

Title: **The effects of teaching ethics on prospective and past MBA students**
Testing decision-making from radical constructivism perspectives

Field of study: Ethics in business education

Purpose: Dissertation for obtaining the degree of Master in Business Administration

Author: Miro Akuabo Osório

Thesis Supervisor: Prof. Joana Corrêa Monteiro

Date: February 17, 2022

Table of Contents

- 1. INTRODUCTION..... 1**
 - Overall aim of the thesis 1
 - Thesis structure 1

- 2. LITERATURE REVIEW 1**
 - Ethics: Working definition 2
 - Radical constructivism: Concept and working definition..... 3
 - The role of knowledge for decision-making behavior..... 5
 - The role of business education for knowledge creation..... 7
 - Ethics in the business environment 9
 - The role of ethics courses in business education..... 10
 - Neurobiological perspectives on the learning of knowledge 11
 - Usefulness and limitedness of concepts, definitions and information 13

- 3. SURVEY 14**
 - Research setup 14
 - Methodology..... 16
 - Questions posed..... 17
 - Surveying process..... 18

- 4. FINDINGS AND DISCUSSION 19**
 - Presentation of basic findings..... 19
 - Highlights within subpopulation samples..... 21

- 5. EVALUATION AND CONCLUSIONS 23**
 - Hypotheses evaluation..... 24
 - Conclusions on research questions and problem 24

- 6. IMPLICATIONS AND LIMITATIONS..... 25**

- REFERENCES..... 26**

- APPENDIX..... 29**

Acknowledgements

I would like to thank my thesis supervisor Prof. Joana Corrêa Monteiro, who had her door always open to my requests and who guided but also challenged me in a way that allowed me to progress very constructively. Prof. Corrêa Monteiro was not only giving me good advice but also steered me in the right direction whenever it was needed. Furthermore, she consistently showed genuine interest in my work while allowing this thesis to be my own work. I am grateful for that.

I would also like to thank all 170 participants in my survey without whom I could not have gathered data for this academic work. Their participation and responses - in the survey but also in their messages to me apart from that - gave me a lot of insights and motivation.

Moreover, I like to thank Prof. Tommaso Ramus for having offered an ethics-focused course during my Master of Business Administration together with the Program Affairs of The Lisbon MBA. Through their work and efforts, I developed the interest in choosing such field of research.

Lastly, I like to thank my entire family, especially my partner and my parents, to have supported me continuously throughout my entire academic formation(s) including their enhanced support during my time working on this thesis. Without them I couldn't have accomplished this. Thank you.

Author

Miro Akuabo Osório

Abstract

A review of existing scientific literature on ethics as a systematic study of values and social norms and on radical constructivism as the theory for knowledge construction forms the basis of this academic work. Then, knowledge, as justified beliefs which are repeatedly unfalsified, for decision-making in problem-solving within a business context is explored to understand its importance for business ethics. Further, different decision-making types in accordance with neurobiological activities and perspectives link to the interpretation of teaching ethics as a contributor to an individual's increase in intelligence and together lead to the understanding of business education as a key factor to ethical behavior in business.

Even though arguments from reductionism or determinism shed some doubt on effect predictions on decision-making coming from radical constructivism, a useful concept for scientific exploration and explanation could be built with it. A survey with 23 questions bridged the theory with practical examination. The results indicate a higher value attribution to Master of Business Administration programs when offering ethics courses and a first indication of a positive impact of the learning in those courses onto individuals' decision-making for ethical problem-solving could be found.

Glossary of Abbreviations

BE	-	Business education
DM	-	Decision-making
DMP	-	Decision-making process
EC	-	Ethics course
KC	-	Knowledge construction
MBA	-	Master of Business Administration
PS	-	Problem-solving
RC	-	Radical constructivism

List of illustrations displayed

1. An individual's stages for knowledge construction, own representation (p.4)
2. Knowledge in a business and in an industry adapted from Goddard and Eccles, own representation (p.9)
3. Conceptual framework for survey in graphical representation (p.16)

List of tables displayed

1. 3x3 Matrix: Decision-Making Phases & Problem-Solving Types, own representation (p.5)
2. List of questions after grouping in subpopulations displayed in sequence (p.18)

1. Introduction

With this thesis, readers get an interdisciplinary approach to decision-making, understood as something that is influenced by learnings. Several concepts are explained and used, allowing for theory to be investigated in practice. The following sections in this chapter shall allow readers to get acquainted with the work as well as with its aim and structure before investigating existing scientific literature.

Overall aim of the thesis

This work aims at understanding if and how ethics courses (ECs) in Master of Business Administration (MBA) programs contribute to knowledge creation as understood from radical constructivism (RC) perspectives, as well as what effects that may have on prospective and past student's decision-making processes (DMPs). It seeks to clarify doubt on what knowledge is gathered or expected to be gathered in ECs. This is done with a survey, letting prospective and past business students self-evaluate (anticipated) changes in their current and future decision-making (DM). Hereby, two participant types are sought for: Individuals not having and individuals having completed an MBA. Gathering data from those, this thesis focuses on what knowledge is understood to be constructed in ECs and how that, in turn, affects an MBA evaluation as well as career and job-related DMPs. While business education (BE) may encompass more than the development of individuals through KC, e.g. the building of networks or the formation of character, this thesis disregards those. It, therefore, doesn't aim to establish a holistic understanding of individuals' developments but seeks to add value on two important factors for individuals and organizations with regards to ethics: knowledge and DM.

Thesis structure

As Ernst von Glasersfeld, a well-known scientist in the area of RC, highlighted in 1984, language "inexorably forces us to present everything as a sequence" (von Glasersfeld, 1984, p.17) and so also the following chapters have to be presented one after another. The structure is chosen to present information in the best way comprehensive to readers as well as to support the construction of knowledge. A review of existing scientific literature on ethics, RC, knowledge DM and BE is performed, before the research setup with its survey is detailed. Thereafter, a critical discussion of gathered data takes place and key findings are presented. Lastly, implications for MBA program providers and limitations for their interpretation and use are highlighted. This order provides a systematic approach to this research, but, expressed from an RC perspective, should not be understood as a logically necessary sequence. Only the interrelation of all sections may construct new knowledge in the readers' minds.

2. Literature review

For the correct understanding of this work, the two concepts from the thesis subject have to be explored: ethics and RC. After giving working definitions, key relational aspects of the concepts will be investigated, so that the role of ethics in BE in connection to RC can be understood more precisely.

Ethics: Working definition

The discussion on how to define ethics is ongoing for millennia and yet unfinished, though several prominent suggestions arose. For this thesis, those suggestions coming from Immanuel Kant in his *Groundwork for the Metaphysics of Morals* (Kant, 1785) shall be used as a basis. The first reason for this is that Kant's work answers two big questions: what the supreme principle of morality is and how freedom is possible (Sandel, 2005). This helps to grasp the relevance of ethics for civilized humanity by understanding societies as groups of humans, who all are beings having developed from the same natural state and who possess common basic traits even if having diverse backgrounds. It also helps understanding humans as being free, i.e. able to act according to a law one gives oneself, which is understood as essential to choose in any kind of DM. The second reason is that Kantian thinking can be useful in defending the concept of corporate moral responsibility by claiming corporations as responsible agents. With such thinking, moral conduct assessments can be understood as based on whether "actual decisions duly acknowledge all relevant moral principles" (Dubbink & Smith, 2011, p.238) and by that, the corporate DMP becomes the relevant object of ethical behavior in business, which in turn involves individual humans, each with a unique set of knowledge.

Kant separates three basic categories within the science of knowledge: logics, physics and ethics. These might nowadays be too general categories for a deep understanding of science and knowledge construction (KC) in its variety of disciplines, but they give a good overview of what all modern disciplines are grounded in and how they may or may not interrelate. Kant distinguishes logics, with a non-empirical basis, from physics and ethics, both with an empirical basis, and then rephrases physics as natural philosophy and ethics as moral philosophy. Kant claims that both are concerned with laws, but that natural philosophy is concerned with "the laws to which everything happens" (Kant, 1785) while moral philosophy is concerned with "the laws to which everything ought to happen" (ibid.). To this, the clarification of the concept of morals or morality might be helpful to further define the concept of ethics, since both notions are related and even used interchangeably by some authors (e.g. ethics as equivalent to moral philosophy). Morality, then, shall refer to (1) values, i.e. desirable goals for people that serve them as guiding principles across various situations in their lives, varying in importance (Bardi & Schwartz, 1996) and (2) social norms, i.e. "informal rules that govern behavior in groups and societies" which combined to a norm system "specifies what is acceptable and what is not in a society or group" (Bicchieri et al., 2018) and which "is not the product of human design" (ibid.). Both values and social norms define right and wrong for individuals and communities.

Using the above, the working definition for ethics in this thesis shall be: "Ethics is a systemic study of values and norms that shall prevail in the existence of communities and individuals gathered through an understanding of both a supreme morality principle embedded in human nature and each human's freedom. Taking these as the desired conditions of a civilization, it seeks to investigate their match to the existing conditions, combined with a continuous examination, pro- and reactive, of one's knowledge as well as the lack of one's knowledge about same."

