needed to be one. However, despite the ambitious expectations of the data scientist excelling in every single aspect of cloud engineering, machine learning, visualisation, business nous and, of course, data storytelling, the reality is that the average data person can't be a superstar across such a vast range of hard and soft skills.

Data scientists typically come from a statistics / machine learning / artificial intelligence background and excel more in technical skills than communication. Data storytelling is a blend of data, visualisation and communication skills; finding someone who can nail all three of these brilliantly is no mean task.



Figure 3. Finding the sweet spot between narrative, visualisation, and data analytics



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⁵ <https://royalsociety.org/news/2019/05/data-science-skills-shortages>

⁶ <https://www.hiringlab.org/2019/01/17/data-scientist-job-outlook>

⁷ <https://www.itpro.co.uk/careers/28929/data-scientist-jobs-where-does-the-big-data-talent-gap-lie>

Therefore, the challenge is two-fold. Not only is there intense competition to hire data specialists. There is also a scarcity of truly skilled data storytellers who can bridge the skills gap. So, how do you navigate this?

1. **Have a strategy for your team skills mix.** Do you hire a role with an equal focus on technical and storytelling proficiency, or define two roles, one specialising in the technical data work and the other in the communication? There are pros and cons for each route. Whatever choice you make, you'll need to compromise. And beware. Unicorns – those that genuinely excel across the full skills spectrum – are, indeed, extremely rare. Perhaps hire horses and grow their horns!

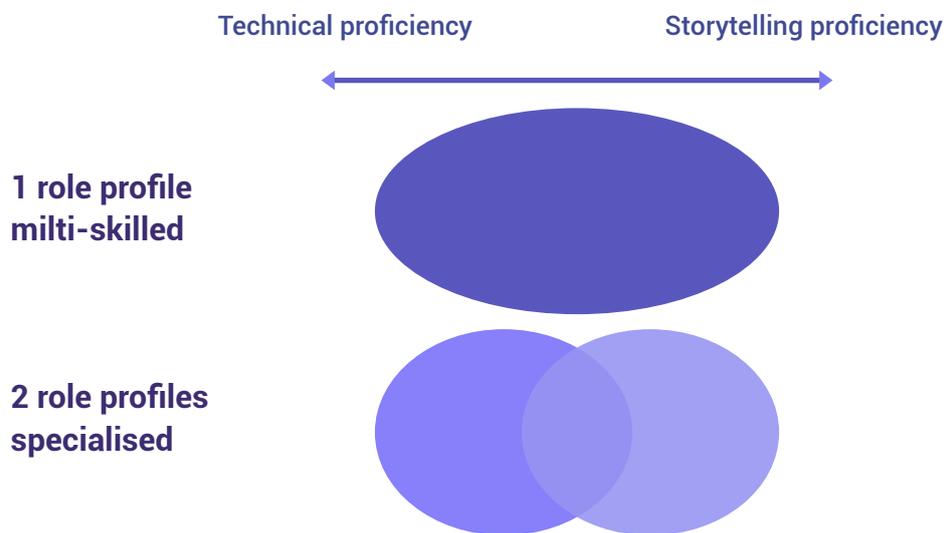


Figure 4. Job specifications – hybrid or separate?

2. **Have a strategy for recruitment.** Spend time on the job brief and employer brand. Make it really attractive and progressive to compete and make sure you answer the question of the candidate "What's in it for me?". Data people want to develop themselves, not just perform tasks. What can you offer them that's distinctive? Ensure you have recruiters who specialise. They can also help ensure you are competitive by benchmarking salaries; note: they're higher than they used to be. Use your colleagues and network – they might know the perfect candidate and can give you a trusted reference. If using internal recruitment, pay for LinkedIn Recruiter ads. Build a bench of trusted contractors if needed to fill any short-term gaps. And always asked yourself whether your job brief truly does inspire and attract the best talent.



Figure 5. Job specs truly need to inspire candidates

3. **Test the skills you want to see in interviews.** For technical proficiency, this means coding tests. For storytelling proficiency, a presentation challenge is a great form of assessment. Look to emulate a typical brief the role would receive and get them to tell a story with data. When meeting candidates, really sell the business and the role – get senior sponsors in interviews to make them feel special. It is all about candidate experience, and first impressions count. And when you've found the right person, act fast. Other businesses will be fighting you to snap them up. If you can make a quick decision, a personal phone call soon after the final interview with a verbal offer and friendly words of praise can be key to claiming candidate loyalty and swinging a decision your way.

4. **Build a pipeline, think ahead, not just role by role.** Offer internships, leveraging relationships with both professional associations and universities to nurture talent. Get networking, whether through industry contacts, Kaggle groups, boot camps, or data events and hackathons. PR will drive awareness and make you attractive to candidates. It can allow them to check you out, in depth, before responding or even acknowledging outreach. Being active in these ways means that, when you do need to go to the job market, you'll find you've got an edge over your competitors. Candidates will be way more responsive if you've built a positive reputation – and that means investing properly in your employer brand.

MANAGING THE CONFLICT FOR TALENT

Given the general scarcity of individuals who can tell truly effective stories with data, conflicts often arise for talent within an organisation once great data storytellers have been hired. For it is true that departments separately focused on Consulting, Data Engineering, Technology, Media and Digital/CRM can all possess compelling use cases for activating data storytelling within their domain.

Departments within the organisation or partner network may compete directly for use of the data storytelling resources or for budget and/or IT support, which can also have profound effects on their ability to tell compelling stories with data.

Two organisational structure frameworks can help mitigate these conflicts: specialisation and centers of excellence.

1. Specialisation

When departments within an organisation (or partner network) can specialise in a particular function, this act of specialisation can help to minimise conflicts that result from duplicating workflows across departments. An organisation historically organised around client accounts, for example, may have a full-service team assigned to each client. The teams may compete for data storytellers across multiple client workstreams, but to the extent that teams can be realigned to specialise on a function, rather than being full service and focused on a client.

