Module code	DSB701	**Level**	7
Module title	**Data Visualisation & Storytelling**	**Credit value**	30
Programme(s) on which the module is taught	MSc Data Science in Business	**ECTS Credits**	15
		Notional learning hours	300

1. Pre-requisite modules

None

2. Module aims

We live in a world driven by data. Organizations are generating and capturing trillions of bytes of information from touchpoints with their customers, supply chains and business operations. The influence of machine learning and big data on business decision-making is greater than ever. There's a high demand for business leaders who can convert data into insights that lead to game-changing solutions for consumers.

Contrary to popular belief, data storytelling is not simply data visualization, analytics reporting, or a collection of statistics and illustrations sitting in Dashboard Report. Data storytelling is the blend of two worlds: hard data and human communication. It's a compelling narrative skillfully crafted by exploring data to reveal deep insights. Quite simply they are connected but different and the rich insights are only revealed when both are working in harmony.

In this module, you will learn about the concepts and techniques behind visualising data and data storytelling; thus, how to tell better stories with data that are meaningful to businesses. You will examine technologies such as the Internet of Things, Business Intelligence tools, Artificial Intelligence tools, Data Analytics, and Visualisation tools. You will become proficient in ethically obtaining, preparing, and visualising data from various sources. The module will provide you with a solid grounding in a selection of Industry standard tools used in the exploration and visualisation of data in all forms, to improve their communication skills with Data Visualization and Storytelling techniques.

Data Storytelling is about communicating your insights effectively, giving your data a voice, which others can understand. Inspiration will be drawn from many sources and will focus on clarifying the differences and uses of data storytelling and data visualization to assist in multiple business scenarios.

3. Learning outcomes

Upon successful completion of this module you will be able to:

LO 1: Understand and critically reflect on the role of the analyst based on a systematic understanding and knowledge of data and analytics.
LO 2: Analyse and critically evaluate complex situations to solve problems, using data.
LO 3: Use the tools and approaches of data analytics to gain valuable insights into consumer behaviour to drive strategy.

LO 5: Apply creative and relevant methods, production skills and technical competencies, understanding the processes at the forefront of practice.
LO 6: Apply effective interpersonal communication skills in a range of complex and specific contexts.
LO 7: Communicate effectively with diverse stakeholders in international settings.
LO 9: Negotiate the ethical, legal and regulatory dimensions of data analysis, to deliver sustainable outcomes.

4. What you will do on the module

You will explore the components of Data Storytelling (Data, Visualisation and Narrative) and the application of these to collect, analyse and visualise data to derive insight in a business context as trainee professional consultants. You will explore Socratic and Critical Thinking together with various communication skills required for storytelling. You will become familiar with a variety of data science tools for business such as Business Intelligence and Consumer Intelligence tools and will discuss the ethics of data. You will demonstrate an understanding of data, narrative and visualisation by preparing and communicating a research-based presentation. You will also review this in keeping with Ethics in Business and, specifically the role and influence of ethics in professional consulting.

You will discuss the narrative for professional consulting in a range of organisational contexts (including the changing nature of consulting, organisational purpose, culture and organisational politics, organisational structure, the purpose of data science in management consultancy).

You will discuss the behaviours and skills required to communicate with impact (using concise 'storytelling' to articulate and translate vision into operational strategies, demonstrating clarity in thinking and using inspirational communication).

You will discuss the role and influence of ethics in professional consulting (including application of legal and regulatory frameworks, client confidentiality, adherence to professional codes of ethics, etc)

5. Learning and teaching methods

The following learning and teaching methods are employed on this module:

- Seminar sessions / Small Group Sessions
- Guided Studies
- Self-directed online exercises
- Weekly Critically Reflective formative submissions
- One-to-One Tutorials
- Discussion forums Guest speakers

The **notional learning hours for this module are:**

30 credit module – 300 learning hours	
Directed learning	**55 hours**
Workshop/Classes	55
Collaborative Learning	**25 hours**
Collaborative group tutorials	3
Collaborative peer study groups	22
Self-directed learning	**220 hours**
Self-Directed learning (pre & post class)	110
Preparation for assessment, response to feedback and summative assessment	110
Total	300 hours

6. Assessment, formative feedback and relative weightings

Formative Assessment: Reflective Portfolio of Work
You will be required to produce a portfolio of work which reflects your learning journey as part of the module which contains the key theoretical concepts and practical skills that you have gained as a result of taking the module. With visual storytelling being so integral to the learning objectives this portfolio must only be comprised of any/all mediums which are NOT (primarily) the written word. These could be, but are not limited to photographs, collage, sketches, installations, infographics, artefacts, video, montage, diagrams, pop-up, origami, etc. The portfolio is an opportunity for you to reflect on your learning in an explicitly personal and creative way.

