



Arno DE CAIGNY

Ph.D., Sales and Marketing, Marketing

Associate Professor, Marketing

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EDUCATION

- 2019** Ph.D., Sales and Marketing, Marketing, University of Lille, France
- 2015** Master, Economics and Mathematics Sciences, Marketing, Ghent University, Belgium
- 2014** Master, Business Administration, Finance, Ghent University, Belgium
- 2013** Bachelor, Business Administration, Business, Ghent University, Belgium

RESEARCH INTERESTS

Economics, Marketing Analytics, Quantitative Methods

CONSULTING EXPERIENCE

- 2015 - 2016** Business Analyst, Deloitte Touche Thomatsu, Belgium

INTELLECTUAL CONTRIBUTIONS

Papers in refereed journals

Published

- Guliyev E., Sanchez Ramirez J., De Caigny A., Coussement K., (2025), Improving B2B Customer Churn Through Action Rule Mining, *Industrial Marketing Management*, 125(February), pp. 1-11
- Beyer Diaz S., Coussement K., De Caigny A., (2024), Improved Decision-Making Through Life Event Prediction: A Case Study in the Financial Services Industry, *Decision Support Systems*, 187(December), pp. 114342
- Beyer Diaz S., Coussement K., De Caigny A., Perez Armas L. F., Creemers S., (2024), Do the US President's Tweets Better Predict Oil Prices? An Empirical Examination Using Long Short-Term Memory Networks, *International Journal of Production Research*, 62(6), pp. 2158-2175
- Borchert P., Coussement K., De Weerd J., De Caigny A., (2024), Industry-sensitive Language Modeling for Business, *European Journal of Operational Research*, 315(2), pp. 691-702
- De Bock K. W., Coussement K., De Caigny A., (2024), Explainable Analytics in Operational Research, *European Journal of Operational Research*, 317(2), pp. 243-248
- De Bock K. W., Coussement K., De Caigny A., Slowinski R., Baesens B., Boute R., Choi T.-M., Delen D., Kraus M., Lessmann S., Maldonado S., Martens D., Oskarsdottir M., Vairetti C., Verbeke W., Weber R., (2024), Explainable AI for Operational Research: A Defining Framework, Methods, Applications, and a Research Agenda, *European Journal of Operational Research*, 317(2), pp. 249-272

De Caigny A., De Bock K. W., Verboven S., (2024), Hybrid Black-Box Classification for Customer Churn Prediction with Segmented Interpretability Analysis, *Decision Support Systems*, 181(2024), pp. 114217

Idbenjra K., Coussement K., De Caigny A., (2024), Investigating the Beneficial Impact of Segmentation-based Modelling for Credit Scoring, *Decision Support Systems*, 179(2024), pp. 114170

Mena G., Coussement K., De Bock K. W., De Caigny A., Lessmann S., (2024), Exploiting Time-Varying RFM Measures for Customer Churn Prediction with Deep Neural Networks, *Annals of Operations Research*, 339(1), pp. 765–787

Sanchez Ramirez J., Coussement K., De Caigny A., Benoit D. F., Guliyev E., (2024), Incorporating Usage Data for B2B Churn Prediction Modeling, *Industrial Marketing Management*, 120(July), pp. 191-2025

Meire M., Coussement K., De Caigny A., Hoornaert S., (2022), Does it pay off to communicate like your online community? Evaluating the effect of content and linguistic style similarity on B2B brand engagement, *Industrial Marketing Management*, 106(2022), pp. 292-307

De Caigny A., Coussement K., Verbeke W., Idbenjra K., Phan M., (2021), Uplift Modeling And Its Implications For B2B Customer Churn Prediction: A Segmentation-Based Modeling Approach, *Industrial Marketing Management*, 99(2021), pp. 28-39

De Caigny A., De Bock K. W., (2021), Spline-Rule Ensemble Classifiers with Structured Sparsity Regularization for Interpretable Customer Churn Modeling, *Decision Support Systems*, 150(113523), pp. 1-14

Coussement K., Phan M., De Caigny A., Benoit D. F., Raes A., (2020), Predicting Student Dropout In Subscription-based Online Learning Environments: The Beneficial Impact Of The Logit Leaf Model, *Decision Support Systems*, 135(August), pp. 1-11

De Caigny A., Coussement K., De Bock K. W., (2020), Leveraging Fine-Grained Transaction Data for Customer Life Event Predictions, *Decision Support Systems*, 130(March), pp. 1-12

De Caigny A., (2019), Innovation in customer scoring for the financial services industry, *4OR: A Quarterly Journal of Operations Research*, 18(1), pp. 381–382

De Caigny A., Coussement K., De Bock K., Lessmann S., (2019), Incorporating Textual Information in Customer Churn Prediction Models Based on a Convolutional Neural Network, *International Journal of Forecasting*, 36(4), pp. 1563-1578

De Caigny A., Coussement K., De Bock K., (2018), A New Hybrid Classification Algorithm for Customer Churn Prediction Based on Logistic Regression and Decision Trees, *European Journal of Operational Research*, 269(2), pp. 760-772

Forthcoming

Beyer Diaz S., De Caigny A., Coussement K., (2025), From Collaborative Filtering to Deep Learning: Advancing Recommender Systems with Longitudinal Data in the Financial Services Industry, *European Journal of Operational Research*, forthcoming(2025), pp. 1-10

De Caigny A., Coussement K., Meire M., Hoornaert S., (2025), Investigating the Impact of Undersampling and Bagging: An Empirical Investigation for Customer Attrition Modeling, *Annals of Operations Research*, forthcoming(2025), pp. 1-10