For example, one team could realign around Data Engineering, while another team might align around Media Optimisation. This should allow conflicts around data storytelling resources to be better understood and managed within the context of these two functions. Efficiencies around skill mix and development can be realised with this structure, helping to keep separate, full-service teams, and enabling the organisation to exercise discretion as to where and how deeply it specialises across its departments.

2. Centers of Excellence (COE)

Following in the direction of specialisation, some organisations have gone so far as to create a separate "Center of Excellence" (COE) to handle all data related tasks. Under this framework, all data storytelling work would be contained within a single, outside department. This allows each department within the organisation to "order" work from the central COE unit, as required.

This structure provides maximum opportunity for data storytellers to focus on and develop their craft. It also maximises the ability of the organisation to standardise and quality control and the ways in which data stories are being told. This organisational structure is often very effective at jump-starting and establishing a new capability within a business. Indeed, it is a common journey for organisations to start by establishing a COE once the case for need for the capability has been established.

Both of these frameworks may require significant organisational change, of course, and should be driven by senior stakeholders who can manage the change process adroitly.

RECRUIT TO SUIT

We can all thrive or fail based on the business culture in which we work, and in this respect, client businesses and agencies typically differ. That's why it's so important for every organisation to consider its own cultural fit. In this way, they can ensure that their people are their best selves at work. Of course, there's some generalisation in making client versus agency distinctions – so if you're using this whitepaper as a blueprint for organisational change, please don't take these as absolutes. But here are four areas that tend to help define the right fit for the right candidates.

Working environment. Client offices are often more corporate in design and may be located outside of the hustle and bustle of central town. Agencies are typically more urban and creative workspaces and promote social cultures. They can be loud and buzzing compared to quieter client offices where there are fewer distractions and usually more flexible working options. It is too soon to speculate on the long-term impact of COVID-19 on the future face of workspaces.

Pace, variety, process. Client businesses may have a slower pace with more of a “nine-to-five” culture, compared to agencies, where a “work hard, play hard” philosophy can create an environment that's hectic, fast, and reactive. Working client-side will allow you to get deep into the details of one business, which can be attractive to some. That said, the relative lack of variety can be an issue for others, who prefer juggling multiple brands and projects that is typical of agency-side life. Client-side, especially for large corporates, can be process-driven, whereas agencies are built on initiative and creativity, which many will love. But the variety of options means that there will always be opportunity for those who need and prefer more structure.

Impact and control. With a client, you are at the ‘coal face,’ directly impacting your business. Agencies are a step removed from business decisions. Internal stakeholder management, politics, and blockers can frustrate those client-side. As a knock-on effect, agencies may be impacted by these client issues too, but can focus efforts on other areas or clients. These types of internal issues are typically less prevalent agency-side as there is a ‘one goal’ mentality where innovation and entrepreneurship are highly valued.

Career and development. Client businesses can provide more varied career development routes and it isn't uncommon to see people switching from one department to another throughout their time with them. Agencies, in most cases, have a more linear approach to career development and that can sometimes lead to higher turnover rates. Related to this, hard benefits, such as pension contributions are usually higher client-side, while agencies often offer many more softer benefits, such as social events and initiatives. Client businesses have traditionally offered more structured training and development programmes. Although agencies have historically adopted a more 'on the job' approach to training, this is evolving, and learning and development is getting more investment than before, which is a win for everyone.

All these considerations are relevant both to candidates when considering their career path and for hiring managers when assessing who to bring in. If you're hiring for a client-side team, do you think you can offer enough stimulation to keep your teams engaged and motivated? And, if you're hiring for an agency, do you think the candidate will work well with ambiguity and be able to work in a more reactive environment? You don't want round pegs in square holes, so aside from the technical skills you need, make sure you recruit to complement your culture, as it's you that'll be spending at least eight hours a day with them.

THE DATA STORYTELLER'S TOOLKIT

Effective data storytellers have a universal skill set, regardless of their particular specialisms.

- Energy and enthusiasm during the performance
- Connecting and empathising with the audience
- Simplifying complex concepts without losing nuanced threads
- Relating the topic back to the business outcomes that matter
- Bringing all the elements together in a compelling narrative

In different parts of the marketing world, data storytellers will lean on different tools and techniques when crafting their narratives, but arguably, the most critical weapon in the data storyteller's armory is effective data visualisation. Impactful data visualisations combine quantitative data with design thinking and narrative to bring the data to life as it drives the insights and recommendations. Effective data visualisations can involve augmenting traditional marketing tools such as Customer Journey Maps and Marketing Funnel Diagrams with detailed, concrete data. It can also involve creating views which are specific to data-driven domains, such as variable importance diagrams for predictive models.

IN SUMMARY

Recruiting and retaining talent is a significant challenge for building capabilities around data storytelling. A rare combination of advanced skills and knowledge are needed to craft and deliver effective data-driven stories and organisations must consider carefully how they organise around talent and what kind of work environment they want to foster. This can mitigate competition for access to talent from departments within or external partners. The right talent will possess many of the same traits common to effective client partners and presenters, but increasingly leverage data visualisation to tell persuasive, data-driven stories.

4 | CULTURE, LEADERSHIP & JUDGEMENT

Finding those unicorns that are both well versed in data science/AI/ML and master storytellers at the same time can be very hard. It is probably better to look for 'horses that can grow horns', and create the organisational culture where different people with different strengths can thrive, from the low-level data analysts to the C-suite executives.

DIFFERENT APPROACHES TO A CULTURE OF STORYTELLING

There are different ways to shape corporate culture in terms of how the 'data people' communicate with the rest of the organisation. For example, a rather extreme stance is the one of Jerome Pesenti, VP of AI Innovation at Facebook, who advocates that every engineer should become a ML engineer⁸. Other companies like Uber prefer the route of tool democratisation and access to data, so that everybody can run their own data analyses⁹. On the other hand, McKinsey has been championing the role of 'analytics translator', a new hybrid figure, intended to fill the epistemic gap between executives and data professionals¹⁰.

In the context of businesses operating in the marketing and advertising space, it might be more fruitful to think in terms of building relationships across different parts of the organisation by introducing new concrete practices rather than impose drastic changes from the top.