Radical constructivism: Concept and working definition

Beginning with von Glasersfeld's (1995) words: RC "starts from the assumption that knowledge, no matter how it be defined, is in the heads of persons, and that the thinking subject has no alternative but to construct what he or she knows on the basis of his or her own experience" (p.1). From these words, key ideas of the concept can be grasped but further understanding of what "knowledge" shall mean seems required. Here, epistemology, understood as the theory of knowledge and justification (Audi, 2018) together with understanding knowledge as justified and true belief (de Grefte, 2021), can help. According to Audi (2018), in order to understand what we know, we have to understand "how the world affects us" (ibid., 00:01:29) and for that, he argues, knowledge has to be differentiated from belief in as "knowledge is always of truths, or realities, belief is not" (ibid., 00:01:37). Here, justification comes in: if a belief has a justification, there is reason for its proposition. This justified belief has the potential to be turned into knowledge. A good example is someone using a clock (justification) to grasp the current time (belief) and to state or claim it (proposition). This proposition can be created through things like memory, perception and reasoning. Now, a critic could come up when taking the concept of time as a given while it is actually not proven as being real, i.e. independent from humans. Here, the concept of time shows the linkage of RC and knowledge: Whether time is real cannot be determined through humans - it may but it may also not -, we can only say with certainty that it exists as a construction in our minds.

Now, since RC takes knowledge as bound to an individual, can society at large claim to possess knowledge, that it could for example teach to its students? Looking again at the concept of time we don't know whether it is real and therefore a human discovery or whether it is not and therefore a human innovation. If someone proposes a time, other people might agree with that proposition, but only because they constructed the same or highly similar knowledge about it in their own mind. Knowledge from an RC perspective can thereby "be seen as something which the organism builds up in the attempt to order the as such amorphous flow of experience by establishing repeatable experiences and relatively reliable relations between them" (von Glasersfeld, 1984, p.5). These experiences can be of that individual with only himself but they can also be in between the individual and others, e.g. as in education. Society thereby does neither possess knowledge centrally nor can with certainty claim to access human-independent knowledge. This leads to the understanding of the context of knowledge as represented in models, e.g. the geographical context (being taught which year it is leads to different KC if done in China or Portugal). For the concept of time, this means that when someone states a time, he refers to a model of reality - here time as a measurement of changes in perceived reality, e.g. from day to night - and places it in a certain context, e.g. the defined time in the geographical zone he is in. Then, for claiming it to be true and therefore knowledge, what really matters is, that "...phenomena, that we know directly, fit in those models." (van Fraassen, 2018, 00:03:58).

This leads to the next important notion: Falsification. Subjects can construct knowledge about the real world, such as is done with theories about same. Those can be taken as the most accurate representation of reality but only until flaws or errors in the theory are detected. These failures, recognized by humans, can only be described and explained in the same concepts already constructed up to that point. That is why KC of any kind can never be taken as ultimately true and can in principle

not be confirmed as independent from humans. This is similar to what Karl Popper (2002) already highlighted in his work *The Logic of Scientific Discovery* about the necessity of a falsification principle in science: The *real world*, i.e. any truth that might exist independently from one or many subject(s), only shows itself where the constructions fail. In practice, this means that beliefs can be shown as right, if both the belief and its justifications are not falsified (justified true belief) or can be shown as wrong, if the belief or its justification is falsified (justified or unjustified wrong belief). As examples shall serve again time propositions: someone in Portugal using his clock (justification) to form an opinion about the current time (belief) and states it (proposition), has a justified true belief if the clock was working. His belief was formed in accordance to the context - here the Portuguese time zone - and the proposition was formed correctly. On the contrary, someone doing the same but using a working clock without having realized the time shift that occurred in Portugal a night before possesses a justification but a wrong belief (justified wrong belief) while someone using a non-working clock ends up with no justification and a wrong belief (unjustified wrong belief) or no justification and a right belief (unjustified true belief), e.g. when by chance the time on the clock was the exact right time in Portugal.

Here the last important notion for RC comes in, as also described by Audi (2018), which in this work is called *generalized knowledge*, i.e. knowledge that people in certain contexts, e.g. society- or age-dependent, take as given or even as unquestionable. This can be logical knowledge, e.g. as done in the idiomatic context, in which “blue is a color” is true by definition, or similarly with $1+1=2$ in mathematics. The same can be seen with physical knowledge, e.g. about the existence of gravity, but also with ethical knowledge, e.g. about basic moral principles such as people having free will in several justice system contexts. A mechanism for the construction of the latter can be exemplified as follows: From placing my hand on a hot stove, pain will occur to me, therefore I should not place my hand there again (self-observation). And as that is true for me (a posteriori knowledge about myself), it must also be true for others (belief). Now, two approaches can be used: (1) Knowledge about pain avoidance preferences of all humans is constructed through reasoning, leading to *a priori knowledge* about all humans or (2) knowledge about pain avoidance preferences of all humans is constructed through observations, leading to a posteriori knowledge about all humans. Below illustration summarizes all described processes in KC from an RC approach and shall help to get an overview:

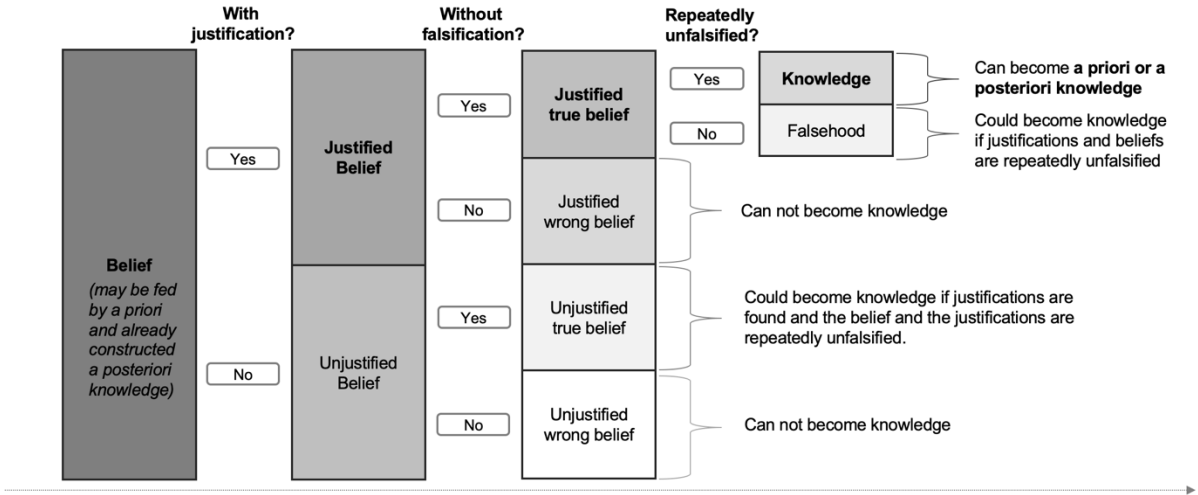


Illustration 1: An individual's stages for knowledge construction, own representation (see also Appendix A for a list with details)

Using the aforementioned, for this work the following definition shall serve: “Radical Constructivism is a theory of knowledge, which sees knowledge as constructions in human minds and claims those as the only access for humans to knowledge. These constructions are formed by individuals using justification(s) that show beliefs as true, when, in repeated contextually relevant observations or reasonings, neither the relating justification(s) nor the belief are shown as false by the individual with himself or with the contextually relevant society.”

The role of knowledge for decision-making behavior

This work takes DM basically as a cognitive process that involves reasoning based on values, social norms, justifications, beliefs and knowledge with the aim of selecting a course of action among various obtainable alternatives. This is similar to some psychological science approaches in which DM is taken as an individuals’ “ability to choose appropriate means to achieve their ends” (Hastie & Dawes, 2010, p.1). In a business context, as also pointed out by Simon (1960), DM can be treated synonymously to managing and shall “be referring not merely to the final act of choice among alternatives, but rather to the whole process of decision” (ibid., p.1). According to Simon, “Decision making comprises three principal phases: finding occasions for making a decision; finding possible courses of action; and choosing among courses of action” (ibid., p.1).

In other scientific literature, DM is often also referred to as problem-solving (PS) or as making an integral part in it (March, 2013). When looking at PS in more depth, 3 types can be extracted: Reactive, proactive and preventive. The matrix shown below combines Simon’s DMP with PS and shall serve as a guideline:

<i>3x3 Matrix: Decision-making & problem-solving</i>	Reactive problem-solving	Proactive problem-solving	Preventive problem-solving
1. Decision-making step: Finding occasions for decision-making	Encounter of decision-making necessity due to immediate need of action <i>e.g. lack of drinking water at office</i>	Assuming the the need for decision-making on the occurrence of a problem <i>e.g. likely we are going to run out of drinking water once a week</i>	Understanding the continuous reoccurrence of a problem <i>e.g. we are running out of water every Thursday</i>
2. Decision-making step: Finding possible courses of action	Immediate identification of options <i>e.g. I go to the supermarket, send someone to the supermarket, order water online</i>	Anticipation of occurrence leads to early identification of options <i>e.g. whenever running out, someone can go to the supermarket or we can order online</i>	Understanding of reoccurrence leads to standardized problem-solution options <i>e.g. since we run out every Thursday, we could go and buy but could also have more water in stock</i>
3. Decision-making step: Choosing among courses of action	Choice is done in the moment <i>e.g. I go to the supermarket</i>	Choice is taken beforehand <i>e.g. whenever running out, employee X will go to the supermarket</i>	Problem-occurrence is prevented <i>e.g. instead of buying water when running out we'll stock for the whole week and order for refill on Fridays</i>

Table 1: 3x3 Matrix: Decision-Making Phases & Problem-Solving Types, own representation

Now, for any DM, knowledge is required in all three decision making steps: 1) finding the occasion, e.g. “I know this is a reoccurring problem that requires a decision in order to prevent it”; 2) finding courses of actions, e.g. “I know several ways to prevent the problem from occurring”; and 3) choosing among courses of action, e.g. “I know of how other people have been dealing with similar problems in the past and their success rates and therefore think the best way to go is X”.

