MSc Business Analytics Research Project Opportunities 2021-22

Background

MSc Business Analytics is a new, exciting Masters programme at the School of Management that has been co-developed with a range of organisational partners and individual experts with an interest in evolving the theory and practice of data analytics. The students on the programme study a number of units including:

* **Data Analytics in Business** - students will be taught intermediate and advanced data analytics concepts and methodologies with a focus on predictive analytics.
* **Managerial Decision Making** - will teach students decision making models and will prepare them to make sound data-driven decisions.
* **Modelling Analytics** -students will learn aboutmodel-based tools to inform organisational decision making.
* **Social Media and Web Analytics** -will teach data mining and visualisation techniques for large-scale web/social media data.
* **Responsible Innovation** - students will be taught the importance of ethics and sustainability issues involved in the adoption of business analytics in organisations.

An important aspect of the MSc is to give postgraduate students the opportunity to draw on their learnings over the course of the programme to explore and solve a real-life business challenge and gain problem solving and communication skills. Students will have two opportunities to develop specialist skills in business analytics, including forecasting, machine learning, optimisation/simulation, and social media analytics, and apply the knowledge and techniques learned through projects developed with industry partners:

1. A Group Consultancy Project during the Autumn and Spring terms where students will learn main theories and tools in digital transformation and project management as well as research methods and apply them to a real-life business problem working with an industry partner where possible.
2. An Applied Research Project (ARP) during the Spring (during which students have to prepare the proposal) and Summer terms. Students have the opportunity to work individually to use real-world data and apply theoretical understanding and critical skills in order to find original solutions to societal and industrial challenges working with a partner organisation.

We are inviting organisations who wish to collaborate with the School of Management to provide a short [research project brief](https://uob.sharepoint.com/teams/grp-professionalliaisonnetwork/Shared%20Documents/SoM%20Business%20Analytics%20Research%20Project/Communications/organisation/MSc%20Business%20Anlaytics%20research%20project%20proposal%20form%20%28organisations%29%20v.1.docx) for our students to work on. Please note, the projects need to be provided and agreed in advance in order for the selection process and student proposal writing stages to run smoothly. Partner organisations may therefore like to consider projects which are not time sensitive or require urgent action. The timings and process are detailed overleaf:

Timeline of projects

 **Partner Student**

Partner organisations provide a brief of their research problem for either a group or individual project by **31st July. 2021**

Students are allocated a Group Consultancy Project in **November 2021** and are allocated an ARP project in **December 2021.**

Partners have a meeting (this may be virtual) with their student(s) between **November and January 2022** for Group Consultancy projects or for Applied Research projects in **February 2022**. Students will set up this meeting and their academic supervisor will attend.

*Further communications and meetings (if appropriate) are likely to be required after this.*

Students work on a research proposal based on the brief between **November and February 2022** (for Group Consultancy project)and **May-September 2022** (for ARP).

Students contact partner organisation between November and **January 2022** for group projects and **February 2022** for individual project initial discussions and planning meeting.

Students submit their ARP for marking in early **September 2022**.

Students work on their group consultancy projects between **January and April 2022** and their ARP from **May – September 2022.**

Partners are provided with a short project summary for Group Consultancy Projects in **March 2022** and for Applied Research Projects in **September 2022**.

Organisations may invite students to present their findings.

The benefits of being involved in a Data Analytics Research project

* Great opportunity for organisations to get the benefit of working with students to complete a project, including research and analysis, of a data related challenge that is of interest and importance to your organisation.
* Get the chance to work with highly qualified graduates from a range of backgrounds with demonstrable advanced quantitative skills and who wish to pursue a career in business analytics.
* You will receive a summary of the report findings and get to meet with the student(s) to discuss their recommendations (if required). Please be aware this meeting may be virtual.
* Build a relationship with the Faculty of Social Sciences and Law, University of Bristol and thereby access other opportunities, including engagement with relevant research groups.

What is required of an organisation?

* To provide a research project brief/s into a non-urgent topic of interest for your organisation by **31st July 2021**. Ideas will be developed in discussion with the Unit Director, Roberta Bernardi. You will be sent a briefing form to complete upon expressing interest in taking part. Please see examples of the types of projects that students could get involved in on the next page.
* Partner organisations are also requested to provide a key contact person that the student will email/telephone to commence the project between November 2021 and January 2022 for Group Consultancy and for the ARP in February 2022.
* Be available for an initial meeting between November 2021 and January 2022 and/or February 2022 to discuss the brief in more detail and provide relevant background information and data. There may be need for one or two more meetings in the interim, but this can be at the discretion of the partner organisation. Please note that these meeting may need to be virtual.
* To sign a Non- Disclosure Agreement (NDA) to ensure all parties are aware of their responsibilities and confidential information is protected.
* Partner organisations may wish (but this is not compulsory) to invite the students back to present their findings of the group consultancy project in March 2022 and/or the ARP in September 2022.

Assessment

Partner organisations will not be asked to be involved in the marking, although you may wish to invite the student to present their findings and give them some feedback.

Further information

**To find out more about the MSc Business Analytics programme please contact Roberta Bernardi, Unit Director -** **roberta.bernardi@bristol.ac.uk****.**

**To find out more about the Business Analytics Group Consulting and Applied Research Project or to sign up to take part, please contact Tracey Maggs, Professional Liaison Officer–** **fssl-pln@bristol.ac.uk** .

Examples of the types of projects that students could get involved with:

* Strategic alignment – how the use of analytics delivers value for your business and aligns with the business’s organisational goals.
* Innovation – the use of data analytics for data-driven innovations, this might include mining data from social media or online forums/communities to design new services/products.
* Adoption – are data analytics solutions adopted effectively by employees/managers? Are there cultural/organisational barriers to the effective adoption of data analytics within the organisation?
* Ethics, consumer acceptance and trust – do consumers trust the use of data analytics in tailoring service/product offerings?
* Customer loyalty – how the use of data analytics in personalising products/services, for example, can increase consumer loyalty.
* Digital marketing – personalise social media/digital marketing campaigns with social media/consumers’ data.
* Insurance – Mining data on policy claims to: build risk profiles of customers; optimise car or other types of insurance policy offers; identify risk of fraud.
* Retail – Use purchase behaviour data (from loyalty cards for example) to customise sales offers and guide future promotional/discount campaigns.
	+ Optimise availability of products on shelf depending on rate of customer demands of certain categories of product.
	+ Evaluate the effectiveness of gamification as a tool in consumer marketing.
* Supply Chain/logistics–Use supply chain data (e.g. deliveries, lead times) to optimise supply and delivery of goods to customers.
* Healthcare/wellbeing–Use big data analytics from smart devices/online platforms to develop/customise wellbeing programmes, improve customer engagement.
	+ Use service usage data to improve efficiency/effectiveness of clinical pathways.
	+ Improve performance in health service delivery (e.g. reduce waiting times).
* Third-sector organisations (e.g. local government organisations and charities) – Use donor/donations data to design and improve effectiveness of future funding campaigns.
	+ Measure the effectiveness of funding and/or social media campaigns.
	+ Use historic data on social/public service usage to plan/improve delivery of future services.