A promising starting point for initiating change and driving towards data-driven storytelling can be the relationship between data science and marketing. Traditionally marketing departments have acted as the beacons of storytelling, whereas data scientists/data analysts are relative newcomers to the marketing arena, often confined to the role of data producers, who do not have much say on how the data is used to communicate at a higher level.

Establishing healthy communication between data science and marketing is key in order to change, or perhaps even initiate, a productive relationship between data science and marketing. Going back to first principles, good communication is built on a foundation of trust, and trust feeds on familiarity. So, the first step is to bring the data science and marketing teams together in very



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⁸ <https://venturebeat.com/2019/07/11/facebook-vp-ai-has-a-compute-dependency-problem/>

⁹ <https://venturebeat.com/2019/07/30/how-uber-is-turning-everyone-in-the-company-into-a-data-scientist/>

¹⁰ <https://hbr.org/2018/02/you-dont-have-to-be-a-data-scientist-to-fill-this-must-have-analytics-role>

concrete ways. Specific tactics include:

a) Set up monthly/biweekly/weekly sync up meetings, so that people get to know each other both on a professional and personal level. It may be a good idea to go over each team's organisational chart and specify what each subgroup actually does.

b) Have members of each group give presentations to meetings of the other group. This practice leads to educating each side on what the other side actually does.

c) Provide data scientists with public speaking training – or related training on communication and persuasion – preferably with the help and participation of the marketing team. Some data scientists – especially those with less experience – may be inclined to believe that the 'data speaks for itself' and thus that there is no need to elaborate further on its significance. But as we've already seen, Nate Silver's observation – that "The numbers have no way of speaking for themselves. We speak for them. We imbue them with meaning" – holds good here, too. To share data with impact, data scientists need guidance on the principles of good storytelling¹¹.

d) Provide marketers with basic tools and documentation to enable them to communicate successfully with data scientists. This may include glossaries, cheat sheets, online references or videos. The YouTube videos by Cassie Kozyrkov, Chief Decision Scientist at Google¹², are very useful, as are the resources of former Google and data visualisation trainer, Cole Nussbaumer-Knafllic, and her book, online keynotes, and training "Storytelling with Data"¹³.

An important precondition for the success of initiatives like these is strong alignment across the leadership of the marketing and data science teams. This enables people on both sides of the data storytelling divide to experience an environment of genuine psychological safety, where they feel comfortable asking basic questions and exposing without repercussions their own lack of knowledge of the other side.

Once fundamental alignment is in place, interesting questions may arise regarding organisational development choices. For example: should the marketing team hire their own data scientists to perform marketing-specific analyses, or should the data science team dedicate specific resources exclusively to support the marketing team? The answers to these questions depend on many factors, not the least of which is company size. For a very large company, it often makes sense to have data science teams embedded within different business functions, including the marketing organisation. For small- and medium-sized companies, it may make more sense to assign specific people within a centralised data science team to support marketing initiatives. A good reason for this choice is that individuals within the data science teams enjoy community of practice benefits. These include: consistent methodologies and frameworks, knowledge of data, easy access to other team members for advice and brainstorming, and so on.

¹¹ Silver's observation is indeed so good that the Cambridge professor of communicating risk, Sir David Spiegelhalter, quoted him in the preface of his 2019 book, *The Art of Statistics*.

¹² See, for example, <https://www.youtube.com/watch?v=Mukpy1QjVn8>

¹³ <http://www.storytellingwithdata.com>

From a more strategic standpoint, the key insight here is that the foundation of a data-driven culture of storytelling is based on a culture of continuous reciprocal education, across data science, marketing, and beyond. The critical value of reciprocal education is based on the acknowledgement that different people excel at different skills, and an organisation needs all those different kinds of talent to work together and build stories together. On the one hand, data scientists need to appreciate the larger business context and strategic company goals, understanding what the appropriate level of detail and granularity is when constructing a compelling narrative. On the other hand, marketers need to learn to maintain the data or data analysis as the anchor for the same compelling narrative.

An important test for the solidity of a healthy culture of storytelling can be scenarios where tension arises between data scientists and marketers, for example when the issue of 'bending the truth' emerges. In order to achieve a more compelling narrative, marketers may want to push storytelling beyond the limits of what data scientists feel is justified by the data itself, and data scientists may object to 'bending the truth' of the data. In these situations of potential conflict, a common shared culture based on a foundation of trust, being familiar with each other's world, and reciprocal education, will make it much easier to reach agreement on the level of adjustment that makes both sides satisfied.

KNOW YOUR AUDIENCES

The key actors of data-driven storytelling are the same as the actors of any kind of storytelling. So far we have talked about who tells the story (data people and marketing people), but we also need to talk about who our stories are for: our audiences. We may leverage different data to tell stories for different audiences, and these may be internal or external to our organisation. Depending on the audience and the relationship we have with the audience, the goals will be different, and the best particular techniques will be different depending on context. For example, we might use data to tell stories for audiences including the following:

- a) Clients** (brands, agencies, publishers, other players): here the goal is often to sell products or services, but sometimes it could also be about showcasing the value of a particular report.
- b) Internal sales team**: the goal could be to train salespeople on how to sell products
- c) Executives/board of directors**: if it is an internal audience, the goal might be to persuade to invest or prioritise; if it is an external audience, the goal might be to initiate or continue a partnership.
- d) The media (generalist or specialised)**: the goal might be to convey thought leadership or a brand lift strategy.
- e) The general public**: this could be quite open-ended.

While space does not allow us to get into the details of each of the contexts that drive audience dynamics here, there are a few general principles that it is important to keep in mind as foundations of a culture of storytelling. Perhaps the most critical is 'know your audience'. This principle can be declined in at least two dimensions.

The first aspect is about knowing (or researching if necessary) what the audience knows and what it doesn't know. A story, and especially a story based on data, needs to be tailored to the level of knowledge of the audience. While a presentation loaded with more numbers and charts than the audience can bear it may make the author feel like they have done a thorough job, it often fails to deliver the message and may even have the counterproductive effect of alienating the audience. The Harvard professor of psychology, Steve Pinker, talks at length about "the Curse of Knowledge" in his book *A Sense of Style: The Thinking Person's Guide to Writing in the 21st Century*. The Curse is that it's really hard when you know something to imagine or understand that your audience does not. But when sharing a story rich in data and statistics, if it's audience engagement and persuasion you're after, it's crucial to assume ignorance (and not knowledge) until it's proved otherwise.

