ChapTER 8.

Promoting the Use of Artificial Intelligence (AI) while Respecting Academic Integrity
The Case of the Business Science Institute[[1]](#footnote-1)
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1. Introduction

Observation and measurement marked the first scientific revolution, known as the Copernican Revolution. This was followed by the digital revolution. We may now be on the cusp of a third revolution: that of generative AI. All these revolutions have resulted from technological innovations that enhanced our powers of observation (telescopes, microscopes, X-rays, etc.) and later our computing capabilities (computers, information technology). Until now, producing knowledge from observation, calculation, or reasoning has been the privilege of the observer, experimenter, or theorist. By giving computers the ability to write, are large language models capable of replacing the scientific author's powers of observation, calculation, and reasoning? Are we indeed on the cusp of a third scientific revolution which, like its predecessors, will contribute to the growth of scientific knowledge? Or are we moving towards a new form of humanity, in which machines will match human capabilities to the point of becoming legitimate authors of research? Is generative AI about to disrupt the very notion of academic integrity?
All these questions are being asked and are provoking sometimes extreme reactions, reigniting the debate around the impact of technology on various forms of academic misconduct with even greater intensity.

We will answer these questions based on the experience gained at the Business Science Institute. First, we will present the specific features of our Institute. We will then discuss the questions of academic integrity raised by both doctoral candidates and faculty members when using AI tools. Finally, we will present the best practices we have implemented.

**The Business Science Institute:**

**A network organisation for doctoral candidates who are practising managers**

The Business Science Institute is an international academic network that is innovative in more ways than one: for over 10 years, without premises or a dedicated teaching staff, it has specialised in preparing students for a Doctorate of Business Administration (DBA) and in generating knowledge through manager-researchers. All doctoral candidates are experienced professionals who left the academic world a long time ago (the average age is 45).

The Business Science Institute organises its DBA programme both in person and online, in four languages. It has more than 200 doctoral candidates who are managers from 60 countries, and a network of more than 150 professors. Two hundred DBA theses have been defended, and more than 55 books have been published. The seminars given during the first year aim to immerse participants in current research issues and methodologies. To this end, bibliographic research, data collection and analysis tools are made available to them.

The uniqueness of this organisation goes hand in hand with respect for academic traditions. As such, the supervision of the doctoral student–thesis supervisor relationship, the functioning of the faculty (whose members come from different institutions), and the thesis award procedures have been recognised and accredited by AMBA (an international accreditation body for management education).

This environment allows for the observation of the behaviour of individuals faced with demands that differ from those of the professional world from which they come, and who are under pressure from the heavy workload imposed by the programme.

Since its creation, the Business Science Institute has set up a support system for its manager-researchers. This consists of providing them with tools to collect and analyse their data. As they often have neither the technical knowledge of these tools nor the time to learn how to use them, they are given assistance in this area. They remain responsible for conducting the interviews and interpreting the results of the data processing. This optional technical outsourcing is subject to a fee and must be approved by the thesis supervisor. The researcher is responsible for the groundwork: choosing the topic, reviewing the literature, formulating a research question, interpreting the results, writing the thesis, and formulating the managerial implications. This system, which has been in place for 10 years, covers approximately one in six theses and has been extended to collective research projects between colleagues in response to Covid-19.

2. THE EMERGENCE OF GENERATIVE AI FOLLOWING Covid-19

The beneficiaries of our support save time and carry out more comprehensive data collection and/or more in-depth analysis thanks to methods they would not have been able to implement on their own: the distribution of online questionnaires, the collection of large numbers of documentary sources, and the compilation of interview transcripts. This technological assistance enables them to discover new methods. Although offered by the organisation, this experience raises questions: could it be considered inappropriate, given that the researcher responded positively to the organisation's offers of support?

The Covid-19 crisis was seen at the Business Science Institute as an opportunity to launch collaborative research involving a number of professors and thesis supervisors who benefited from our support system. This enabled colleagues from different disciplinary fields, and accustomed to quantitative or qualitative approaches, to cooperate on a large project without worrying about areas they did not fully master. This experience not only led to the publication of two collective works (Kalika, 2020; Kalika & Beaulieu, 2021), but also to the proposal of CodataLab, which advocates the sharing of data and results produced and analysed with the assistance of a technological system and a facilitator. Participants discovered that the support they received enabled them to collect more data and to analyse it differently (Moscarola *et al*., 2022).

