# **BUSINESS MASTER OF SCIENCE CAPSTONE PROJECT**

# **PROJECT INITIATION DOCUMENT**

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| **Student** | | |
| Name | Ersan Kucukoglu | | | |
| Program | Business Analytics | | |
| Telephone | +36 705798969 | | |
| Email | kucukoglu\_ersan@student.ceu.edu | | |
| **Project sponsor** | | |
| Name | József Fülöp | | |
| Position | Controlling Director at Lidl Magyarország Kereskedelmi Bt. | |
| Client organization | Lidl | |
| Telephone | +36 207760025 | |
| Email | Jozsef.Fulop@lidl.hu | |
| **CAPSTONE PROJECT MANAGER** | | |
| Name | György Bőgel | | |
| **Project details** | | |
| Title | |  |
| Lowering plastic packaging sold (in t): sold plastic packaging (in t), comparison to the business goals | | |
| Background (summary of reasons for project sponsor’s interest in/significance of project) | | |
| Lidl is desperate to lower the negative effect on the environment. In order to do that the business goal is to lower the sold plastic packaging with our product by 20% till 2025. By developing a data product which calculates the KPI of sold plastic packaging by the HU-contracted suppliers in tones and compare it to the goals an instant intervention would be possible in case of a risk. | | |
| Statement of key problems, objectives and desired outcomes | | |
| Key problems:   * evaluating the business goals is done quarterly * there is only a high effort possibility to follow the measures within the year, no forecast is available   Objectives:   * building a data product, which allows the user to see the sold plastic packaging in tones and to compare it with the business goals also by seeing the predicted outcome till end of business year   Desired outcomes:   * A dashboard with the following functions:   + allows the user to see the sold plastic packaging quantity in tones   + allows the user to compare it to the business goals   + uses calculation method based on sales   + sales figures can be loaded from database,   + give estimation till the end of business year for the run-out   + marks top items, which past / predicted values are significantly high and should be optimized (packaging change) * Notebooks:   + possible to re-run every quarter   + possible upload (csv) for:     - main item data     - targeted values   Data-science methods to be used:   * Model based prediction, data-cleaning, dashboarding. (Sales and goods-in based.)   + Receipt data analysis   + Predicting yearly outcome   + Importing main item data   + Dashboarding, creating visualization | | |

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| **Project DETAILS** |  | | |
| Interim and final deliverables (incl. format of project presentation and technical discussion, target audience) | | | |
| Interim deliverables:   * Python notebooks which can be rerun * Dashboard uses the generated data * Possibility to upload main item data * Possibility to upload targeted values   Final deliverables:   * A dashboard with the following functions:   + allows the user to see the sold salt and sugar quantity in tones   + allows the user to compare it to the business goals   + uses two calculation method: sales and goods in based   + sales figures can be loaded from database, goods in should be imported manually (csv)   + give estimation till the end of business year for the run-out   + marks top items, which past / predicted values are significantly high and should be optimized (recipe change) * Notebooks:   + possible to re-run every month   + possible upload (csv) for:     - main item data     - targeted values     - goods-in values | | | |
| Methods of approach (e.g. data, information resources, software, methodologies, key contacts) | | | |
| Data-science methods to be used:   * Model based prediction, data-cleaning, dashboarding. (Sales and goods-in based.)   + Receipt data analysis   + Predicting yearly outcome   + Importing main item data   + Dashboarding, creating visualization   Software:   * Databricks platform * Databricks SQL-Dashboard   Key Contacts:   * Business requests and processes: József Fülöp   Data science methods: András Hegedűs / Dániel Szokolics | | | |
| Assumptions (e.g. expected input from client, possible constraints, expected location of work, exclusions) | | | |
| Inputs:   * receipt data line for desired data range * item main data   targeted values | | | |
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| **Initial HIGH-LEVEL project plan and schedule** | | | |
| Work breakdown and timing | | | |
| * April 6: Student submits Project Initiation Document, any request for faculty supervision to program coordinator. The student works with the project sponsor to develop the draft PID. * April 20: Project begins. The project kickoff documents (PID, letter of terms, NDA) are finalized and signed. The Program Head appoints the faculty supervisor (if any) based on the suggestion of the Capstone Project Manager. * May 15: Student submits interim progress report to program coordinator. The report should discuss the project’s status, interim outcomes, work to be done, any problems or issues. * June 13: Student submits final deliverables to project sponsor and program coordinator. | | | |
| Quality review procedure (review meetings) | | | |
| Individually set. | | | |
| Anticipated expenses if any (must be covered by project sponsor or client organization) | | | |
| None | | | |
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| **student** | | | |
| Name | Date | Signature (add name if sending by email) |
| Ersan Kucukoglu | 4/6/2022 | Ersan Kucukoglu |
| **PROJECT SPONSOR** | | | |
| Name | Date | Signature (add name if sending by email) |
| József Fülöp | 4/6/2022 | József Fülöp |
| **CAPSTONE PROJECT MANAGER** | | | |
| Name | Date | Signature (add name if sending by email) |
| György Bőgel | 4/6/2022 |  |
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# **BUSINESS MASTER OF SCIENCE CAPSTONE PROJECT**