The second part of the 'know your audience' principle requires presenters to realise that, in a business context, the goal of data-driven storytelling's is to communicate information that helps the audience solve a problem that the audience has. If it doesn't solve the problem the audience has, that amounts to a failure of storytelling, no matter how good or accurate the data is. This is true, whether the audience is aware of the problem or not. Indeed, often a story based on data can inspire the audience to try something new.

While these two aspects may seem obvious in theory, in practice they require a significant effort in terms of mentorship, awareness, and collaboration, in order to be deeply woven into the fabric of the culture of storytelling within an organisation.

STORYTELLING FOR LEADERSHIP

A discussion about how to set up a healthy culture of storytelling cannot fail to address the topic of how executive leadership can benefit from it. In a sense, this amounts to asking why we should bother with data-driven storytelling in the first place. Here is a point of view that attempts to answer this question.

At the time of this writing, in 2020, more and more organisations, within the advertising / marketing space and beyond, are collecting and using data to build products and make decisions. There have been conversations about Big Data and its impact and implications for well over a decade now. But only in the last few years have systems and applications based on actual ML/AI implementations begun to spread significantly across many industries. This has the consequence that executive leaders need to deal with an even higher layer of complexity in their decision-making. A Chief Experience Officer (CXO) must operate at a level of abstraction and generalisation that makes delving into the details of data difficult or impossible. And yet, CXOs need a simple and efficient interface for two types of communication: a) the information they receive from within their organisation, and b) the information they share outside their organisation.

A natural and necessary solution to fulfill this need is a variation of a communication approach that has worked since the dawn of storytelling, from the age of epic oral poets onwards: images, metaphors, stories. The critical addition for the modern executive and the organisations they lead is that the new storytelling is rooted in data.

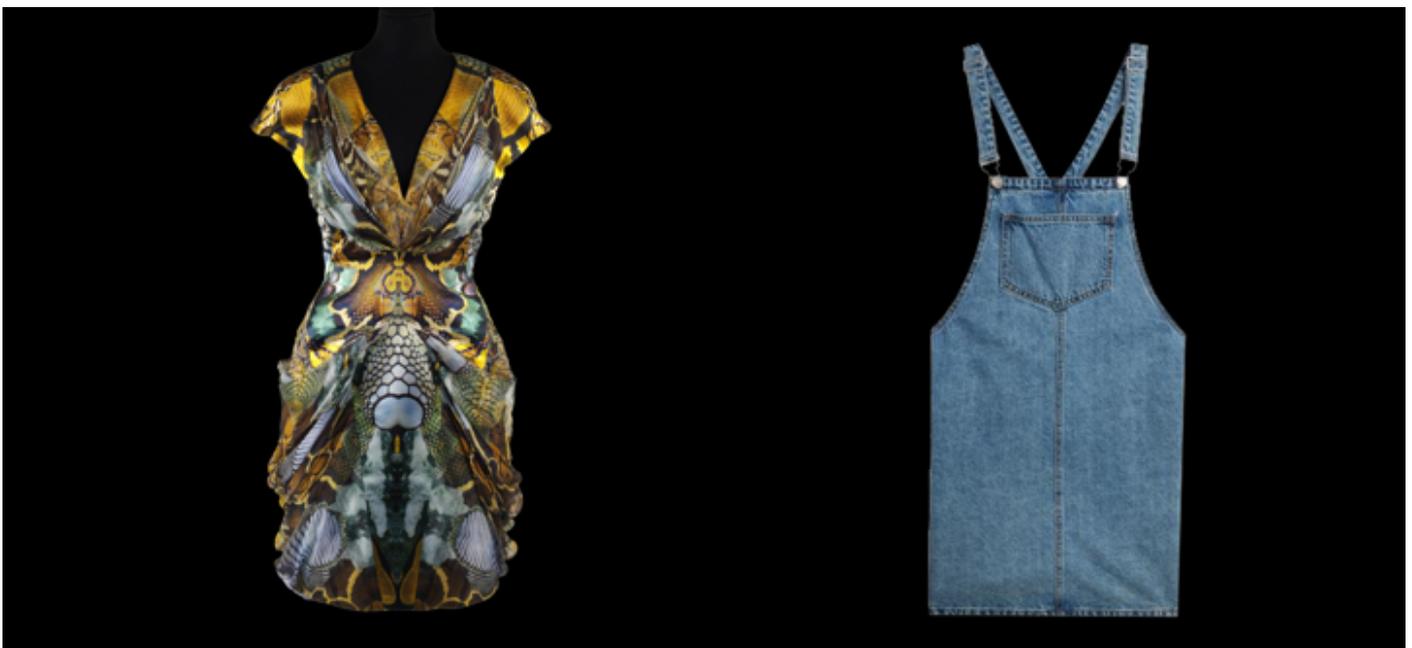
JUDGING WHAT MAKES GREAT STORYTELLING

The question of creative judgement is hugely emotive. The most explosive conversations we have observed in our careers have been those in which we have been discussing and evaluation creative treatments. Design, good and bad, has the power to generate strong emotional reactions. It is therefore inevitable that discussions about design become emotional and – often – personal. There is, of course, a place for passion and emotion at work, but there must be limits, and unless you work in a very specific creative agency, there is little room for personal style decisions and personal taste.

To try to minimise conflicts like this, an organisation must strive to make the act of judging creative work as objective as possible. Creating an objective framework for creative judgement will also allow you to address the challenge of setting up an organisation for impactful data-storytelling. Demystifying the process and the criteria for judgement, and opening up the tools involved, will make your organisation better-prepared to tell effective data stories. This cannot, and should not, take the place of the certain 'je ne sais quoi' that a skilled designer brings to any project, but it reduces reliance on the mysterious creative genius of the designer.