Decision-making from a neurobiological perspective

In what is sometimes also termed a neuroeconomic approach to DM, neuroscience uses “formal mathematical models to estimate parameters that modulate individual choice behavior and make quantitative predictions about the neural signals” (Hartley & Somerville, 2015, p. 108). By doing so, it can be understood what DMPs are changing during the development of individuals, e.g. in their adolescence, and, by using reference groups, development changes can be measured and compared. This is done through isolation of DM in different contexts, e.g. among different age groups or similar. The learning of knowledge may lead them to approach decisions differently, but the overall development seems to not necessarily be linearly progressing over one’s lifetime but rather as with punctual jumps or shifts (Hartley & Somerville, 2015), e.g. caused by contextual differences such as present from childhood to adolescence to adulthood (Byrnes, 2002). With research from such approaches, some neuroscientists were able to propose five distinct DM types in accordance with their activities in the human brain, as presented by Gerhard Roth (2013a). These can be categorized into two groups relating to the time pressure: two types of *decisions under time pressure* as well as three types of *decisions without time pressure*. In the following they will be detailed:

First category: decisions under time pressure

Routinized (automatic) decisions as the first type of this category are fast and precise, don’t require thinking and are based on long-term prior experiences and training. In the brain, they are located in the area of classical and operant conditioning as part of the learning center, where also an individual’s habits are incorporated - see later section on learning for more information. Prominent examples are bicycle-riding, playing an instrument or memorized speeches. Incorporating those has bumpy starts and needs much attention but with time they are mastered, and less attention is needed or even becomes detrimental. They are highly stress-resistant but have a big disadvantage: they are adjusted to problems in a very specific context and are highly inflexible. Over time, related neuronal networks establish in the brain, become more solid and are connected more sparingly, making them hard to change.

Affective-impulsive decisions (“gut feeling I”) as the second and last type of this category are mostly taking place under high time pressure, high stress and great dangers. They are connected to strong emotions, i.e. affects, and lead to simple reactions of fight – attack or defence -, flight or freeze. This type shows reflex-like reactions, that are happening based on more or less established neuronal networks in the brain, which could also be termed “archaic”. They are heavily inflexible and mostly incompatible with the modern natural, social and technical environment of human beings.

Second category: decisions without time pressure

The first type of this category, pure emotional decisions (“gut feeling II”), are taken in situations in which rational and emotional motives are relatively balanced or individually not applicable to the situation if used exclusively. Examples are the choice of a partner or a profession, the purchase of a car or a house, but also ordinary purchase decisions without concrete aims. Typically, these involve long DMPs with a back and forth on the motives. While most often the final DM is based on emotions, the motives remain totally or partly unclear to the individual. This is because the related brain activities are in areas such as

the limbic system, which are not in detail accessible to the individuals' consciousness. Also, other parts of the brain such as the mesolimbic system are involved, which have mostly been emotionally conditioned in childhood and youth relating to a person's fear, desire, sympathy and antipathy, and which have defined the non-genetic part of an individual's personality. They also determine the person's expectations towards rewards and therefore relate to incentives and risks.

Logic-rational decisions as the second type here ideally rely on the use of reasoning for short and long-term consequences of one's behavior. Prominent examples are cost-benefit analyses or risk assessments. They take place in the so-called working memory, which is the place of attention, intelligence, reason and mental manipulation. It is limited in terms of its processing time, the number and complexity of processes and the choice of useful behavioral response. Content can only be processed sequentially, i.e. one after the other, meaning only one thought at a time. It is susceptible to stress, which when occurring – measurable by levels of adrenalin, cortisol and others – slows or “paralyses” it. Therefore, it is only useful under low stress levels and for problems of low complexity, e.g. when the range of solutions is small, or the decision is already clear but only details are evaluated.

At last, intuitive deferred decisions complete this category as the best type for complex PS. The related DMP starts with a reduction of aspects, possible decisions and proposed solutions to a desired minimum, but which are still too complex to be processed solely logic-rationally. After having done so, an examination of the remaining is undertaken – alone or with others – and a break is given to the DMP. This break should take several hours, in the best case about 24, after which the alternatives are recapitulated and then get chosen intuitively and without further thought. Here, processing takes place in the experience memory as part of a human's long-term memory, which is a place in the brain of practically endless storage and processing capacity. In contrast to the working memory, it operates highly parallel distributive, allowing for the processing of several issues simultaneously. In this part of the brain, all experiences of a person's life are stored. Due to the initial examination of the remaining alternatives, experiences in this part of the brain are activated and processed, even though not consciously thought of. This is especially true for the sleeping time, which is why oftentimes after a night of sleep a (suitable) solution comes to mind along with the idea of having vaguely experienced something (distinguishing it from a “gut feeling”). This type of decision is not very susceptible to stress, but it requires time. For unimportant problems at least 1-2 hours are suggested, for highly complex problems about 24 hours. Important hereby is to not consciously think about the problem, which would just interfere with the process – the best is to do something distracting.

The role of business education for knowledge creation

As we now roughly understand the importance of DM with basic underlying neurological mechanisms as well as the DMP understood as related to PS and with five different DM types, for this thesis, it's important to understand why BE is important for KC as a basis for DM in business organizations.

To start, this thesis understands education as guided self-experiences for KC in order to increase an individual's intelligence¹. An increase in knowledge is understood as a contributing factor for an increase in intelligence, if it helps the organism, here the student, in future PS. Now, business administration students are educated for performing activities in business organizations, in which they shall act as managers by using knowledge for thinking through and taking decisions on occurring problems, with the aim of solving them (Raymond et al., 1993). Therefore, in what follows, BE is seen as the provider of knowledge for PS, with the focus on problems involving ethical questions.

In MBA programs as a specific part of BE, students shall be provided with general knowledge from various disciplines but simultaneously with in-depth knowledge for key business activities (Datar et al., 2010). Now, for improving a student's intelligence regarding ethical problems, it means that teaching ethics in MBAs should help the students construct "general knowledge" to solve a variety of ethical problems as well as "in-depth knowledge" relevant to solving specific ethical problems in key business activities. Extracting from the above, in this thesis ECs in MBAs are therefore expected to provide students with 1) ethic-relevant knowledge, e.g. concepts and models for general business ethics ("general knowledge") as well as from specific academic disciplines ("in-depth knowledge"), 2) knowledge about when to use what kind of knowledge, e.g. in which context to use general or in-depth knowledge, 3) knowledge about the lack of general or in-depth knowledge, e.g. knowledge about existing issues but that remained unexplored in the EC, 4) knowledge about whether recovering the lack is necessary for solving a problem, e.g. if it is contextually relevant including assessing the accessibility and 5) knowledge about how to recover the lack, e.g. through external consulting or own research. A last and important point 6) is knowledge about how in general to distinguish truths from falsehoods, which in the following receives some attention.

As we have seen at the beginning of this chapter about RC, knowledge can be constructed through justified beliefs, repeatedly unfalsified. We have also seen that ethics is about morals, i.e. values and social norms. Hereby it is important to remember that repeated observations or reasonings concerning one's beliefs may lead to truths but still may reveal a belief as false because this repetition leads to another effect: individuals get familiar with beliefs and may mistakenly hold them for justified beliefs or even knowledge. Familiarity, similar to what also van Fraassen (2018) points out, is, therefore, an important factor when looking at people's DM, as it can lead an individual to have false certainty. In its extremes, familiarity can even lead to entire organizations and industries being led by wrongful beliefs. A similar important notion comes in the form of biases, which for knowledge seem to most importantly come from shortcuts, i.e. dispositions to form beliefs fast in order to survive as an organism - this might be a leftover from earlier stages in evolution or might also never cease to exist in humans - and also from emotions, which may serve as guidance to form beliefs we need for interactive, social behavior (Sullivan, 2018). Here, Louis Caruana (2018) may add, that, to solve problems, a holistic understanding is needed, meaning not only KCs concerning contextual truths but also about what one does not know or wrongfully thinks to know for which counter-evidences and -arguments to knowledge and beliefs help.

¹ Intelligence as "the ability of an organism to solve problems occurring in its natural and social environment" (Roth, 2013, p.7)

To further this, an illustration by Jules Goddard and Tony Eccles (2012) is adapted to give more clarity on the aim of BE. It generically illustrates existing beliefs in a business organization or an entire industry and shows falsehoods as beliefs that are taken as truths through e.g. familiarity, biases or emotions. Organization's beliefs are seen here as the most accurate description of the combination of all involved individuals' beliefs.

