

Institution: University of Roehampton		
Unit of Assessment: 17 - Business and Management Studies		
Title of case study: Re-thinking Accounting, Governance and Reporting through the <i>Maieutic Machine</i>		
Period when the underpinning research was undertaken: 2014-2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g., job title):	Period(s) employed by submitting HEI:
Cristiano Busco	Professor	August 2014 – present
Period when the claimed impact occurred: 2014-2020		
Is this case study continued from a case study submitted in 2014? N		

1. Summary of the impact (indicative maximum 100 words)

Professor Cristiano Busco’s innovative research has informed the ‘maieutic machine’, a new approach to accounting and reporting systems which creates an open platform for participation, engagement, and knowledge generation that is built on visualisation, questioning and mediation. The research has influenced organisations’ corporate reporting, accounting guidelines, management practices and governance structures. The new methodological approach has led to changes in business reporting for companies and organisations in Europe across a wide range of industries, including the UK-based Chartered Institute of Management Accountants and its American partner the Association of International Certified Professional Accountants, Italian banking institutions (ABI, MPS), a social-impact driven institution (ItaliaCamp), a world-leading energy company (Eni) and the European Space Agency (ESA).

2. Underpinning research (indicative maximum 500 words)

Busco has developed the ‘maieutic machine’, a theoretical framework that, through a combination of a rhetorical process of constant enquiry and the visual representation of data, enhances the effectiveness of traditional financial tools such as budgeting and reporting. The framework promotes greater flexibility, participation and the development of innovative solutions in the face of unexpected issues in reporting (**R1, R2, R3**). The term ‘maieutic’ - derived from the ancient Greek term *maieutikos*, ‘midwifery’ - refers to the Socratic method of generating knowledge by asking questions. The maieutic machine is based on constant enquiry, abandoning the assumption that the right course of action for highly risky and uncertain scenarios can be defined *a priori* and creating room for the elaboration of pragmatic, *ad hoc*, and creative ways forward.

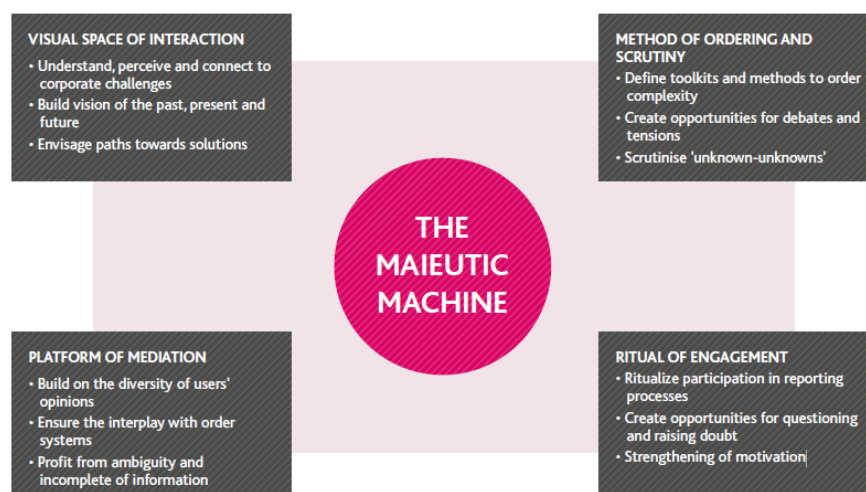


Figure 1: The four features of the maieutic machine. The diagram can be found on page 5 of IMP2.

The flexibility of the maieutic machine offers solutions that other accounting methodologies are unable to provide. Traditional accounting and reporting methods are incomplete and inefficient in helping companies navigate an increasingly complex world or support better decision-making

processes. Companies often view the collection of large amounts of data as a route to better decisions and consequently better results. However, no amount of data can prepare a company for uncertain, unpredictable scenarios, or so-called 'unknown unknowns'. The flexibility of the maieutic machine enables constant adaptation to an ever-changing reality and the development of creative reactions to address emerging issues more successfully while simultaneously enabling the reduction of organisational complexity (**R2, R3**).

Busco's research has analysed the evolution of discourses concerning sustainability, with a particular focus on integrated thinking and reporting, and suggests that the 'maieutic machine' could play a significant role in enhancing business sustainability (**R4, G1**). Busco demonstrates how accounting and reporting practices provide the conditions for sustainability when they build on the wealth of experience within an organisation, emphasising that 'aspirational' reporting by individuals can address the gaps left by conventional accounting representations, and lead to greater participation in the development of new practices and the creation of new knowledge (**R4**).