In order to resolve the tensions between personal style preferences, it is necessary to draw the distinction between design and style. A design approach can broadly be described as a specific set of principles that are applied consistently and as objectively as possible. A design response needs to meet specific requirements and work within certain constraints, and its success will be judged on how well it delivers within those constraints. Design without constraint is simply art.

Style tends to be about personal preferences: a choice between two different styles which both achieve the same objective. An Alexander McQueen dress is certainly a dress, but it is not the same as a dress from Primark.



An individual will prefer one over the other. However, an organisation cannot be run by personal preference. It has to try and define some objective criteria by which to judge creative work. If an organisation attempts to evaluate design, or data storytelling, based on personal preferences then it will end up with as many (or possibly more) styles as it has members of staff. At Kantar we established four key principles of design that we use as decision-making criteria to try and move away from these kinds of personal style choices. These criteria are:



We are able to articulate how these relate back to Kantar's business strategy and brand expression and how these design choices work effectively to enhance the user experience across all channels. This level of rational structure and effective articulation is important – your principles need to be robust enough to survive challenge and critical review. Other organisations will have different judgment criteria from ours; what matters is that you establish them, agree them, and apply them with rigor.

Such a structured approach to design systems comes from an understanding that design is not simply what something looks like. As Steve Jobs explained: "Design is not how something looks and feels but how it works." In information and data design, even beauty and harmony are utilitarian – they draw attention to an output or make the viewing experience richer and more memorable.

The next step is to create a standardised toolkit that both demystifies the process and also provides users with the assets they need. Start by creating a chart library in your design system and, alongside the charts, explain how they should be used for optimal impact. The guidance on chart choices will help people to understand the basics and will also reduce and even prevent some of the more esoteric choices. The use of charts types simply because they are 'cool' has to be discouraged – they must be chosen to suit the data and the story you are telling, not simply for visual impact. Alongside the charts, offering standard icons sets, a standard colour palette and standard typography styles will help you to build a robust and consistent visual language.

To accompany this basic asset toolkit, an organisation should offer key people some basic guidance on layout, use of white space, and some of the key elements of data storytelling. This is not to suggest that a grounding in design can be gained through a day of instruction, but it will provide a basic knowledge of some key principles. For example, proportional area is great for making an impact, whereas rectilinear shapes are vital for fine distinctions. Investment in a small amount of training from some of available providers is a sound decision.

It is certainly possible to demystify the process and give people access to a basic toolkit of assets, but that does not mean all data storytellers can be made equal. Some people will naturally always be better at it than others. Designers do have that certain something that the rest of us do not: an eye for symmetry, an ability to use colour harmoniously and progressively, a natural predilection for balanced composition, and an affinity for the discipline of grid structures. This does not mean that designers operate outside of your set of rules and guidance – they simply use them in a way that maximises their potential.

By depersonalising and engineering out personal style preferences, an organisation creates a situation in which C-suite colleagues can make the biggest difference to the ultimate goal, which is 'how do we make an impact with our client?'. Rather than C-suite colleagues being asked to tell a story with data, they should be asked clarifying questions on client impact, questions such as:

- What do we want our audience to pay attention to first?
- How do we want them to feel about that?
- What do we want them to remember?

The existing design principles and the asset toolkit mean time is not wasted discussing style choices. Instead, time is spent on considering carefully how an audience will consume and react to the data that is presented. This enables C-suite colleagues in turn to concentrate client impact and client response. Do they want them shocked? Do they want them to feel in jeopardy? Do they want them to feel reassured? The expertise of the C-suite is not design and data storytelling, but rather understanding client challenges, finding solutions designed with clients in mind, and leaving a memorable impression.

By taking the time to properly understand creative criteria, to develop a standardised toolkit, and to consider carefully how individuals can contribute the most value and expertise, an organisation can generate high quality data storytelling at scale. However, even with a thoroughly demystified process, there is no substitute for the creative spark a talented designer brings to a successful, engaging end product. While it is important for everyone involved to understand how it all fits together, your most important investment may ultimately be in an individual with the skills and training to deliver the little "something extra" that turns a competent campaign into a truly memorable one.

IN SUMMARY

Data-driven storytelling needs the right organisational culture in order to thrive. This kind of culture can be nurtured by fostering relationships of trust across different teams whose talents are needed to work together to build data-driven stories: data science, marketing, design, and beyond. On a foundation of reciprocal education, a culture of storytelling can inform how executive leadership absorbs information from within the organisation and shares it outside.

Alongside this effort to build an effective organisational culture, marketers must give their teams the tools that they need to realise and activate their individual skills sets. Taking a systematic approach to the process of creative judgement and data storytelling will ensure that your organisation is ready to deliver impactful stories with data at scale.

5 | MEASURING SUCCESS

ARE WE GETTING BETTER OR WORSE?

If you read the marketing industry trade press and attend conferences and webinars on the topic of data, measurement, and analytics, you could be excused for thinking that we're in the midst of an historic revolution; an unparalleled ascent in applying data to inform business decisions. From some perspectives, this might be true. We have exponentially greater amounts of data available to us and businesses are investing vast amounts of money into acquiring it, storing it, moving it and analyzing it, along with the technologies that enable this. Yet ask data leaders in business whether they feel they have a fully-fledged data culture across their organisations, and you get a very different picture.



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The NewVantage Partners' 2019 Big Data and AI Executive Survey results bring this into stark relief. The survey respondents were 64, C-level technology and business executives, representing very large corporations such as American Express, Ford Motor, General Electric, General Motors, and Johnson & Johnson. The results were far from optimistic:

72%

of survey participants reported that they have yet to forge a data culture

69%

said that they have not created a data-driven organisation

53%

stated that they are not yet treating data as a business asset

52%

admitted that they are not competing on data and analytics

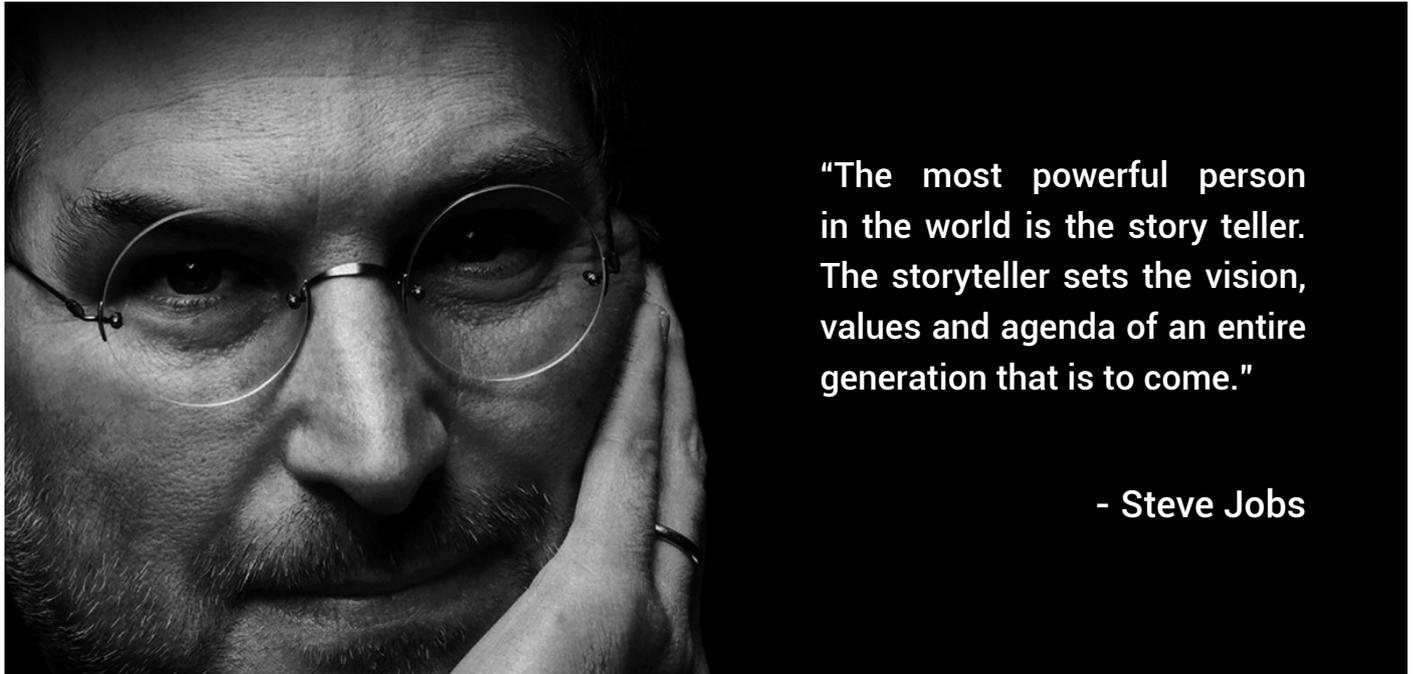
What's more, the percentage of firms identifying themselves as being data-driven has declined in each of the past three years – from 37.1% in 2017 to 32.4% in 2018 and down to just 31.0% this year. So, how can there be such disparity between the industry buzz and the anonymous feedback from those who are – in theory at least – at the bleeding-edge of the data revolution?

The issue is, at its heart, a human one. 92% of survey respondents reported that the pace of their big data and AI investments is accelerating, yet 93% identified people and process issues as the major obstacle. In an article from the Harvard Business Review, summarising the results of the survey, Randy Bean and Thomas H. Davenport wrote: "Firms must become much more serious and creative about addressing the human side of data if they truly expect to derive meaningful business benefits"¹⁴. So, what is meant by the 'human side' of data?

¹⁴ [Randy Bean & Thomas Davenport \(05.02.20\) "Companies Are Failing in Their Efforts to Become Data-Driven", Harvard Business Review](#)

IS DATA STORYTELLING THE ANSWER?

Culture is a very human concept; the ideas, customs and social behaviour of a group. When applied to business, it evokes for me a quote from Steve Jobs.



"The most powerful person in the world is the story teller. The storyteller sets the vision, values and agenda of an entire generation that is to come."

- Steve Jobs

An organisation's ideas, customs, and social behaviours are ultimately set through its vision, values, and agenda. So, in short, storytelling powers culture. For a data storytelling culture to exist in a business, it must be an integral part of that business's story; it cannot sit separately within the data departments alone, singing from different hymn sheet. Of course, the initiatives and knowledge underpinning data storytelling can be driven by data experts, but critically the culture needs to be adopted and championed by the business leaders and woven into the fabric of the organisation. From the C-suite down to entry level recruits, everyone has a role to play in this. Yet it will naturally compete with other narratives, often related to the heritage of the brand, or about brilliant customer service.

ARE WE REALLY FAILING TO IMPROVE DATA CULTURE OR IS THE BAR JUST HIGHER?

In my role at Wunderman Thompson (a creative, data and technology agency) I see these challenges play out daily among data and marketing leaders in major multi-national businesses. Data leaders look outside at the nirvana of data-led businesses – often the industry narrative – and then consider their own organisations, contemplating daily frustrations, and are discouraged. The industry narrative from the media, vendors, and events is setting an increasingly high bar, but we should also recognise that these stories themselves typically over-hype the successes and redact the failures – it has to be a good story right? Those telling them want to put themselves and their own organisations in the best light possible. Data leaders should certainly seek inspiration from

outside, but perhaps should consider to what extent they measure the warts-and-all reality of their business against the air-brushed stories from outside. As someone who works across a range of different client organisations, I can attest for the fact that these challenges are commonly shared.

THE METRICS OF CULTURE

Although measurement should come naturally to data experts, measuring culture itself can be more of a challenge. Culture is not so tangible as a response rate or sales conversion, the outcome not so obvious. Measuring culture is mainly measuring people. We need to define what people think and feel as well as what they do. And if data storytelling culture needs to be ingrained in the whole organisation, we also need to consider who we're measuring in context of their role in this. To illustrate, the chart below breaks down business audiences from top to bottom, as well as outside and the considerations we need to have against each.



Those polled in the NewVantage survey perhaps consider these types of questions through their working day, which culminated in a largely pessimistic perception of their business when they gave their answers. Yet the subjective opinion of one person in a business, albeit a business or technology leader, may not be giving the full picture, especially so if the perceived bar is set so high as to feel unobtainable.