The emergence of generative AI led to an extension of this support, in three main ways.

**• Assistance with formulating research projects**

The professor in charge of the methodology seminar uses ChatGPT to review participants' projects. Since 2022, at the beginning of the seminar, participants have received a copy of a dialogue in which ChatGPT’s responses provide an overview of their project, based on prompts from the professor. This feedback is well written, neutral, and supportive. It offers each participant comments on their research question, relevant reference theories, and possible methods for field observation. These texts also enable the professor to illustrate key points during the seminar.

**• Coupling with traditional tools**

Further downstream, to interpret results and give meaning to the data, traditional tools for statistical analysis and textual data analysis are coupled with ChatGPT. The assistance covers a set of methods and tools that "augment" the doctoral candidate’s capabilities (Moscarola, 2024). This gives them the opportunity to discover how to use Sphinx on their own data, combining it with ChatGPT to guide their research and become more productive. The time saved can then be used to deepen their observations and improve data quality.

The originality of this case lies in the fact that it concerns a population of doctoral candidates and supervisors for whom this support can compensate for the absence of the assistance usually provided by a traditional research laboratory. However, these practices alter the existing balance and raise questions about the relationship between AI and academic integrity.

**• The challenge of AI to academic integrity**

AI presents a challenge by bringing technology and ethics into collision, reminding us that the emergence of generative AI coincides with the strengthening of academic standards, as reflected in numerous commentaries. This opposition, or convergence, is rooted in the profound ambiguity of these notions, making it difficult to fully consider the conditions for their synergy, as both rely on a misuse of language. This misuse has been adopted for reasons of convenience, as both forms of AI give the illusion of great efficiency — in research production on the one hand, in the reputation of the researcher on the other, and ultimately in the success of the doctoral candidate.

3. AI AS artificial Intelligence

Here, we are primarily concerned with generative AI, which, since its emergence, has created confusion between AI in the broad sense and large language models or Pretrained Transformers, trained to produce texts that create the illusion of intelligence capable of autonomous writing.

AI remains an obscure and poorly named technology: as an artefact, it does not model the consciousness and knowledge that constitute human intelligence, but its effectiveness creates an illusion.

Large language models operate through very simple processes, establishing connections with the texts on which they are periodically trained. Andler (2023), following Floridi (2014), refers to this vast mass of data as the "numerisphere", indicating that it contains all the digitised knowledge with which AI is trained. The larger the training base, the better the result (Le Cun, 2019). The output is not only intelligible but also meaningful to the reader, because the texts produced bear the traces of the knowledge incorporated into the numerisphere.

However, while technology makes it possible to produce grammatically correct writing, it has no awareness of what it is writing. Thus, in early applications, "hallucinations" and nonsensical outputs were frequent (Bender *et al*., 2021). Most of these aberrations have been corrected through various forms of supervision. Nevertheless, the doctoral candidate remains solely responsible for the credibility they grant to what AI produces. Their interpretation depends entirely on how they have formulated the question. They alone possess intelligence, and no intelligence, in the human sense, can be attributed to these technologies, whose functioning remains entirely opaque.

Yet the illusion persists, even though AI only produces plausible outputs that should always be examined critically and checked against facts or logic. Ultimately, everything depends on how the tool is used — and on the intelligence of the user. AI can be effective if the question is very simple and the answer is readily available within the numerisphere, much like using a sophisticated search engine. It becomes valuable when, through a succession of questions, it is used to dig deeper, to seek ideas or references that one might not otherwise have considered.

Admittedly, AI enhances thinking abilities and can be very useful for producing relatively short texts — one or two pages, or a few paragraphs. However, it has its limits: the length and logical coherence of the texts rely solely on the connections established from the words in the question, on which the quality of the results depends. The more detailed the question (the prompt), the longer the response; the more the question is reasoned or constructed around an argument, the further the text produced will move away from a simple listing of themes and sub-themes.