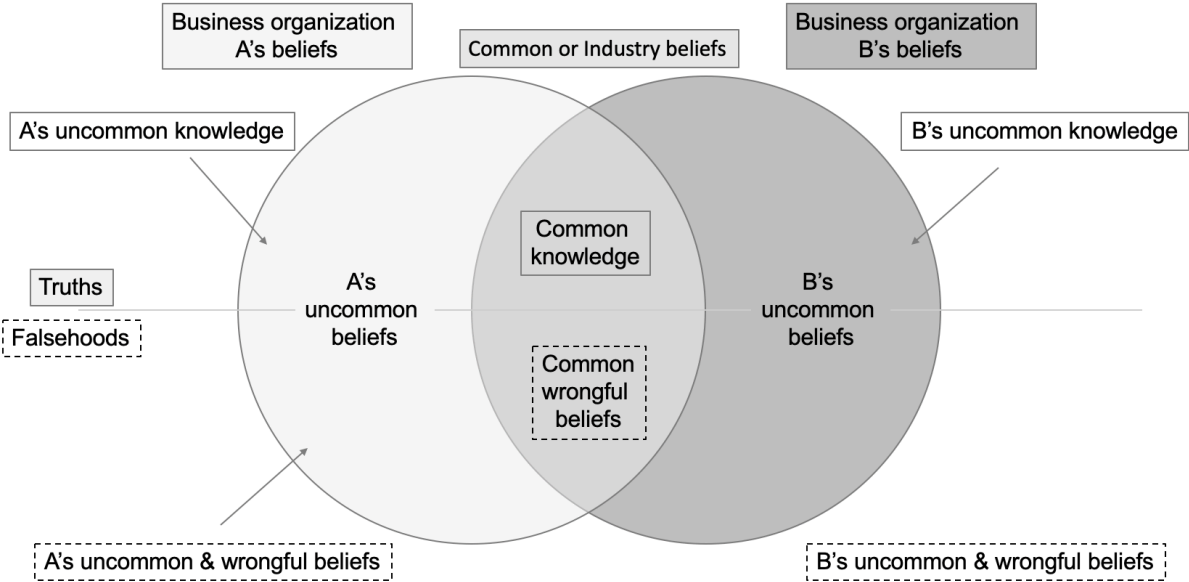


Illustration 2: Knowledge in a business and in an industry adapted from Goddard and Eccles (p.1-4), own representation

For BE to increase a student's intelligence, its aim should be to increase common and uncommon knowledge, i.e. providing new KCs while reducing common and uncommon falsehoods. For ethics in business this is especially important, as businesses often look to laws to grasp what's right or wrong, but disregard the existence of ethically wrong behavior, for which no law exists (yet) to prevent it.

Ethics in the business environment

For this thesis, three levels of importance are given to ethics and businesses: (1) The business environment, (2) the evaluation of business actions and (3) ethical DMPs. On the *business environment* level, ethics is seen as closely related to law: While the law provides a threshold for business actions to which an action is seen as legal or illegal behavior, it always leaves space for a grey area. This area involves behavior, that is not strictly regulated, potentially legal but questionable based on prevailing or desired norms of a society. Further, on this level, the ethical dimension also expands to whether laws are followed, even if a company or its agents are certain, that likely no one will encounter the illegal behavior. On the second level, the *evaluation of business actions*, ethics is seen as relevant as part of all its DMPs as all involve an economic, a relational and an ethical evaluation, of which the latter forms level three: *Ethical DMPs*. These consist of a series of four process steps: recognizing a moral issue, making a moral judgment, establishing a moral intent and engaging in moral behavior. The first two relate to knowledge, while the latter two relate to behavior.

Now, it is prominently claimed for decades, e.g. by Stark (1993), that businesses are a major cause of social, environmental and economic problems and are increasingly challenged by a variety of

stakeholders to act more ethically responsible and driven (c.f. Governance and Sustainability at Nike (A), 2016). This relates to all three aforementioned levels: on the *business environment* level companies might be acting in illegal or grey zones, on the *evaluation of business action* level they might have not or not sufficiently accounted for the ethical dimension by, on the *ethical DMP* level, not (sufficiently) recognizing a moral issue, making a moral judgment, establishing a moral intent or engaging in moral behavior. With recent scandals coming from multinational corporations such as Exxon Mobile (Hall, 2015) and Volkswagen (Blenkinsop, 2021), those claims seem to get confirmed as relevant and still existing. On the other hand, businesses like Patagonia (*Patagonia*, 2010) and Bloomberg (*Driving Sustainability at Bloomberg L.P.*, 2011) managed to establish a sustainable and leading position in the market exactly by developing a value proposition that fulfils mentioned demands for ethical behavior. Still, for BE it is claimed by some that it does not help students in properly developing their intellect and morals but instead creates “brilliant tacticians who know how to play the end game of wealth creation, where financial success is defined without transcendent responsibilities” and who are personal or corporate gain oriented, leading to “physical, psychological, and spiritual toxins for the students, the organizations they work for, and society at large” (Giacalone, 2017, p.415).

It looks like there is reason to believe that, globally, this issue is recognized by higher education institutions, which seem to (have started to) include ECs into BE *curricula*. High-level MBA programs, such as with the past and continued course “The Moral Leader” from Harvard Business School (Sucher, 2007), but also not top-ranked education providers have done so: Maryville University for example states for their master’s in management that “in today’s business environment, it’s more important than ever to strive for strong ethical behavior” and “the importance of business ethics extends beyond simply operating within the boundaries of the law” (Maryville University, 2021); or the IESE Business School MBA in Spain, which also includes an EC in their MBA program, states the course’s intention as “to nurture a critical and alternative perspective of traditional managerial processes” (IESE Business School, 2018). Following Datar et. al. (2010) MBA programs’ core course offerings are highly similar across different BE institutes, making ethics a potential standard in BE. While it is unclear and out of this thesis’ scope to investigate this for other MBA’s, it reinforces the perception that ethics is becoming a core part of MBA *curricula*. This leads to the question of what ethics shall do for it.

The role of ethics courses in business education

According to some, business ethics is the “study of business situations, activities and decisions where issues of right and wrong are addressed” (Crane et al., 2019, p.5). This relates well to the aforementioned levels: business situations on the first, business activities on the second and business decisions on the third level. In this work, therefore, ethics in BE is expected to give students knowledge on all three levels. It has further been claimed that business ethics serves to actively integrate personal or societal values into business activities and can, instead of limiting business, improve the creative and imaginative problem-solving capacity as it allows for a wider vision (Cragg, 1997). Therefore, business ethics “has an unavoidable even though sometimes uncomfortable place in business” (ibid, p.241). For BE now, values would need to be taught. (ibid.). This is possible but involves character building (ibid.), to ultimately result in “a meaningful reciprocity between ethical theory and business practice” (Hoffman,

1984, p.266) and in which “reciprocity assumes the validation of business decision making through the application of ethical principles and the vindication of ethical theories which make up one’s moral system through the test of practical experience” (ibid. p. 266-267).

Michael Sandel, a political philosophy professor with a high global reach, emphasizes the importance of connecting economics with ethics: “The notion that economics is a value-free science has always been questionable. But the more markets extend their reach into noneconomic aspects of life, the more entangled they become with moral questions” (Sandel, 2013). With business as a clearly intertwined field of economics (Heidbrink & Langbehn, 2017, p. 607-621 and 765-785) and with ethical responsibility of a business understood as the outcome of ethical self-responsibility of individuals for an autonomous choice of alternative courses of action (ibid., p.547) requests towards businesses for responding more ethical are also requests towards BE.

While more ethical responses from businesses are expected, there are also doubts on whether teaching ethics and bringing it to people inside business organizations is actually the right or at least a good measure in terms of efficacy. Businesses, for example, have an internal decision structure and a framework of decision making that transcends the individual framework of responsibility and limits and directs individual actions (French, 1979). Together with an ethical spillover through established managers’ influence on new employees via formal norms and incentivization (Pierce & Snyder, 2008), the individual’s prior set of beliefs of what is right or wrong for him can be taken over by that of the organization’s. This in turn influences the individual’s DM.

Other claims include that teaching ethics “has little or nothing to do with the formation of moral character and is ineffective as an instrument of moral transformation” (MacIntyre, 2015, p.8), that for business it is a “dangerous distraction from enquiry into nature and causes of what *is* morally flawed in our economic institutions and activities” (ibid., p.8) and that ethics is “not just irrelevant” (ibid., p.12) but even “a probably insuperable disadvantage” (ibid, p.12) for businesses. Interestingly, a similar line of argument is used for defending business ethics even though claiming it a cosmetic measure, e.g. for education institutions and businesses that seemingly do things ethically, while actually being interested solely in profits, taking that consumers will reward the behavior with increased purchases or for shifting attention from other, non-ethical activities. This is supported by claims that such behavior can help companies establish competitive advantages, as seen with environmental responsibility (Cragg, 1997, p.241).

As this thesis seeks to investigate the effects of offering and teaching in ECs, it shall be understood better, how individuals may generally learn knowledge. The following section shall help with that.

Neurobiological perspectives on the learning of knowledge

As elaborated before, learning, as the acquisition of knowledge, makes part of increasing one’s intelligence (see the section on the role of BE for knowledge creation). This is so, according to neurobiologist Gerhard Roth, because intelligence as an organism’s PS ability involves “associative learning and memory formation, behavioral flexibility, and innovation rate as well as abilities requiring abstract thinking, concept formation, and insight” (Roth, 2013b, p.7), which in turn all involve knowledge.