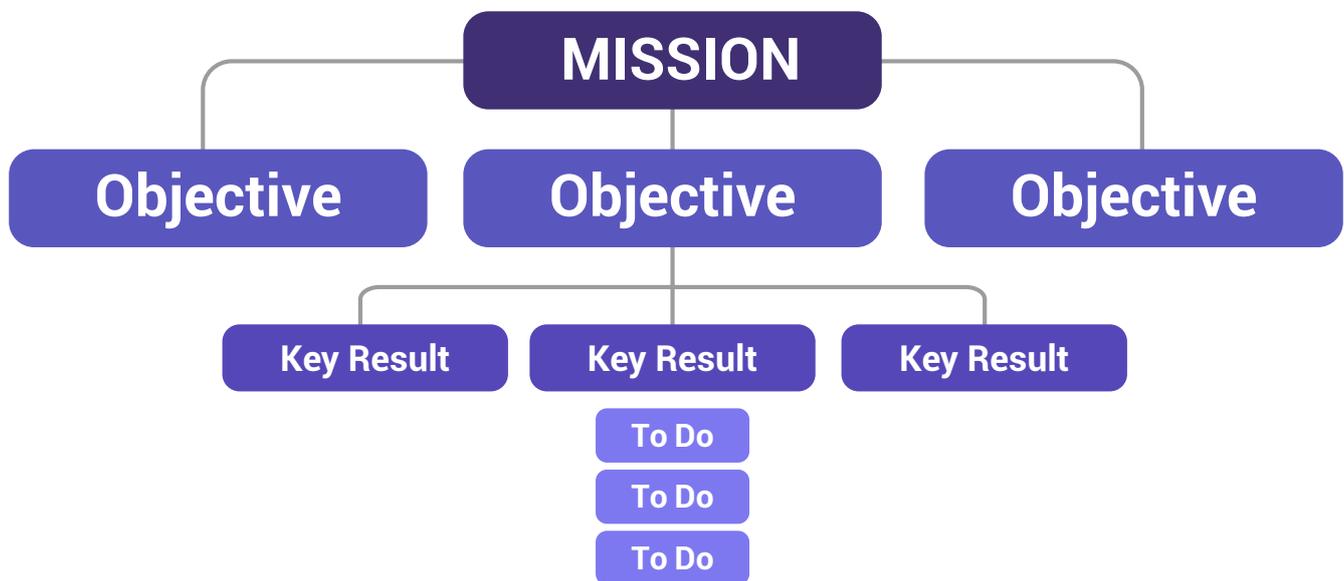
One way these leaders can recalibrate the bar is through closed meet-ups with others in similar roles in other organisations. These are often run by industry bodies with 'Chatham House rules' – the principle that the conversation (and particularly the source of any particular opinion) is not disclosed outside of that group. With this principle in place, it is perfectly possible to find more honesty and transparency, provided participants are comfortable to open up about the challenges they face and to debate practical solutions to them.

How then do we ensure we're forming our judgement of success based on the right metrics and supporting evidence?

WHAT ISN'T MEASURED, ISN'T MANAGED

To measure data storytelling culture in your business, both qualitative and quantitative information needs to be considered. You will need to be proactive and diligent in asking questions, gaining feedback, and logging information. This could be more opinion-based: anecdotes, verbatims, spontaneous quotes, survey feedback, expert assessment (knowing what good looks like). Alternatively (or, indeed, additionally) it could be more outcome-based: participation in training and events, tangible stories delivered, initiatives completed, sharing, and proven impact.

Whatever success metrics you use should directly relate to objectives and initiatives to achieve them. Change doesn't happen by itself. The OKR (**O**bjectives and **K**ey **R**esults) framework is a productive way of doing this – so good, in fact, that it's regularly used by Google, Twitter, Spotify, Airbnb, and Walmart. It ladders up an overall mission to objectives, success metrics (key results), and the related initiatives (to-dos).



To bring this life, the framework below is a practical (and hypothetical) example of how this might look for data storytelling in a business.

MISSION

To develop a culture of data storytelling that inspires and informs our people to make better data-led decisions that result in better business outcomes.

OBJECTIVES

1. Develop a best-in-class capability to tell data-driven stories across the business
2. Ensure data stories are essential to our business decisions, driving business impact
3. Make our data stories known by and inspirational to people across our business and beyond

1. DEVELOP A BEST-IN-CLASS CAPABILITY TO TELL DATA POWERED STORIES ACROSS THE BUSINESS			
Key Results	Capability personal scores improve by x%	Capability survey scores improve by x%	x% of our people attend our training programme
Measurement method	Personal/hiring assessments	Surveys to business / partners / candidates	Attendance tracking
Example supporting metrics	Line/hiring manager assessment with evidence of skills and experience	<p>To what extent do you feel you have data storytelling skills?</p> <p>To what extent have you been trained/equipped?</p> <p>How did you find the training?</p> <p>To what extent does the business have the skills for data storytelling?</p>	% personnel participating in training / attending Data Storytelling sessions
To Dos	<p>Mandate data storytelling in all personal objectives</p> <p>Deliver data storytelling training programme across business</p> <p>Ingrain data storytelling through recruitment process</p>		

**2. ENSURE DATA STORIES ARE ESSENTIAL TO OUR BUSINESS DECISIONS,
DRIVING BUSINESS IMPACT**

Key Results	Data decision-to-impact scores improve by x%	Survey data decision scores improve by x%	x% major business decisions led by data storytelling £/\$/€/ROI impact attributable
Measurement method	Personal assessments	Surveys to business / partners	Business comms / report assessment
Example supporting metrics	Line manager assessment with evidence of delivering decisions and results with data storytelling	<p>To what extent does our business make decisions based on data stories?</p> <p>To what extent do you use our data storytelling framework?</p> <p>To what extent are business successes attributable to our data stories?</p>	<p>Occurrences of data narrative in business comms / reporting</p> <p>Examples of data storytelling framework used</p> <p>% projects adhering to process</p> <p>Examples of significant commercial impacts influenced by data storytelling</p>
To Dos	<p>Develop data storytelling best practice framework</p> <p>Embed into business processes - briefs, approvals, business reviews</p>		