Consequently, the proper use of generative AI depends above all on the intelligence of the doctoral candidate, who must be able to supply the tool with the reasoning they wish to develop. This is the major difference with other forms of AI, which are designed to solve well-specified problems by providing directly actionable solutions (e.g., autonomous cars, credit allocation).

The art of prompting thus becomes crucial. Generative AI is a complex and opaque system whose use needs to be mastered: it requires knowing how to ask the tool questions by providing it with context, supplying the specific information available, and specifying what is expected. These three elements are key to developing the prompt, which refers both to the question asked and the text received in response. It constitutes the window of interaction between the user and the tool.

Prompt engineering — the ability to formulate clear, precise, and contextualised instructions to guide AI models — has become an essential skill in using generative AI effectively. As ChatGPT itself summarises:

*"Using ChatGPT well is a bit like mastering the art of conversing with a teleprompter. It's about knowing how to ask the right questions in a precise and clear manner, and then reading carefully and understanding the answers in order to continue the conversation effectively. This often involves refining subsequent questions based on the answers received, gradually getting closer to the desired information. It’s an interactive process that can be very rewarding once these steps are mastered."* (ChatGPT)

Similarly, Crabtree (2023) defines prompt engineering as "crafting the right questions or instructions to guide AI models, especially Large Language Models (LLMs), to produce desired outcomes."

The importance of mastering this practice has led to numerous publications and training initiatives (Frimousse & Besseyre des Horts, 2023). Both doctoral candidates and their supervisors should be trained in this area, as the simplicity and apparent effectiveness of generative AI can easily lead to clumsy or inappropriate practices.

4. The perspective of academic integrity

Academic integrity, as an ethical imperative, is paradoxical in that it applies to researchers as individuals while placing them within the collective context of an institution. Beyond the tension between the individual and the institution, the paradox also lies in the differing aims of research — to innovate and create new knowledge — and of institutions — to preserve and establish the shared knowledge of a discipline. On the one hand, individuals seek to distinguish themselves by contributing new insights; on the other, the organisation sets a frame of reference for those who wish to be part of it. Thus, authentic researchers will seek at all costs to innovate and exercise their freedom, even if this means challenging the rules imposed by their discipline, in order not to renounce critical thinking or creativity.

While certain conventional rules specific to each paradigm may indeed hinder this freedom, other more universal rules must be upheld. These include the ethics of transparency (citing sources, disclosing data) and simple intellectual honesty, which entails not taking credit for others' ideas or falsifying data. This is the stance advocated by IFRAPA (Uhaldeborde, 2023; Bergadaà, 2021; Bergadaà & Peixoto, 2023). Thus, the tension highlighted above disappears at the level of the more universal moral and ethical values that underpin academic integrity.

The emergence of AI has reignited debates on plagiarism: it enables researchers to claim writing ability by copying text produced by a machine, without it being factually possible to prove this. Several articles have denounced the misuse of AI, driven either by pressure to publish (Diallo, 2023) or by the abandonment of critical thinking in the face of bias and potential "hallucinations" (Godé et al., 2023). The development of generative AI could transform the research landscape by producing text-like outputs without identifiable authorship, which cannot be recognised as such because detection software may signal anomalies but cannot establish proof as in the case of textual plagiarism.

While generative AI saves time and provides a source of inspiration, it also increases complexity and demands new forms of ethical vigilance. In short, AI represents a major challenge for academic integrity.

For supervisors and professors, the main risk is not so much misuse as a tendency towards overly hasty rejection, prompted by fears of being replaced or of a loss of responsibility as authors, fears of hallucinations and learning biases, and the unresolved questions of copyright and the cultural hegemony of major technology firms. For their part, doctoral candidates often fear that their supervisors view AI negatively. One recent doctoral candidate, for example, reported that he used ChatGPT but felt ashamed to admit it: he used it for bibliographic research, to read summaries of articles before deciding whether to read them in full, to explore concepts he did not fully understand, or to check interpretations suggested by his data analysis. Such reactions are unjustified: as long as doctoral candidates do not copy ChatGPT’s answers verbatim without acknowledgement, there is no shame in using a tool that aids critical thinking. After all, do we not already cite the software used for interview analysis?

