

**Faculty of Business and Law**

**Assignment Brief 2019/20**

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| Unit Title: Introduction to Business Analytics | | | |  |
| Unit Code: | 5Z7V0036 | Core: elective | Level: 7 | |
| Assignment Title: Introduction to Business Analytics | | | | |
| Unit Leader: Dr Leo Liu | | | | |
| Contact Details: [leo.liu@mmu.ac.uk](mailto:leo.liu@mmu.ac.uk) | | | | |
| Submission Date: See date on Moodle | | Feedback Return Date: See Date on Moodle | | |
| Submission Instructions: 15-20 minute Screen-recording Presentation. Instruction for submission is available on Moodle. | | | | |
| Feedback Return Information: Written feedback distributed to each individual student on the feedback return date. | | | | |
| Assignment Task  15-20 minute Screen-recording Presentation. *Any content after 20 minutes will not be included in the marking process.* | | | | |
| Unit Learning Outcomes Assessed.   1. Integrate high volume information to support an organisations decision-making process. 2. Employ relevant analytical and data visualisation techniques. 3. Effectively present key analysis and demonstrate interactive decision support tools. | | | | |
| Assignment Details and Instructions.  You have recently been employed by Marks & Spencer, a major UK high street retailer, as part of the development of a business analytics function within the company. Marks & Spencer are aware of the concepts of ‘big data’ and ‘analytics’ but they are not particularly sure how it can benefit their business.  You need to demonstrate to the company’s regional directors, how analytics can help them to better understand their business and facilitate informed decision-making.  You have been provided with sales data, in a CSV file, for the trading period 01/01/20 to 31/03/20 inclusive. The sales data is from nine separate M&S stores in the UK. Daily sales are recorded at the departmental level: Food, Homeware and Clothing & Footwear.  Additional information is also available:   * Store code * The size of each department in each store to aid comparative analysis * Running of major sales promotions in a particular department for each trading day. * Daily capacity of food distribution centres in revenue terms, together with distribution costs to each store per £1 of food sales revenue (food sales revenue is used as a proxy for the amount of food actually transported).   You have been asked to perform some analyses on this data set and develop analytics functionality for the use of the regional directors. Specifically:   1. Inspect and clean the dataset plus comment upon the overall validity of the sales data. 2. Develop and demonstrate an Excel-based dashboard to summarise the main points of interest from the data set and allow further detailed data enquiries. 3. Utilise Monte Carlo simulation to perform a risk analysis of profitability levels in the **Aberdeen** Homeware department (Note: the analysis should assume overall gross profit margins between 60% to 70% on revenue sales. The department also makes a daily contribution to overheads of £4,250. Use non-promotion sales only for your simulation). 4. Use optimisation processes to minimise the transportation costs of food from the M&S northern distribution centres (Note: the distribution centres must be able to deliver, at least, the equivalent of maximum non-promotion day sales to each store). 5. Demonstrate a critical awareness of the impact of the data.   **Further Details**  Students will be penalised if they copy material or re-use the work of others. Your work must be written in your own words. Please refer to the university’s regulations for more details on plagiarism (<http://www.celt.mmu.ac.uk/plagiarism/index.php>).  **Additional Information**   1. The tasks will be performed and presented in Excel 2016 or 2019. 2. Do not get too technical. Think about your ‘audience’; what will they want to know? What will lose their attention? Remember the KISS principle: Keep It Sophistically Simple. 3. Use notes on cards when you recording your presentation if you are nervous and/or you have English as a second language. In the latter case, you are not being judged on your standard of English but your ability to get the salient messages across. 4. Please note that the screen recorded may not optimally display your dashboard. In general, this can be solved with scaling although overly complex dashboards will suffer. 5. Please also note that the unit is Windows OS based, as is the presentation. Be careful if using a Mac OS therefore in terms of compatibility and functionality. 6. No research outside the analysis of the data provided is expected. No reference needs to be made to academic literature and no ‘extra’ research about M&S and its operating environment is required.   **Formative feedback**  The assessment will be introduced in the first week. Students will then be able to receive ‘feed forward’ advice on their work in subsequent tutorials. Support will also be available during scheduled tutor office hours specified on Moodle.  What you MUST do:   * Use grammatically correct English. * Proof read your work * Attend supporting tutorials. * Use a logical structure for your presentation. * You must use your own words, analyses and dashboard. * You must read the assignment brief! * You must use UK English, not American English.   What you must NOT do.   * Do not use secondary data or information. * Leave it to the last minute. | | | | |
| Early Career/ World Class Professional Skills (PLOs) being assessed or developed/assessed.  As a matter of course, this assignment will help further develop your oral communication skills essential for employability and lifelong learning.   * Communicate effectively orally in a form appropriate to the audience (development)   In addition to content feedback, you will be given feedback on your skills development and areas for suggested development to enhance your World Class Professional profile.  **Plagiarism and Academic Integrity**  The work submitted must be your own. All submissions are checked for originality using various tools such as Turnitin. Please refer to the University’s guidelines <https://www2.mmu.ac.uk/student-case-management/guidance-for-students/academic-misconduct/> | | | | |