**3. MAKE OUR DATA STORIES KNOWN BY AND INSPIRATIONAL TO PEOPLE
ACROSS OUR BUSINESS AND BEYOND**

Key Results	Data story sharing personal scores improve by x%	Survey data storytelling culture scores improve by x%	Survey data storytelling culture scores improve by x%
Measurement method	Personal assessments	Surveys to business / partners	Internal / external comms assessment
Example supporting metrics	Line manager assessment with evidence of sharing stories / best practice / advocacy	<p>To what extent do we have a data storytelling culture?</p> <p>To what extent are you aware of our data stories?</p> <p>To what extent are you inspired by our data storytelling?</p>	<p>% of internal & external PR including data-led narrative</p> <p>Data storytelling award wins</p> <p>Reach and engagement of content</p> <p>Examples of industry participation / acknowledgment</p>
To Dos	<p>Internal comms programme sharing our data stories</p> <p>External comms and PR programme - present at events, write thought-leadership content, enter awards, active with relevant industry bodies</p>		

Although not every business will have the time and resources to conduct a comprehensive programme to plan and measure success in developing a data storytelling culture, if there is little or none at all, it may be quite telling as to how far up the agenda it really is.

IN SUMMARY

Data leaders from the world's biggest businesses say that they are failing to forge data cultures in their organisations and, worse still, the proportion of firms identifying themselves as being data-driven is in decline. This is despite the accelerated pace of investment in technology and skills. Cloud platforms, petabytes of data, and dozens of data science PhDs are not addressing the human elements across the whole organisation. Stories power culture, and so data storytelling needs to play an integral role in setting the business vision, values and agenda. But measuring the success of your data storytelling culture is no easy task; benchmarking against the industry hype can lead to despondency and the key metrics of 'culture' not clear-cut to define from an abstract concept.

However, measuring success through clearly-defined objectives and initiatives can be used both to measure and to drive change. As Randy Bean and Thomas H. Davenport say in their *HBR* article: "firms must become much more serious and creative about addressing the human side of data" to drive this change. Perhaps data leaders should re-address priorities and investments into the more creative arena of data storytelling to inspire the whole business to embrace data as a vital part of its culture and unlock its potential.

CONCLUSION & CALL-TO-ACTION

At the time of editing this whitepaper – early May 2020 – the impact of the coronavirus pandemic on business and the business of marketing is changing on a daily, sometimes hourly basis. While some APAC, Asian, and European countries are slowly emerging from lockdown and businesses are reopening with baby steps, there are still whole sectors and categories that are unable to trade and have little prospect of “getting back to normal” – to anywhere near where they were before the pandemic. These include some of the most powerful drivers of the global economy, from entertainment to automotive, travel and tourism to live sports, restaurants, and cafés. Justifiably, many marketers may feel they have other priorities to address than how they use data and statistics as the foundation of their corporate and brand narrative. That position is completely understandable.

That said, if communicating in the time of coronavirus has taught us anything – from daily government briefings to the crucial, numbers-based tests nations need to pass before lockdown is eased – it's that the 2020s are very definitely the age of the expert. Flattening the curve, keeping the transmission rate $R < 1.0$, and relative and absolute risk are all familiar to many more of us than they were just three months ago. In marketing services, experts use data and statistics to help build powerful and persuasive narratives – of which investments work where and why, of how brand equity has changed and with what impact, of which new and different routes to market are delivering business success.

As the world and global commerce emerges, blinking, into the new reality, the established and emerging truths of data storytelling will be even more critical for companies and brands.

- For companies and brands that have increased or at least sustained their marketing investment during the pandemic and through the recession that is certain to follow, growing share of voice and share of market.
- For companies and brands that have pivoted their business model, their marketing strategy, or their means of communication.
- And for companies and brands that have – because of the nature of their businesses – been compelled to pause or cancel all marketing investment for weeks or months.

Data storytelling faces challenges – challenges of its role and status in the first place, of the skills needed to deliver it, of a global talent crunch and shortage of individuals and teams required to deliver it, of corporate leadership unused to judging what success looks like, and of measuring success. It is the aspiration of I-COM's Data Storytelling Council that the topics covered, and arguments expressed, in this whitepaper – from practitioners at the cutting-edge of effective data storytelling right around the world – can help I-COM members tell better, data-driven stories in the medium- and long-term future. However the world reassembles itself in the months and years post-COVID-19, this Council is convinced that it is companies that excel in data storytelling that will become the stand-out performers of the 2020s.



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In 2018, Routledge published Sam's book [Narrative by Numbers: How to Tell Powerful & Purposeful Stories with Data](#) to critical acclaim. It is followed in 2020 by a sequel: [How To Be Insightful: Unlocking the Superpower that Drives Innovation](#), also from Routledge. An experienced

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Emma Whitehead has 20 years' experience in managing complex technology, communications and stakeholder engagement projects for a range of clients around the world. She joined Kantar as Managing Director of Graphic, a creative communications agency with a specialisation in data visualisation and storytelling, acquired by the Kantar Group from The Guardian newspaper.

Currently, Emma is the Creative Director for Kantar where she's leading and overseeing the creative function across all Kantar operating brands. Also, she's involved in the development of design and creative services to support client deliverables and increase the impact of Kantar's insight and data within client organisations.



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Marc Fanelli leads partner success at Eyeota and is focused on deepening relationships with our key strategic branded partners on both a local and global level. With more than 25 years of data-driven marketing experience, Marc was previously at Impact, where he served as the general manager (GM) of the company's Marketing Intelligence Product Suite. Over the course of his career to date, Marc has spearheaded numerous global data

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His expertise includes natural language processing, information retrieval, conversational agents, and advertising technology. He has built his

career on the ability to strike the right balance between strategic and operational data science and successfully integrating pragmatic AI/ML solutions into enterprise systems. He is equally focused on delivering business outcomes and on building the foundation of trust, collaboration and executive support that enable the success of AI/ML deployments.