To explore this reaction, we submitted it to ChatGPT[[2]](#footnote-2). What emerged was a fear of judgement based on the presumption of dishonesty — as if merely using such a tool were itself suspicious. This reaction appears to be widespread, as research on perceptions of AI also shows (Ocal, 2023). There is a fear that even mentioning ChatGPT might cast doubt on the originality of the content. In addition, the opacity of the technology can trigger a sense of loss of control and uncertainty among those unfamiliar with its use (Lebovitz et al., 2022). These individual reactions reflect a lack of mastery, creating a contradiction between the perceived effectiveness of the tool and doubts about its legitimacy.

They can also be linked to the broader institutional context. Since their emergence, generative AI tools have provoked mixed reactions within academia. Initial reluctance often concerned student assessment: how can essays be evaluated fairly if it is impossible to know whether they have been written by humans or machines? (Moscarola & Chauhan, 2024). This issue has since been addressed at an institutional level through the introduction of new rules (Bieliauskaite, 2021; Macleod & Eaton, 2020) applying both to researchers’ publications and to students’ work. These rules aim to uphold academic integrity through two types of strategies: circumvention or integration (Anctil, 2023).

Circumvention involves prohibiting the use of generative AI, favouring supervised written exams, or excluding researchers who use such tools from publication. Integration, by contrast, legitimises the use of generative AI alongside other knowledge technologies, provided that its use is cited and the way it was employed is specified (Bergadaà, 2023).

5. Reconciling artificial intelligence and academic integrity

Provided that these two concepts are reduced to their true nature — tools and human behaviours — it should be possible to consider their complementarity, combining efficiency on the one hand and ethics on the other.

Generative AI is highly effective in facilitating researchers’ work, particularly in drawing on academic references, identifying research questions, exploring the world of ideas and knowledge, interpreting data, and communicating results (Moscarola, 2024). However, AI systems remain unfamiliar with the world of phenomena and are inherently behind the times. As "stochastic parrots," they are limited to the data on which they have been trained and thus contain no new knowledge per se (Bender *et al*., 2021).

Yet the discovery and creation of new knowledge is the *raison d’être* of researchers and the foundation of their identity.

The time saved through the use of generative AI in drawing on existing knowledge enables researchers to concentrate on the thinking that leads to the generation of new knowledge. This virtuous use of AI can help prevent the collapse of academic research into a closed, self-referential system (Peterson, 2024). Indeed, widespread use of AI could lead to a situation where training data no longer allows AI systems to regenerate the knowledge they help to disseminate. In such a case, it would be the integrity of knowledge itself that would be threatened, as a consequence of researchers' failure to uphold academic integrity. In this way, the productivity enabled by AI tools can contribute to the genuine advancement of knowledge — an advancement secured by unwavering respect for academic integrity.

6. Practices for the various stakeholders at the Business Science Institute

The Business Science Institute is aimed at professionals supervised by a faculty drawn from numerous universities. It offers doctoral candidates technological support of an unusually high quality, enabling them to benefit from the expertise of professors who are pioneers in the field of AI. These special conditions, combined with the flexibility of the organisation, have encouraged the adoption of rules (or practices) that reconcile the possibilities offered by AI with the principles of academic integrity in the support provided to researchers.

For doctoral candidates, who are often unfamiliar with the tools commonly used by researchers, this represents an opportunity to discover what Stiegler (2016) calls "knowledge technologies." For researchers, these technologies also mark a break with the qualitative tradition in which researchers would read, observe, reflect, and write without relying on technological devices. This tradition preceded the current era, in which bibliographic databases, search engines, and data collection and analysis software (Excel, SPSS, NVivo, Sphinx) provide researchers with tools enabling them to collect more data and process it faster and more objectively. Such tools "sign" research papers as much as their authors do, through the methods employed and the results produced. Their use is legitimate *a priori* and simply needs to be facilitated. It is less legitimate, however, to assist doctoral candidates by selecting the method for them and implementing it on their behalf. This optional technical assistance replaces the mutual support once found in physical laboratories, recreated remotely through the Business Science Institute Lab.