These aspects are linked to the idea of whether PS requires *fluid intelligence*, i.e. using novel information or procedures, or *crystallized intelligence*, i.e. using learned information or procedures (Cattell, 1963). In this work, the first relates more to individuals not having learned knowledge needed to solve encountered ethical problems, while the latter relates to individuals having learned such knowledge. As associative learning and memory formation are the basis for the above, it has to be understood how they work, which in the remainder of this section is done through the lenses of Roth (2013b):

Learning, in general, can be defined as the “capacity of an organism for medium- and long-range adaptation to its living conditions as opposed to a momentary physiological or behavioral response” (ibid., p.8). Further, the intelligence-related associative-learning involves classical and operant conditioning and is distinct from the not intelligence-related non-associative learning, which involves habituation and sensitization - the simplest ways of experience-based adaptation of behavior. These latter two rely on the evaluation of events by a nervous system, though this happens in a highly automated manner. Habituation, as opposed to sensitization, thereby refers to the “decrease in intensity or frequency of a given behavioral or physiological response toward a repeated strong or conspicuous stimulus because of the absence of relevant negative or positive consequences.” (ibid.).

On the contrary, associative learning is not a simple response but the “acquisition of the experience that a certain event or object is associated with another, preoccurring or simultaneous event or object” (ibid.). As part of associative learning, *classical conditioning* refers to turning unconditioned responses - often reflex-like behavior, coming from unconditioned stimuli such as a unique threatening event - into conditioned responses for conditioned stimuli. This is done by pairing the unconditioned stimuli with a neutral stimulus, e.g. a sound, which will be kept the same over a series of repetitions. At some point in the series, the neutral stimulus is internalized and the initial or with time modified response to it will also be repeated, making it a conditioned response. The more complex form of classical conditioning - context condition - works similar but encompasses the learning of the occurrence of positive and negative consequences in a specific context, leading to varied responses in different contexts. As to Roth, “context conditioning dominates much of the daily life of animals and humans”.

As for operant conditioning, the second basic type of associative learning, changes in the stimulus-response relationships are involved, modifying an already existing type of behavior with regards to its intensity or frequency “depending on the positive or negative consequences for the state of the organism”. Positive reinforcement, also known as reward or reinforcement learning, increases the intensity or frequency of a behavior, by stimulating and rewarding high-level responses. It can be combined with not-rewarding, same- or low-level responses. In contrast to classical conditioning, it is not based on existing physiological or reflex-like responses but on a specific type of flexible or voluntary behavior, which had before not been performed on that level of intensity, frequency, or in that context.

All conditioning involves repetition, which therefore would allow individuals to have learned to solve the same or similar ethical problems in an easy manner (crystallized intelligence), while newly encountered problems could be solved easily if knowledge for dealing with the non-known has been learned (fluid intelligence). This research seeks to test whether ECs in BE increase these intelligence types.

Memory Formation is the storage of learning process results in the brain, in which new connections in the nervous system in between nerve cells are formed or already existing ones are altered. Three types are differentiated: the short-term memory with a span of up to 30 seconds, which of course is relevant to an individual in taking decisions in general but irrelevant for the scope of this thesis as here the span of learning knowledge to using it for DM is longer; the medium-term memory with a span up to 30 minutes, which is also not relevant here on the grounds stated before; and the long-term memory with a span up to decades. The latter is relevant as it speaks for potentially lasting effects of learning in ECs. It is, under optimal conditions, virtually unlimited in its storing capacity and consists of two or three subtypes (“or” because the third one is yet discussed in the scientific community, but receives relatively high levels of support already): 1) the declarative memory, dealing with “knowing what”, 2) the non-declarative memory, dealing with “knowing how”, and 3) the emotional memory, dealing with the expectation of positive or negative consequences, e.g. pleasure or pain, as a result of emotional conditioning. The emotional memory seems to serve as a motivator to approach or repeat situations.

Usefulness and limitedness of concepts, definitions and information

While the definition of ethics is general enough to not limit this work’s scope extensively, in combination with the field it is applied to - RC predictions for BE - the result interpretation will be towards (expected) KC for PS with ethical issues in a professional context. Also, since a survey is used, data for one specific point in time is created and any comprehension of the effects of ECs on individuals over their lifetime and therefore that of the relevant context cannot be examined in this thesis.

For RC, there are similar limits as well: while the definition allows for a general application to the field of knowledge and its development within an individual, with being only about cognitive knowledge, it limits any discussion to this realm and widely disregards the realms of e.g. feelings or actions unless they are justifiably connected. These potential connections also make part of RC theory in philosophy and neurobiology but are neither fully explored and explained (Küng, 2006), nor is the scope of this thesis enough to give clarification. Further, the application of RC predictions to the field of BE, more specifically to ECs in MBA programs, limits all discussion and interpretation to knowledge learned in this discipline. This implies that any interrelations between different disciplines of learning, e.g. ethics and marketing for within the business scope or ethics and literature for outside the business scope, are disregarded. Moreover, the thesis will not examine the interrelations between knowledge about ethics and e.g. actions or feelings related to such – the scope of examination is the knowledge-affected part of DM.

An additional important limitation comes to the concept of KC through justified belief, as represented by Audi or even Popper (see table 1): while it is a very useful perspective, it can lead to pure skepticism, such as has been promoted by Descartes, Hume and others (Hoffman, 1984). The notion of knowledge as being the current, non-falsified model of reality in human minds also includes that all arguments and parts of any model are themselves just a non-falsified version of some other model. When forming arguments then, all individual parts can be questioned to the last and can never be seen as the ultimate, human-independent truth, which can lead the promoter of such argument into an endless circle of uncertainties. While skepticism may have some legitimate claims to ultimate knowledge, these claims

don't hold for knowledge as human-dependent constructions as described from an RC perspective since that knowledge is shown as existent even if not ultimate. This relates to another critique as represented e.g. by Küng (2006) or Bossart (B2021): RC combined with neuroscience can become so reductionistic that it limits all understanding of human existence to neuronal networks. This then may give space for pure determinism that in turn may question free will and together can hinder any moral development. Through an example from Roth this can be well illustrated: In a situation in which a person intends to rob a bank but hears police sirens shortly before starting the robbery, he or she may stop and retreat. This is only made possible due to his constructed generalized knowledge of what a police siren means in his brain (Roth, 2021). If this is true though, would this mean that persons are not guilty, as their free will is just an illusion and there was no choice amongst alternative courses of action for them? Here, Daniel Dennett's perspective helps - a deterministic universe does not eradicate free will for two major reasons: First, because free will needs to be defined as real for a working civilization (Daniel Dennett, 2021, 00:22:00-00:32:55), no matter if it is real or an illusion. Second, because it is about control of one's actions and not about the past uncontrollably dictating actions in the present (Daniel Dennett, 2021, min. 00:00:00-00:22:00). Together, even in a deterministic model in which agents would only act towards their existing KCs, free will exists and allows for moral responsibility in the present and future.

Other limitations in short are: This thesis doesn't examine how knowledge has been taught, e.g. through action-learning, case-studies, discussions, or else and can therefore also not contribute to this in depth; And neuroscience is an ongoing science which also hasn't found all underlying principles in the brain yet and might also be ultimately limited in its explanatory power as it might not allow for a holistic theory.

Herewith closing the literature review, the following chapter serves to lay out the research including drawing a structure for the survey, which serves as the tool for data gathering in this work.

3. Survey

Research setup

Looking at the overall aim of the thesis - to find out about the effect of ECs in MBAs on potential and past students' DM (see also the overall aim of thesis) - this research had to be addressed to two major populations: (1) potential students and (2) past students. In order to contribute to scientific knowledge as well as gather, discuss and evaluate data, a clear problem statement served as a setup starting point.

Research problem: For understanding the effects of having ECs in MBAs, quite some research has been done as presented in the literature review. Still, one main issue remains present: most prominent literature argues theoretically but doesn't seek to measure the outcomes of offering ECs in BE. This leads to the problem, which this research wanted to help solve: It is not practically evaluated whether there are effects of the existence of ECs in MBAs on students DM and whether those effects could be measured. This problem statement gets expanded with the RC perspective: literature suggests that effects on DM can be expected when having learned or expecting to learn knowledge in ECs as part of an MBA. The following research questions shall address that more precisely.

Research questions: Two overarching questions were formulated to ground data gathering and hypotheses testing: (1) “Does the existence of an EC in an MBA program change a potential student’s perception of an MBA program?” and (2) “Does learning in an EC in an MBA influence an individual’s DM after the MBA?”. For both, the question on how that might come to happen makes part of the discussion and evaluation wherever possible, even though it has to be mentioned that statements on that remain suggestive. To answer the two overarching questions, the following hypotheses were drawn.

Hypotheses testing: First, for the group of potential students, it shall be understood whether offering ECs may lead them to have a different evaluation of such programs. This in turn may give information on what expectations students may have towards MBAs and what understanding they have of the role of ECs in such. For that, the following two hypotheses were formulated for testing:

1. Offering an EC in an MBA provides a higher qualitative evaluation of the program.
2. Offering an EC in an MBA increases the chances of applying to that program.

Second, for past students, effects coming from RC are expected when having learned knowledge in ECs. To understand that, the following two hypotheses were formulated for testing:

1. Offering an EC in an MBA influences DM during future job search after completing such.
2. Offering an EC in an MBA influences DM on the job after completing such.