# **LETTER OF TERMS**

In order to ensure that the Business Master of Science Capstone Project (the Project) of Central European University (the University) runs smoothly and to mutual advantage, please note the following terms under which the project is undertaken.

* The Project is undertaken by the Student as part of his or her studies at the University. The student is not an employee of the University, so the University cannot enter agreements on his or her behalf or take any liability for his or her actions.
* The Project is undertaken as part of an educational program and is supervised and examined by a Faculty Supervisor appointed by the University. The Faculty Supervisor is bound contractually and by law to keep confidential any confidential information disclosed to him or her in the supervision and examination of the Project.
* The client organization (the Client) must assign a named Project Sponsor, who will be available over the duration of the project to advise and guide the Student. The Project Sponsor is expected to give feedback to the Faculty Supervisor on the conduct of the work.
* The Student and the Faculty Supervisor sign the General Confidentiality and Non-disclosure Agreement (NDA). The Project Sponsor may request a separate confidentiality and non-disclosure agreement to be signed.
* The Project is a student educational project and should be seen in this context. The work does not constitute professional advice, and no warranties are made regarding the information presented. Neither the Student nor the University and its faculty accept any liability for the consequences of any action taken as a result of the work, or any recommendations made or inferred.
* The intellectual property rights to the work undertaken and/or the deliverables produced vest in the Client.
* The Student is required to declare his or her association with the University and with the Client when collecting information from other organizations.
* The Client must provide the necessary resources and facilities to enable the student to carry out the Project effectively.
* Expenses incurred in the execution of the Project must be met by the Client and paid directly to the Student.

Please confirm that you have read and agreed the terms of engagement by signing below.

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| **project sponsor** |
| Name / client organization | Date | Signature (add name if sending by email) |
| József Fülöp | 4/6/2022 | József Fülöp |

# **BUSINESS MASTER OF SCIENCE CAPSTONE PROJECT**

# **GENERAL CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT**

During the course of the Business Master of Science Capstone Project (the Project) of Central European University (the University), I am likely to discuss and have access to information, technology and ideas that various organizations participating in the program regard as confidential.

I agree for the benefit of the client organization (the Client), the University and other participating organizations that I will make all reasonable efforts to hold in strict confidence any information, technologies and ideas that I am told in advance are confidential, that I will not copy, reveal or disclose such information, technology and ideas to any third party, and that I will not use any such information, technology and ideas for my own benefit or for the benefit of any organization with which I am affiliated now or in the future. I also agree to abide by such other rules and guidelines that the University may reasonably impose.

This Agreement shall not apply to any information, technology and ideas which:

1. at the date of this Agreement are in the public domain or subsequently come into the public domain through no fault of mine;
2. were already known to me on the date of disclosure, provided that such prior knowledge can be substantiated;
3. properly and lawfully become available to me from sources independent of the supplying party;
4. are disclosed pursuant to the requirement or request of a governmental agency provided that in such an event I shall inform you of the nature and extent of any disclosure so required.

This Agreement shall come into effect from the date below, and the obligation under the Agreement shall remain in effect indefinitely unless agreed otherwise in writing by the Client. This Agreement shall be subject to Hungarian law.

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| **student** |
| Name | Date | Signature (add name if sending by email) |
| Ersan Kucukoglu | 4/6/2022 | Ersan Kucukoglu |
| **CAPSTONE PROJECT MANAGER** |
| Name | Date | Signature (add name if sending by email) |
| György Bőgel | 4/6/2022 |  |
| **PROGRAM COORDINATOR** |
| Name | Date | Signature (add name if sending by email) |
| Eszter Fuchs | 4/6/2022 |  |
| **PROGRAM HEAD** |
| Name | Date | Signature (add name if sending by email) |
| Miklós Koren | 4/6/2022 |  |
| **FACULTY SUPERVISOR (IF APPLICABLE)** |
| Name | Date | Signature (add name if sending by email) |
|  | 4/6/2022 |  |