3. References to the research (indicative maximum of six references)

- R1** Busco, C., Quattrone, P. (2018) Performing business and social innovation through accounting inscriptions: an introduction, *Accounting, Organization and Society*, pp.15-19. <https://doi.org/10.1016/j.aos.2018.03.002>. CABS 4 rated.
- R2** Busco, C., Quattrone, P. (2015) Exploring how the Balanced Scorecard engages and unfolds: Articulating the visual power of accounting inscriptions, *Contemporary Accounting Research*, 32 (3), pp.1236-1262. <https://doi.org/10.1111/1911-3846.12105>. CABS 4 rated. Listed in REF2.
- R3** Busco, C., Quattrone, P. (2018) In Search of the 'Perfect One': How accounting as a maieutic machine sustains inventions through generative 'in-tensions', *Management Accounting Research*, 39(June), pp.1-16. <https://doi.org/10.1016/j.mar.2017.02.002>. CABS 3 rated. Listed in REF2.
- R4** Busco, C., Giovannoni, E., Granà, F., Izzo, M. F. (2018) Making sustainability meaningful: aspirations, discourses and reporting practices, *Accounting, Auditing, and Accountability Journal*, 31 (8), pp.2218-2246. <http://dx.doi.org/10.1108/AAAJ-04-2017-2917>. CABS 3 rated. Listed in REF2.
- G1** CIMA Grant. Practicing Integrated Thinking and Reporting: The Leading Role of Management Accountants (PI; 2015). £40,000.
- G2** CIMA Grant. Make Sustainable Strategy Happen through Integrated Thinking: The Power and Limitations of Accounting and Reporting (PI, 2018). £32,000.

4. Details of the impact (indicative maximum 750 words)

Busco's research has been adopted by institutions in the energy, aerospace and banking industries, leading to the development of improved and interactive reporting capabilities which has consequently resulted in a better integration of sustainability, management practices and governance structures.

The UK-based Chartered Institute of Management Accountants (CIMA), along with its American partner the Association of International Certified Professional Accountants (AICPA), was one of the first organisations to engage with and promote the principles of the maieutic machine (**R2, R3**). Collaborating with Busco since 2014, CIMA has adopted and applied the principles of the maieutic machine to their own reporting practices which are now conveyed to their students and associates. They have also financially supported the progression of the research into the practical applications of the framework, and promoted its dissemination among organisations across the world, through a series of workshops and the publication of research reports (**IMP1**). The first, *Dealing with the Unknown*, co-authored by Busco, was published in 2016 (**IMP2**). This report explores the practical application of the maieutic machine's conceptualisation, demonstrating how the adoption of the framework leads to the development of an innovative approach to accounting, governance and reporting in practice through a series of illustrative cases. Following this first report, CIMA

awarded a grant of £32,000 (**G2**) to Busco, to explore how the principles of the maieutic machine could be used to better understand ‘integrated thinking’. This is a management process that is critical to CIMA’s business portfolio, which connects financial and non-financial information to enable the adoption of a sustainable strategy by companies and organisations (**R4**). The research led to another report, *Integrated Thinking*, which details the changes implemented at Eni, the 6th largest energy company in the world, through engagement with the principles of the maieutic machine framework.

Busco’s research (**R2**) has been integral in contributing to the transformation of reporting and accounting practices at Eni. Between 2014 and 2016, Busco collaborated with Eni to integrate practices of sustainability within the business objectives of the company, with the intention of further developing Eni’s integrated annual report (**IMP3**). As a result of Busco’s research, the report now includes a revolutionary performance connectivity map to visualise links and trade-offs that were previously invisible. The connectivity map enables the company to better understand the trade-offs and execute its business plan, as well to implement a better model for capturing managers’ performance. This development is directly connected to Busco’s research, as acknowledged by Eni’s former Sustainability Planning, Reporting and Professional Community Manager: *‘Professor Busco’s “Maieutic Machine” was key for the design of an innovative connectivity map to be used as a visual space for interaction. We published the “performance connectivity map” in the company’s annual integrated report for 2015 (IMP3), which, as far as we are aware, was one of the first – if not the first – of its kind to be published within an integrated report. This innovative tool re-assessed the resources, the activities, the drivers, and the stakeholders that are material to the execution of the company’s business model, recognising the trade-offs, interests and risks that featured in the value creation process’ (IMP4).*

Through the engagement with Busco’s research, Eni has optimised the integration of sustainability within the business objectives of the company by making visible the relationship between social and environmental matters and financial performance. Their reporting methodology has been entirely remodelled in the process, and beyond the connectivity map it now also includes new information used to understand and represent how intangible resources and non-financial capitals are key drivers in the achievement of the business objectives that are included in the company’s strategic plan (**IMP4**).

The successful adoption of Busco’s research by Eni was the basis of a workshop delivered by Busco to the European Space Agency (ESA) in 2017 at their headquarters in Paris. During this workshop, Busco explained the theoretical and practical implications of the maieutic machine (**R2**, **R3**), showing the potential of integrated thinking as means of integrating tangible and intangible resources and performance. This means of reporting was recognised by ESA’s Head of Corporate Knowledge Management as being of *‘the utmost importance for an organisation such as ESA’ (IMP5)*. He also acknowledged Busco’s research as being key in showing that *‘the incorporation of integrated thinking practices is the way forward’ (IMP5)*. Since then, ESA has been working on the implementation of the maieutic machine framework in ongoing projects, which will result in a better understanding of how ESA’s tangible and intangible resources contribute to the development of optional programmes and missions (**IMP5**).