Guiding questions: From the above, the following questions were drawn to create the survey model:

1. Perceived importance: What importance do potential students give to ECs in MBAs?
2. RC: What is expected of the knowledge to be learned in ECs in MBAs?
3. Intelligence as a PS capacity: What are the effects of ECs in MBAs on past students’ DM?
4. Organizational vs. industry knowledge: How do potential and past students evaluate their autonomy in ethical DM and PS?
5. Associative learning and memory formation: How do potential and past students evaluate their capacity for ethical DM and PS?

Underlying model: The aforementioned guiding questions were taken to create equivalent question levels. Further, for each of the two major populations addressed, two subpopulations were drawn for hypotheses testing through comparison of different respondent types: for potential students, these are whether there is a general intention to apply to an MBA or not and for past students these are whether they have run through an EC in their MBA or not. Further combining key aspects from the literature review, the following model was designed and served as the conceptual framework for the survey creation. All questions as stated in one of the following chapters related to parts of the model. It is important to note that all respondents were questioned on all levels in accordance to their type, except for those who responded to never encounter any ethical issue in their professional life – these ended the survey having run through just the first nine questions, not entering level two, as they wouldn’t be able to contribute to the following question on behavioral response and else during ethical PS.

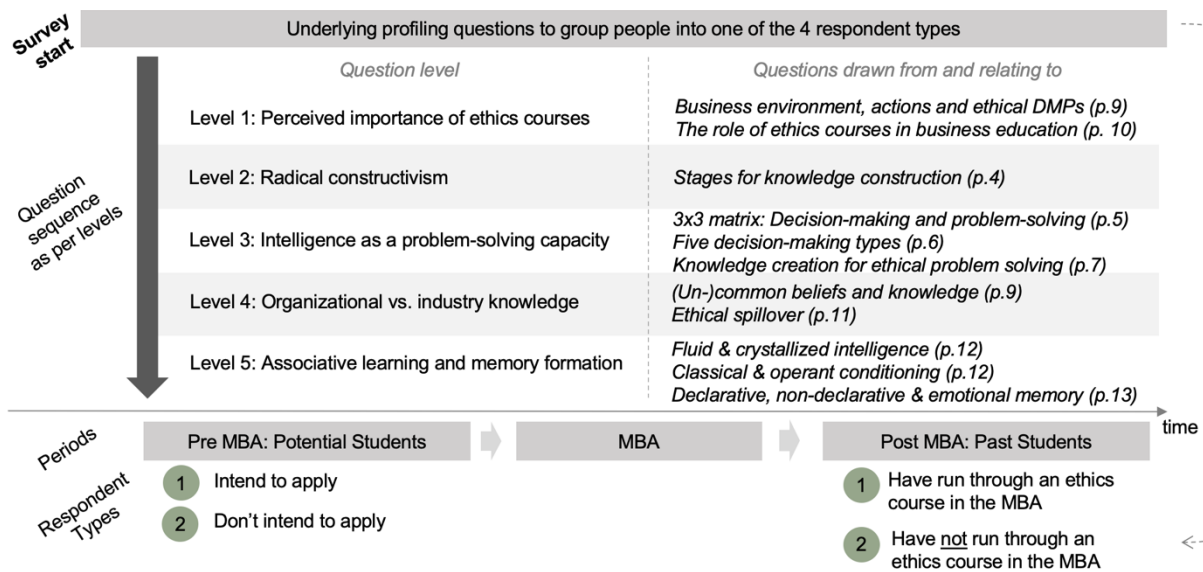


Illustration 3: Conceptual framework for survey in graphical representation

Methodology

In order to solve the research problem, mostly quantitative data was gathered through the distribution of an online survey, asking participants to respond to multiple choice and Likert scale questions and requesting them to resend the survey to their contacts. The questions and their format were aligned with instructions from the book *Business Research Methods* (Sreejesh et al., 2014, p.143-159).

Answers from potential and past MBA students were needed in order to answer the hypotheses but also to systematically identify trends among respondents and to allow a comparison between the different types. On the opening screen of the online survey, it was mentioned twice that no personal data would be gathered, hoping for it to lower the non-response bias, i.e. getting a high response rate, as well as lowering the acquiescence bias, i.e. increasing the chance of getting the real opinions and thoughts of the respondents by making sure that personal exposure is not needed - something which with ethical issues might be a concern for respondents especially when talking about their jobs. As this research required primary data and because no other existing source for data that included the measuring of these or similar effects could be found, gathering data through a survey was the most affordable and accessible mean for data collection. At the same time, it allowed to gather current data.

Target groups of this survey were understood beforehand and questions for the survey were designed to fulfill the research objectives by using the before presented conceptual framework in illustration 3. The resulting questionnaire gave clear instructions to the participants regarding the desired type of details. All questions were mandatory and could not be skipped, except for the last question, which was optional and open and asked participants to describe a typical ethical issue of their lives including their solution to it, allowing for the gathering of qualitative data. Each question was analyzed in accordance to the utility of its collected data together with the effectiveness of its output vis à vis the required data. Also, it was checked that respondents were able to answer questions accurately together with the probability of whether their responses could have been influenced by externalities. This was done by testing the survey before effectively gathering data with several individuals as test participants. The questionnaire was designed to take respondents of any type a maximum of eight minutes, while the

expected duration of answering as per the survey program provider Survey Planet was four to five minutes. This allowed for the final open question to be answered more in depth and without exceeding the total stated expected time. With a total of 23 questions, nearly 21 seconds were available per question, while it was planned and tested that the first 22 questions could be answered with about 10 seconds per question on average, allowing for an answer time of 00:04:20 for the final open question.

The conducted research was basic research to develop theories, knowledge and predictions, with a primarily exploratory part regarding the under-researched effects of ECs in MBAs on potential and past students, but also an explanatory part with its interdisciplinary approach - using existing theory from RC and combining it with ethics and neurobiology. Through testing of expectations from this combined theory, the major contribution to science is done with deductive reasoning, but due to the interpretation of data relations, an inductive reasoning is also present. As no variables were controlled, this research is descriptive and involves stratified sampling. Even though the numerical analysis of collected quantitative data is the major part of this work, together with the small qualitative data part that is interspersed throughout the discussion and evaluation, this work is a mixed-methods research. The survey itself had a flexible research design, allowing for adjusting factors such as the participant attraction or the timescale during data collection. Further, this research was conducted as field research in the form of a cross-sectional study, meaning that data was gathered at a specific point in time. Lastly, this research involved non-probability convenience sampling, meaning that subjects were selected as per their easiest accessibility on the basis of random criteria. This also means that not all subjects of the total population - all potential or past MBA students in the world - were included. It made this research possible within the scope but also bore the risk of a sampling bias, i.e. capturing a sample that doesn't represent the full population, as well as a survivorship bias, i.e. getting answers from those who have a positively tainted relationship with the author and therefore might give answers in what they consider favorable for same. Thus, interferences about the total population had to be made carefully.

Questions posed

The first four questions were designed as profiling questions, whereas the first two were to get participants mentally set up for the subject as well as to allow for some further information in the analysis: Participants were asked whether they had previously learned about ethics in formal education, e.g. in high school or university, or apart from formal education, e.g. in their private time. The third question of this profiling section was designed to separate the major populations: Participants had to select whether they had run through an MBA program or not. Not having run through an MBA program lead to the fourth question, a follow up, of whether they have the intention to ever apply to an MBA or not, while having run through an MBA program would ask whether the participant also run through an EC in the MBA program or not. From that information the four subpopulations could be sorted.

Now, for the ones without having run through an MBA program and regardless of whether they intend or do not intend to apply, their likelihood of ever applying to one was questioned on a scale, allowing for people to sort themselves in more detailed. For those, the follow-up question asked them to again state on a scale, whether an EC would increase their likelihood to apply to one.

For those having run through an MBA program participating in an EC in that MBA program, the follow-up questions were on whether that had influenced their DM on personal career choices after the MBA and on whether it had impacted DM on the job after the MBA. For those having run through an MBA program without running through an EC or being unsure about it, the follow-up questions addressed whether they think it would have helped them in DM on personal career choices as well as on the job.

Here, the individual question branches ended, and all participants were linked back to a sequence of common questions, for which the following list shall give an overview – a more detailed illustration with all 23 questions, question levels and a more flow-like structure can be found in Appendix B.