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| Resources: See Moodle |
| Marking Criteria \* (including how stepped marking applies)  See links for guidance help with this development  <https://www.mmu.ac.uk/academic/casqe/regulations/docs/curriculum-assessment-framework.pdf>  [University Policy on Assessment Grading, Criteria and Marking](http://www.mmu.ac.uk/academic/casqe/regulations/docs/assessment_procedures.pdf)   |  |  | | --- | --- | | Mark | PGT  Classification | | 95-100% | Distinction | | 90% |  | | 85% |  | | 80% |  | | 75% |  | | 72% | Marginal Distinction | | 68% | Merit | | 65% |  | | 62% |  | | 58% |  | | 55% |  | | 52% | Marginal pass | | 48% | Marginal Fail | | 45% |  | | 42% |  | | 38% | Fail | | 35% |  | | 32% |  | | 28% |  | | 25% |  | | 22% |  | | 18% |  | | 15% |  | | 12% |  | | 8% |  | | 5% |  | | 2% |  | | 0% |  | |  |  |   The following indicators have been embedded in teaching and assessment in order to ensure high standard of learning quality for all students:   |  |  | | --- | --- | | PLOs |  | | PLO 1: | Our graduates will apply critical thinking to practical and theoretical problems | | *Performance Indicator* 1.1 | Identify and apply information critically in relation to context | | Trait Ref | Trait Description | | 1.1.1 | Identify and interrogate relevant data and literature sources using methods appropriate to level of study and to discipline | | 1.1.2a (UG) | Apply theory to discussion and analysis | | 1.1.2b (PGT) | Critique theory in discussion and analysis | | 1.1.2c (PGR) | Draw upon and extend theory in order to make original contribution to knowledge | |  |  | |  |  | |  |  | | PLO 2: | Our graduates will be effective communicators using a range of media | | *Performance Indicator 2.1* | Demonstrate communication skills at the appropriate level and using appropriate media | | Trait Ref | Trait Description | | 2.1.1 | Organise work in a logical structure in order to draw conclusions that follow from line of argument | | 2.1.2 | Apply consistent and appropriate referencing and in text citations | | 2.1.3 | Demonstrate digital skills appropriate to level and to discipline | |  |  | |  |  | |  |  | | PLO 3 | Our graduates will demonstrate an awareness of ethical, corporate social responsibility and sustainability issues appropriate to the level of study and the discipline context | | *Performance Indicator 3.1* | Identify and interrogate issues of ethics, responsibility and sustainability | | Trait Ref | Trait Description | | 3.1.1 | Recognise, explore and reflect on key ethical issues as they affecting own and others' practice. | | 3.1.2 | Recognise, explore and reflect upon corporate social responsibility and sustainability issues as they affect different stakeholders. | |  |  | |  |  | |  |  | | PLO 4 | Our graduates will demonstrate professional and commercial/corporate awareness | | *Performance Indicator 4.1* | Demonstrate critical professional and commercial/corporate awareness in your discipline | | Trait Ref | Trait Description | | 4.1.1 | Identify and explain professional and commercial/corporate issues | | 4.1.2 | Critically evaluate professional and commercial/corporate issues | | 4.1.3 | Critically reflect upon own development as a current or future professional | | *Performance Indicator 4.2* | *Demonstrate global and/or international awareness of business practice* | | Trait Ref | Trait Description | | 4.2.1 | Identify and explain debates in their global and/or international context | | 4.2.2 | Critically discuss the global and/or international context | |
| Group Work Guidelines: N/A |
| See Moodle for Unit Specification |

Assessment Marking Criteria

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| Assessment descriptor | 0-19% | 20-34% | 35-39% | 40-49% | 50-59% | 60-69% | 70-85% | 86-100% |
| **PLO1 Integrate high volume information to support an organisations decision-making process.** | No attempt to inspect, utilise and critically assess the impact of the data. | Attempts to inspect, utilise and critically assess the impact of the data are very limited. | Attempts to inspect, utilise and critically assess the impact of the data are quite limited. | Adequate attempt to inspect, utilise and critically assess the impact of the data. | Appropriate inspection, utilisation and critical assessment of the impact of the data. | Good levels of inspection, utilisation and critical assessment of the impact of the data. | Rigorous levels of inspection, utilisation and critical assessment of the impact of the data. | Exemplary levels of inspection, utilisation and critical assessment of the impact of the data. |
| **PL02 Employ relevant analytical and data visualisation techniques.** | No attempt has been made to analyse the data and develop a dashboard. | Data analysis is inappropriate. Dashboard is unusable. | Data analysis provides limited information. Dashboard is limited or too complex for intended user. | Data analysis provides adequate information. Dashboard has basic levels of useful functionality. | Data analysis provides an appropriate amount of information. Dashboard has appropriate levels of functionality. | Data analysis provides a good amount of information. Dashboard has good levels of functionality. | Data analysis provides an excellent amount of information. Dashboard has excellent levels of functionality. | Levels of data analysis and dashboard functionality expected from analytics professionals. |
| **PL03 Effectively present key analysis and demonstrate interactive decision support tools.** | Totally ineffective communication and demonstration of the subject matter | Very limited communication and demonstration of the subject matter | Adequate communication and demonstration of partial elements of the task. | Adequate communication and demonstration of all elements of the task. | Appropriate communication and demonstration of all elements of the task. | Good communication / demonstration of all elements of the task. | Excellent communication / demonstration of all elements of the task. | Authoritative communication / demonstration of all elements of the task. |
| **Professional presentation and supporting material** | Presentation and supporting material is unprofessional | Presentation and supporting material is very limited in terms of professional standards. | Presentation and supporting material is quite limited in terms of professional standards. | Presentation and supporting material is generally of adequate professional standards. | Appropriately professional presentation and supporting material. | Good standards of professionalism in presentation and supporting material. | Excellent standards of professionalism in presentation and supporting material. | Levels of professionalism expected from early career business managers. |