It is important to understand the strengths and weaknesses of the various generative AI tools. ChatGPT, for example, does not have a strong reputation in the research community. Nevertheless, it is accessible and can provide valuable support. However, the outputs it generates are merely plausible approximations, offering no proof or objective guarantee of truth. It is therefore up to the user to validate them before taking ownership as an author. "ChatGPT wrote..." does not carry the same truth value as a reference, table, graph, or verbatim quote produced by Scopus, Excel, or Sphinx. Nevertheless, it is sufficient to explain to doctoral candidates how to use ChatGPT properly: by formulating a question and interpreting the responses to develop their thinking further. As ChatGPT itself reminds us: *"Learning how to formulate a prompt, like learning how to formulate a question, is an exercise in thinking. Using ChatGPT requires thinking carefully about what you want to know. That's already a big part of the work. Then, it is crucial to read the answers to identify what has been omitted or points of disagreement. Building a prompt and continuing the conversation with ChatGPT is a process that allows you to develop and refine your thinking".* Thus, citing ChatGPT is consistent with the ethics of research writing. However, it is important to note that the publication rules of some scientific journals may prohibit its use.

7. Discussion

For an organisation such as the Business Science Institute, whose sole activity is supporting manager-researchers and evaluating their doctoral work, the question of academic integrity in relation to the use of AI is crucial. This is why we have established rules intended to prevent a recurrence of the unfortunate incident in which a student's thesis defence was cancelled after a jury member noticed that some of the bibliographic references were "hallucinations" — in other words, they did not exist.
This incident also exposed a flaw in the control procedures, which had been applied to the body of the thesis but not to its bibliography. Since then, particular attention has been paid to verifying the existence of all references cited.

**Our measures to reconcile artificial intelligence**

**and academic integrity**

These requirements are aligned with the ‘Responsible Doctoral School’ certification awarded to the Business Science Institute by IRAFPA in September 2023.

**1. Raising awareness of academic integrity:** From the outset of the programme, students are made aware of academic integrity requirements. They are given access to anti-plagiarism software (Turnitin) before the first seminar, and are informed that all documents they submit will be checked using this software. This process alerts them to any issues related to source citation.

**2. Training on the responsible use of AI:** More recently, we have produced a series of six training videos on the use of ChatGPT at all stages of the research process; these are available via the Business Science Institute’s Moodle platform. Their purpose is to raise students' awareness of both the potential benefits and the limitations of AI tools.

**3. Transparency on the use of AI tools:** We require students to specify, at the beginning of their thesis, any assistance they have received and the ways in which AI tools have been used. In particular, we ask them to include the prompts provided to AI tools in an appendix. This information makes it possible to clearly distinguish between the researcher’s own contributions and the work facilitated by AI.

4. **Recognising the diversity of attitudes towards AI:** While academic integrity is a value shared by all professors, attitudes towards the contributions of AI are more diverse. It is through ongoing training in academic integrity that faculty members can address and overcome these apprehensions.

The time freed up by using AI to search for and draw on academic references allows researchers to devote more energy to scientific observation itself. AI also helps to guard against the pitfalls of research that is exclusively focused on itself. Used virtuously, AI tools can contribute meaningfully to research, and for this reason, their integration into management education is essential.

This points towards the synergy that can be found between artificial intelligence and academic integrity: it lies in the "I’s" — intelligence and integrity — and the "A’s" — artificial and academic. To achieve this, the practical logic underpinning the technologies must be brought into alignment with the wisdom of academic institutions — as ChatGPT itself might suggest!

There is still a long way to go, as the revolution mentioned in the introduction is only just beginning. The experiment conducted at the Business Science Institute forms part of this movement, whose success will depend in large part on the individual commitment of thesis supervisors.

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1. Translation of the French version by Stephen Platt, Business Science Institute. [↑](#footnote-ref-1)
2. . https://chat.openai.com/share/c2624a20-d6fd-4c4b-8368-6bf4ec1a78a5 [↑](#footnote-ref-2)