Question	Answer type (choices)
In general, do you think universities should include ethic courses in their business education programs?	MC (Yes, as a mandatory component / Yes, as an optional component / No / Unsure), Required
Do you think that an MBA with an ethic course is of higher quality than one without?	MC (Yes, No, Maybe), Required
→ Information given: All following questions until the end of the survey relate to your decision-making in a professional context	NA
How often do you see yourself confronted with ethical problems per year?	MC (0x/year, 1-3x/year, 4-6x/year, 7-10x/year, >10x/year), Required
→ 'If "0 times was answered in the question before, the survey ended here. Otherwise, following sequence was followed.	NA
Approximately how often can you build a concrete opinion about these ethical problems?	Likert Scale (1-5), Required
Approximately how often can you justify that opinion?	Likert Scale (1-5), Required
Approximately how often do you come to the conclusion that your initial opinion on this was false?	Likert Scale (1-5), Required
Do you think an ethics course in an MBA helps / would help you understanding such problems?	Likert Scale (1-5), Required
Approximately how easy is it for you to identify different courses of action in order to solve such problems?	Likert Scale (1-5), Required
Approximately how easy is it for you to choose among those courses of action (if you identify more than one)?	Likert Scale (1-5), Required
How often can you successfully solve ethical problems?	Likert Scale (1-5), Required
Is your behavior in ethical problem-solving rather reactive (when issues comes up), proactive (to solve anticipated issues, e.g. recurring ones) or preventive (to keep issues from occurring)?	MC (reactive / proactive / preventive / unsure), Required
How often are you already familiar with ethical problems when they occur (e.g. because you encountered the same or a similar problem already before)?	Likert Scale (1-5), Required
How often do you encounter ethical issues that you already know how to solve (e.g. because you learned about it)?	Likert Scale (1-5), Required
How often do you follow the lead of others to solve such ethical problems (e.g. your colleagues or other companies)?	Likert Scale (1-5), Required
How often do you question your organizations' responses to ethical problems?	Likert Scale (1-5), Required
How often do you need to gather more knowledge in order to solve the issue?	Likert Scale (1-5), Required
How often do you take decisions without having sufficient knowledge about the ethical issue?	Likert Scale (1-5), Required
Please describe a decision-making process you went through, in which you recognize an ethical dimension as important. Tell us, if and how you could solve such.	Open, Optional

Table 2: List of questions after grouping in subpopulations displayed in sequence (MC stands for Multiple Choice)

The extremes of the scales were either “never-always”, “very low-very high” or “not at all-extremely much”, which enabled participants to choose in a forced-choice, closed-ended manner from a linear set of responses, increasing in intensity. This made the data collection on respondents' opinions possible.

Surveying process

The survey overall processed very well. Through a distribution via E-Mail and messenger programs such as WhatsApp, Telegram or Facebook, a total of 170 participants were reached who concluded the

survey completely. Of those, 161 answered all 22 selection questions, meaning that 9 respondents concluded the survey after question nine for selecting they would not encounter any ethical issues in their professional lives. From those 161 participants, 29 also answered the last question - number 23 -, providing textual data. The active time of surveying was from December 21st, 2021, 00:00, to January 09th 2022, 23:59, making it an average of eight and a half respondents to completely run through the survey per day. The only small draw-backs were (1) the time limit let at least three potential participants not enter the survey anymore which they would've still done if the survey was not yet closed and (2) question number 4 on whether someone would want to apply to an MBA or not let at least two people not go on with the survey as they were thinking they would not be eligible as respondents for being in the desired target group due to their age or self-perceived non-connectedness to business education.

4. Findings and discussion

Presentation of basic findings

Going through the entire survey and the answers of all 170 participants, following results could be found:² About 75% have learned about ethics in formal education, 19% have not and 5% are unsure about this, similarly with learning about ethics apart from formal education, for example in private time, for which 72% stated to have done so, 24% have not and 5% are unsure. Further, of all respondents about two thirds (68% - 115 respondents) have so far not completed an MBA program, while the rest has. From those, 24% stated the intention to apply for an MBA, 6% remained unsure and the rest does clearly not intend to ever apply. When keeping the look to those without having completed an MBA, 32% responded at least a medium likelihood and the rest opted for a rather low or non-existent likelihood. With the existence of an EC in an MBA, 44% stated an at least medium level increase in their likelihood for applying. A comparable scale was used for these last two questions, suggesting an increase in perceived value of an MBA program when also offering an EC among the surveyed subpopulation.

Looking at those who have completed an MBA program (32% - 55 respondents), more than two thirds (69%), did also run through an EC during such MBA. It is interesting to note that from the remaining, 6% are unsure whether they have run through an EC or not. This could indicate a lack of understanding of what an EC is or a too far timewise distance of the respondent to his participation in an MBA. Those having run through an EC state that the influence of such course was with an average of 3.08 higher during their job search as opposed to the influence average of 2.29 during their work life.

The following questions were again asked to all participants regardless of the populations. All were informed about what an MBA is, in case they did not know before. From all 170 respondents, 98% think that, in general, universities should include ECs in their BE programs – the majority of all (71%) states that it should be a mandatory component, while the runner ups (27%) chose it as an optional component. The remaining 2% are either unsure or do not think ECs should, in general, be included. Interesting to note is that even with this clear tendency for favoring ECs in BE programs, only 62% consider MBA programs with ECs of a higher quality than one without, while 28% are divided on this question and 11%

² Numbers are always rounded to the nearest integer, which is why sometimes the some doesn't add up to 100%. As questions were either multiple choice or on a Likert scale, single digit numbers with one decimal refers to results from the scale.

don't think it attributes a higher quality. While this majority still shows a tendency towards a higher quality attribution, it shows that the respondents had a strong tendency towards the necessity of ECs but don't consider it equally strongly as a distinguishing factor of a program's quality.

The remaining questions were highlighted as referring to the participants' DM in a professional context. Here, the first interesting thing is that the majority, with more than one third of all respondents (37%), see themselves confronted with ethical problems more than 10 times per year and the runner ups with about a quarter (27%) only 1-3 times per year. Only 5% never see themselves confronted with ethical problems and ended the survey at this stage (remainder 161). In the following, participants have, on average, given a score of 3.57 to how often they can build a concrete opinion about these ethical problems, a score of 3.68 to how often they can justify that opinion and a score of 2.45 to how often they come to the conclusion that their opinion on this was false. As this was on a Likert scale, it suggests a tendency towards the participants' self-perceived good-level understanding of the problems with a medium-level frequency of having an incorrect opinion on the matter. This last finding is important as it shows that, on average, participants live in a reality in which they regularly, even if not often, cannot surely confirm their opinions as knowledge but have to give in to false beliefs. While only one person said to always be wrong in his opinions, 9 people said to never be wrong. With regards to their opinions and justifications, nearly no one said to never be able to build opinions (1 respondent) or to lack a justification for same (0 respondents), while far more sorted them to the other extreme of always being able to build opinions (21 respondents) and always being able to justify same (24 respondents).

Another interesting result is that the most chosen answer to whether an EC in an MBA helps or would help to understand such problems was "4 - very much" with nearly half of the respondents represented (49%), followed by the mid-level option "3 - somewhat" (31%) and the positive extreme "5 - extremely much" (14%), making it a total of 94% for a mid-to extremely high level influence expectation coming from ECs in MBAs. Regarding concrete steps in ethical PS, the average answers given to how easily the participants could, first, identify different courses of action and, second, choose among those courses of action, was very similar: on the scale results lay in the lower middle with 2.59 and 2.77 respectively. Still, participants on average think they can successfully solve ethical problems "4 - often" (4.0) – also chosen by nearly two thirds (63%), followed by "3 - sometimes" (32%) and "2 - rarely" (4%). The remaining share comes from 1 respondent thinking to "never" be able and 2 respondents thinking to "always" be able to solve ethical problems. Another interesting finding here is that, for ethical PS, 37% think to behave rather proactive - to solve anticipated issues -, 28% preventive - to keep issues from occurring and 25% reactive - when issues come up. The remaining 9% are unsure about this.

Nearly ending the survey, participants were now asked to choose how often they were already familiar with ethical problems when they occur (average 3.19), how often they encounter ethical issues that they already know how to solve (average 3.09), how often they follow the lead of others such as their colleagues or other companies to solve those problems (average 3.12) and how often they question their own organizations' responses to ethical problems (average 3.31). All these results suggest a slightly positive tendency towards their self-perceived PS capacity and towards their questioning of the

organizations' responses, but also towards trading autonomy to other actors as to follow them on ethical PS. Even more interesting here though was that, on average, people tend to need more knowledge to solve encountered issues (average 3.43), while having a below medium level average answer to how often they ultimately take decisions without having sufficient knowledge about the issue (average 2.48), meaning they slightly tend to think to solve issues with having improved their knowledge about them.

The last question, optional and open, was answered by 29 people (17%). A major finding here is that the perceived issues are very diverse: described DM challenges include data handling, life-death choices, communication, leadership, firing people, social and environmental impact, sexual harassment, gender issues and economic means such as salaries or possessions. Also, many answers im- or explicitly included values that can be described as fairness, solidarity, justice, transparency and in- or exclusion, while stated actions, important for ethical behavior, often related to helping others, treating others well and acting in accordance to given legal or socially prevailing standards. Lastly, most descriptions involve communication and the social behavior. Other highlights from this question contribute to the following sections, while a list of all answers can be found in Appendix C (p.42-43).

Having presented the major tendencies as per the questionnaire sequence, the following shows unique trends among participants within the subpopulations. Given interpretations are suggestive and link to potential future research.

Highlights within subpopulation samples

Potential MBA students with an intention to apply

Even though there were just seven participants of this type, some trends could be found among them but have to be taken with care due to the very limited number of responses: On average they stated their likelihood to ever apply with 4.3 - a high level – and don't see that likelihood to increase much (3.0). All of them though state to think that universities should include ECs in the BE programs with four thinking it necessary to be a mandatory component and the remaining three choosing for it to be optional. Only two respondents consider an MBA with an EC to be of higher quality as opposed to one who doesn't - the remaining four are unsure about this. On average they see themselves rather capable of building and justifying opinions on ethical issues without often having to accept their opinions as false. Even though they don't consider it easy for them to identify different courses of action, to choose among them or to solve such, they also don't consider ECs in MBAs to help much in solving these issues. Regarding their ethical PS, there is no clear tendency towards whether they think it to be reactive, proactive or preventive - a contrast to the proactive tendency in the total sample. Lastly, they have a slightly positive self-perception (higher than 3.0), when it comes to their familiarity with and their already existing knowledge for ethical PS.