Communications in refereed conferences

International

Sanchez-Ramirez J., Coussement K., De Caigny A., Benoit D. F., Waardenburg L., Guliyev E., (2023), *To Use or Not to Use? Incorporating Usage Data for B2B Churn Prediction Modeling* Decision Science Institute Annual Conference 2023, Atlanta, USA

De Caigny A., Coussement K., De Bock K. W., (2020), *Customer life event prediction using deep learning* ORBEL 34, Lille, France

De Caigny A., Coussement K., De Bock K. W., (2020), *Predicting customer life events using deep learning in the financial services industry* Fourth Conference on Business Analytics in Finance and Industry, Santiago, Chile

De Caigny A., Coussement K., De Bock K., (2019), *Customer Life Event Prediction* , In Proceedings of the 30th European Conference on Operational Research (abstract), June 23-26 (2019), Dublin, Ireland

De Caigny A., De Bock K., Coussement K., Ciobanu C., (2019), *Integrating e-commerce indicators in multichannel retail chain store efficiency analyses: A robust two-stage DEA approach* Conference on Metrics and Analytics in Retailing, Atlanta, USA

Phan M., Coussement K., Benoit D., De Caigny A., Raes A., (2019), *Detecting Online Student Dropout: A Machine Learning Approach* In Proceedings of the 30th European Conference on Operational Research, June 23-26 (2019), Dublin, Ireland

De Caigny A., Coussement K., De Bock K., Lessman S., (2018), *Integrating Textual Information in Customer Churn Prediction Models: A Deep Learning Approach* In Proceedings of the 29th European Conference on Operational Research, Valencia, Spain

Phan M., Coussement K., Benoit D., Raes A., De Caigny A., (2018), *The Beneficial Effect of Ensemble Learning in Predicting Student Drop-out in Online Learning Environment* In Proceedings of the 29th European Conference on Operational Research, Valencia, Spain

De Caigny A., Coussement K., De Bock K. W., (2017), *A New Algorithm For Segmented Modeling: An Application In Customer Churn Prediction* INFORMS Annual Meeting , Houston, USA

De Caigny A., Coussement K., De Bock K., (2017), *Leaf Modeling: An Application in Customer Churn Prediction* 21st Conference of the International Federation of Operational Research Societies (IFORS), Quebec, Canada

Other conference and seminar presentations

International

Guliyev E., Coussement K., De Caigny A., (2022), *Actionable Knowledge Discovery and Rule Mining in B2B Churn* 32nd European Conference on Operational Research, Espoo, Finland

Heuvinck N., De Caigny A., Waardenburg L., (2022), *The algorithm gone wrong? Responses to algorithmic versus human bias* Online, Online, France

Beyer Diaz S., Coussement K., De Caigny A., (2021), *A deep learning model for cross-selling recommendations in the financial service sector* 31st European Conference on Operational Research (EURO 2021), Athens, Greece

Guliyev E., Coussement K., De Caigny A., (2021), *Actionable Knowledge Discovery and Rule Mining in B2B Churn* 31st European Conference on Operational Research (EURO 2021), Athens, Greece

Guliyev E., Coussement K., De Caigny A., (2021), *Actionable Knowledge Discovery and Rule Mining in B2B Churn* 52nd Annual Conference of the Decision Sciences Institute, Houston, USA

Beyer Diaz S., Coussement K., De Caigny A., Perez Armas L. F., Creemers S., (2020), *Incorporating Donald Trump's tweets into LSTM for Oil Price Prediction* Decision Sciences Institute, Online, USA

Beyer Diaz S., Coussement K., De Caigny A., Perez Armas L. F., Creemers S., (2020), *Incorporating Tweets into LSTM for Oil Price Prediction* Analytics for Management and Economics Conference, St. Petersburg, Russia

De Caigny A., Coussement K., Lessman S., (2020), *Data augmentation strategies for classification tasks: how to represent textual data?* IFORS 2020, Seoul, Korea

Phan M., Coussement K., De Caigny A., (2020), *Improving Student Dropout Prediction By Integrating Feedback Textual Data* Analytics for Management and Economics Conference (AMEC 2020), Online, Russia

Phan M., Coussement K., De Caigny A., (2020), *Integrating Textual Feedback Data for Predicting Student Dropout in Private Higher Education Institute in France* 51st Annual Conference of the Decision Sciences Institute, Online, USA

Research reports

De Caigny A., Coussement K., De Bock K. W., (2020), *LLM: Applies the Logit Leaf Model Classifier for Binary Classification*, CRAN Archive

De Caigny A., Coussement K., De Bock K., (2018), *LLM: Applies the Logit Leaf Model Classifier for Binary Classification*, CRAN Archive

PROFESSIONAL MEMBERSHIPS

Association of European Operational Research Societies

International Federation of Operational Research Societies

EDITORIAL ACTIVITY

Reviewer in an academic journal

2021 European Journal of Operational Research

RESEARCH ACTIVITIES

COMMITTEE CHAIR

Course Coordinator

Course coordination of business analytics tools commercial (PGP-MBD), IÉSEG School of Management, France

Course coordinator of introduction to data sciences (PGP-MBD), IÉSEG School of Management, France

Extensive contribution to a corporate partnership

Active contribution to the Credit Agricole chair, IÉSEG School of Management, France

Supervision of Ph.D. Thesis:

2023 Co-director, Data-driven innovations in the financial services industry, IÉSEG School of Management

2022 Co-director, Learning analytics, IÉSEG School of Management