Between 2017-2018, Busco collaborated with the Italian Banking Association (ABI) – a voluntary non-profit organisation responsible for representing and promoting the interest of member banks – to design and implement a new set of guidelines for the banking and financial sectors (**IMP6**). These guidelines, co-authored by Busco, are deeply influenced by the principles of the maieutic machine (**R2**, **R3**), whose adoption *‘enabled to generate a working environment where participants were able to visualize problems but also possible solutions, and most importantly they were able to look for answers but also generate interesting questions as the project progressed’ (IMP7)*. As noted by the ABI’s Vice General Manager, *‘Prof. Busco’s research on integrated thinking and reporting as social and managerial innovation was extremely useful [in ensuring] the project took a holistic approach, not exclusively focused on accounting and reporting. His publications [R1, R2, R3], as well as the research report published in collaboration with [CIMA] [IMP2] were extremely*

useful to connect issues of accounting and corporate reporting with business models and organizational strategy' (IMP7).

ABI's guidelines resonated across the sector in Italy, even influencing the reporting practices of banks that did not directly engage with the ABI's initiative. This was the case of Monte dei Paschi di Siena Bank (MPS), where Busco's research has prompted the redesign of the disclosure of non-financial information in the annual report and the implementation of a new wave of internal training at all levels in the bank (R2, R3). The bank's internal reports have been transformed into visual interactive spaces which increase the understanding of environmental, social and governance needs, and their potential consequences for the business. The redesign consequently supported a better understanding of how intangible resources and non-financial capitals are key drivers in the achievement of short-term business objectives and long-term value creation (IMP8). The reporting exercises also include new sections to support the implementation greater sustainability practices in management (R4). According to the Head of Communication, Institutional Relations and Sustainability functions at MPS, *'Busco's research and collaboration [...] improved the integration of sustainability within our operations (R4), remodelled our non-financial reporting practices and, most importantly, developed a new understanding of the potential consequences of ESG matters for the financial and non-financial performance of the company' (IMP8).*

Alongside the work developed with CIMA, ABI and MPS, Busco has collaborated with Italiacamp, an impact-oriented institution whose practice centres around supporting the execution of social innovation projects in Italy. In June 2017, Busco was invited to present his research (R2, R3) at the Nice To Meet You G7 event, organised by Italiacamp in the context of the Italian G7 Presidency, and with the patronage of the Italian Ministry of Transport. Since then, Italiacamp, has collaborated with Busco to incorporate the principles of the maieutic machine in both the methodology and the contents of the company's ongoing projects dealing with social-environment impact measurement, management and reporting. Specifically, Busco's research (R4) transformed the company's understanding of how impact can be conceptualised, measured and managed, which resulted in Italiacamp creating and developing annual impact reports with their clients. The principles of the maieutic machine enabled Italiacamp to connect the outputs and outcomes of the 'theory of change' that the company had developed, with the impact evaluating methodologies used across the sector. This resulted in the company's increased capacity to identify the best ways to report and communicate impact to all the interested parties through processes of visualisation, questioning and mediation, and the development of *ad hoc* indicators on reputation and networking (IMP9).

5. Sources to corroborate the impact (indicative maximum of 10 references)

IMP1 Testimonial from Vice President Global Research and Development at the Association of International Certified Professional Accountants, the association that brings together CIMA and the American Institute of CPAs. 01/02/2021

IMP2 Document composed of the 2016 CIMA *Dealing with the Unknown*, and the 2017 *Integrated Thinking* reports, both co-authored by Busco.

IMP3 ENI's Integrated Annual Report (2015), re-designed to implement aspects of Busco's research (R2, R3), including the innovative performance connectivity map (p.24). 2015.

IMP4 Testimonial from the former Sustainability Planning Manager at ENI, focusing on the adaptation of Busco's research. 20/05/2020.

IMP5 Testimonial from the Head of Corporate Knowledge Management at ESA, focusing on the engagement and adaptation of the principles of the maieutic machine. 12/03/2021.

IMP6 *Linee Guida per la Rendicontazione Non Finanziaria in Banca*. ABI guidelines co-authored by Busco. 2018.

IMP7 Testimonial from the Vice General Manager at ABI, focusing on the impact of Busco's research in the development of best reporting practices and guidelines. 11/01/2019.

IMP8 Testimonial from the Head of Communication at MPS, focusing on the impact of Busco's research in the bank's reporting activities. 04/05/2020.

IMP9 Testimonial from the CEO and Founder of ItaliaCamp. 07/12/2020.