Summative Assessment 1: Individual 'Data Story: Presentation', 20 minutes (60% TMM) You will be required to work (in the role as trainee management consultants) on an opportunity to present to the senior management of a company who have recently acquired data analytics and data visualisation tools. During each week the formative activities will contribute to the creation of the well-researched presentation which covers all aspects of 'the story of the data' with direct connection to the Learning Outcomes. The slides (including detailed speaker's notes per slide and extensive referencing throughout) will be submitted 7 days prior to being presented. The submitted presentation should be self-sufficient and self-explanatory to a reader without the aid of a presenter.

Summative Assessment 2: Individual Reflective Artefact (40% TMM)
You will be required to reflect on the process of devising, developing and delivering your response to
Summative Assessment 1: 'Data Story: Presentation'. As it was with the
Formative Assessment (Reflective Portfolio of Work) this is to be delivered in a
medium which is NOT primarily the written word.
The artefact (which will be due 14 days after Summative Assessment 1) should be developed in tandem with and approved by the tutor leading the module, but could be one of the following: • Video Diary

- Vlog
- Podcast
- Narrated Storyboard
- Video Essay

- Film
- Animation
- Explainer Video

7. Mapping of assessment tasks for the module									
	Programme Learning Outcomes								
Assessment tasks	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Assessment 1: Individual 'Data Story Presentation		x	x	n/a				n/a	x
Assessment 2: Individual Reflective Artefact	x			n/a	x	x	x	n/a	

8. Key resources (e.g. reading, audio-visual)

Core Reading

Dykes, B (2020) *Effective Data Storytelling*. New Jersey. John Wiley & Sons.

Further Reading

Annas, J (2003). *Plato: A Very Short Introduction.* Oxford. Oxford University Press.

Barnes, J (2000). *Aristotle: A Very Short Introduction*. Oxford. Oxford University Press.

Blackburn, S (2001). *Ethics: A Very Short Introduction*. Oxford. Oxford University Press.

Cairo, A (2019). *How Charts Lie – Getting Smarter About Visual Information*. New York, US. W.W. Norton & Company

Craig, E (2002). *Philosophy: A Very Short Introduction*. Oxford. Oxford University Press.

Duarte, N (2008). *Slideology: The Art & Science of Creating Great Presentations*. New Jersey, US. John Wiley & Sons.

Duarte, N (2010). *Resonate: Present Visual Stories That Transform Audiences*. New Jersey, US. John Wiley & Sons.

Kirk, A (2019). *Data Visualisation: A Handbook for Data Driven Design* (2nd Edition)

McKee, R & Gerace, T (2018). *Storynomics: Story-Driven Marketing in the Post-Advertising World*. York. Methuen.

Rosling, H (2018). *Factfulness: Ten Reasons We're Wrong About The World – And Why Things Are Better Than You Think*. London. Hodder & Stoughton.

Storr, W (2019). *The Science of Storytelling*. London. William Collins

Strong, C (2015). *Humanizing Big Data: Marketing at the Meeting of Data, Social Science and Consumer Insight*. London: Kogan Page.

Taylor, C.C.W (1998). *Socrates: A Very Short Introduction*. Oxford. Oxford University Press.

Wylie, C (2019). *Mindf*ck: Inside Cambridge Analytica's Plot to Break the World*. London.

Websites

Brandwatch

The Turing Institute: Data Ethics

Microsoft Dynamics CRM
Microsoft PowerBI
Salesforce
Tableau

Journals
Journal of Digital Scholarship in the Humanities
Journal of Communication
Journal of Data Mining and Computational Science
Journal of International Data Privacy Law
The Computer Journal