This type's tendencies might come from their already existing commitment to applying regardless of the existence of an EC, meaning that they value MBA programs already, even regardless of ECs. Analyzing this with a bigger sample seeking a deeper understanding of this group's motivation for applying would allow for a better interpretation regarding their value given to ECs.

Potential MBA students with no (expressed) intention to apply

A total of 108 participants selected themselves as this type - either through stating no intention or being unsure about it. On average, these see their likelihood of ever applying to one on a low level (2.0) and also see the offering of an EC to not increase their likelihood much more (2.3). Here, slightly less than overall, nearly two thirds (65%) think an MBA to be of higher quality when offering an EC. One last interesting trend here is that all 15 people - 14% of this type - who did not definitely exclude ever applying to an MBA but also did not see high chances (2.0 and 3.0 answered on the scale on their likelihood), state to behave rather reactive in ethical PS – not proactive or preventive.

A possible interpretation of this type's tendencies is that they are committed to or satisfied with their career paths or arrived at a point where career-related changes don't make sense to them anymore – e.g. because of their age, a lack of time or motivation, a non-connectedness to BE and more. The qualitative responses substantiate that a little as responses seem to have come from accountants, doctors, architects, academics and alike - people who might look more after technical than managerial skills. Moreover, reasons for the reactive response to ethical PS are totally unclear. A follow-up research on this would be highly interesting, also with regards to potential connections between both tendencies.

Past MBA students having run through an EC during the program

Here, a total of 38 participants self-selected them as this type. An interesting characteristic is that nearly 90% of all stated that universities should include ECs as mandatory components (71% in total sample) in BE with the rest choosing it as an optional component (21% in total sample). Another highlight characteristic is that the self-perceived reactive behavior in ethical PS is with 21% underrepresented as opposed to preventive and proactive with around 40% each, mostly because more people think to behave more preventive than in the overall sample (25%).

A possible interpretation of this type's tendencies is that they might attribute more value to ECs in general, which is why they went through an EC in an MBA, thus also consider the mandating commendable. This could also be vice versa: they went through an EC in an MBA and therefore attribute more value to ECs. This might also relate to the self-perception of behaving more proactive and preventive in ethical issues - for one because they might have the knowledge, for other because they are more aware of such issues. Follow-up research on this type would be interesting with regards to why they consider BE to have to include ECs as to answer: what is the precise value of it for them?

Past MBA students not having run through an EC during the program

In total 17 participants self-selected them as this type with three of them stating to be unsure whether they had run through an EC and were therefore not included in this discussion. The remaining 14 constitute a very tiny sample for this subpopulation and inferences about the total subpopulation have to be taken with care. The most interesting findings here are: First, while they on average align with the overall trend of "often" being able to solve ethical issues, no one chose to never (1.0) or rarely (2.0) be able to solve ethical problems, meaning that no one has major doubts about their overall capacities. Second, only one person thinks to behave preventive in ethical PS - a strong underrepresentation of this share which is equally replaced by choices towards proactive and reactive behavior.

A possible interpretation of this type's tendencies is that thinking to already be capable of solving the issues might also have kept them from running through an EC during the program, but maybe there also was no such offering for them or else. Also, it could be that they generally give more emphasis to other job-related tasks and dimensions as the preventive solving of ethical problems. In any way, follow-up research on their precise job activities and general thoughts on ethical PS would help the analysis.

Having discussed findings of the total sample and the respondent types of the subpopulations, the following chapter serves to relate those to all five question levels, to evaluate the hypotheses as well as the research question, the problem and the research itself.

5. Evaluation and conclusions

In regard to the formulated guiding questions for the different question levels, the following evaluation is possible, taking into account the stated limitations in chapter 6:

For level one - *Perceived importance of ECs* -, offering ECs in BE and in MBA programs overall seems to be important, both to potential and past students. Not only is it expected to increase PS capacity, but it also leads to a higher evaluation of a program and the likelihood to apply. On level two - *RC* - it seems that ECs are expected and perceived to construct knowledge for ethical PS and might especially lead more people to solve ethical problems preventively rather than proactive or reactive, at least in their self-perception. While with level three - *Intelligence as PS capacity* - people seem to perceive themselves as capable of DM and PS for ethical issues, overall, learning in ECs within MBAs seems expected or perceived to increase one's intelligence. Also, it may lead more people to preventively solve ethical issues instead of reactive – this last tendency needs more data, though, to be evaluated properly. Lastly, it seems that people also face problems initially perceived as complex and for which they require more knowledge. In tendency, though, they are able to acquire that knowledge before their final DM.

On Level four - *Organizational vs. industry knowledge* - people see themselves as relatively autonomous in ethical PS, while questioning their own organizations responses to ethical issues, which indicates doubt on their organization's or their colleagues' knowledge for DM. Still, they tend to follow others on solving the issues. Moreover, they think to need knowledge for PS but believe to, ultimately, having more knowledge gathered before DM. This could indicate that they use "knowledge" from other actors in their organization or their industry for ethical PS, though this would need to be investigated in more depth. For level five - *Associative learning and memory formation* - as for the problems encountered, it seems that people tend to face familiar problems that they, in tendency, already know how to solve. This could mean that fluid intelligence is not needed as much as crystallized intelligence because the problems encountered are mostly not entirely new, but it could also mean that both forms of intelligence are perceived to be mastered by the respondents. This last interpretation gets some support by the respondents' tendency towards needing more knowledge for ethical PS while knowing how to get it but remain slightly insecure about final DM. This last is expected to get improved with ECs similar to one respondent's statement to not be "sure if an ethics course would help out solving ethical problems, but it could be a basis for the process of solving" (Anonymous, c.f. Appendix C, qualitative answers, p. 43).

Hypotheses evaluation

Getting back to the hypotheses formulated in chapter three, the findings allow a suggestive evaluation:

For potential students: 63% of those not having completed an MBA (115 people) agree that offering an EC increases the perceived quality of such program, while only 7% oppose this. The quite large remaining group of people (30%) is unsure about this. The likelihood for them to apply does on average not rise with the offering of an EC, but when looking at those 63%, the likelihood increases a little more than for those 30% unsure ($2.5 > 2.1$). For those seven people with an expressed intention, the likelihood for applying increases on a medium level (3.0), similar to those 26 who are unsure (2.9), whereas the remaining 79 with no intention state a lower level of increase (2.0). Overall, the results suggest a higher qualitative evaluation of offering an EC in an MBA with a slightly positive relation regarding potential students' likelihood for application, even though this is mainly due to those unsure about applying.

For past students: As stated before, the influence of an EC during job search was 3.08, which gives it a medium influence level, while the influence on the job was present but only on a low-medium level with 2.29. This hypothesis seems supported, but it remains unclear, whether this may also be regarding to other characteristics these respondents share. They, for example, also have a higher share of people thinking that universities should include ECs in BE as a mandatory component compared to the total sample ($81\% > 71\%$). Moreover, they had a slightly higher share of people having learned about ethics in formal education before ($81\% > 75\%$) but a slightly lower share of same but with informal education ($63\% < 71\%$). This might hint at a tendency towards thinking that it should be universities to provide this type of education instead of people having to learn it in their private time. Lastly, there likely are a variety of other factors influencing their DM in a professional context, to which ECs contribute but not alone. Overall therefore it has to be said that there are observed influences on both levels coming from created knowledge when learning about ethics, but the relation to the specific KC of ECs in MBA is not certain, even though participants themselves tend to think that there is a relation.

Conclusions on research questions and problem

Taking the limitations as stated in the following chapter into account, this research suggests that the existence of an EC in an MBA changes potential and past students' perception of an MBA program slightly towards a higher qualitative evaluation of the program. Furthermore, it is expected to also have an influence on their DM, even though a study involving more potential influence factors such as knowledge taken from the organization or the industry should be done to get clarity about this.

Also, this research suggests that, in general, there are measurable effects of teaching ethics on potential and past students' DM and also gives ground to attribute this specifically to ECs in MBAs, even though it is not possible to make a clear distinction between the attribution of learning from ECs in MBAs and learning about ethics in a different context - for example before an MBA - or even from learning in other disciplines. The research problem has therefore not been solved but a first indication of a positive relation between the learning in ECs in MBAs can be stated. Moreover, it remains unclear whether the measured effects are self-perceived only or whether they could be confirmed with an outside perspective such as from people observing the herein questioned individuals in their DM for ethical PS.

Lastly, the methodology used helped systematically investigate and could be used similarly for future research, for example by involving control groups and using random selection. In the following and last chapter, more details and suggestions are given to this.

6. Implications and limitations

Participants seem to commonly encounter ethical issues and while it is not certain what those issues are about, drawing from the description of those who answered the last question, it mostly has to do with relations to other (groups of) people or organizations such as employees, co-workers, superiors, clients or partners. It can be said that teaching ethics and including ECs in BE, specifically in MBAs, is welcomed, promoted or even expected by potential and past students - at least those who can be represented by this sample. Knowing more about participants such as their nationality, formation, profession, age or else would have helped understanding better their representation of the total population and would allow for a more precise interpretation of the data. Still, progress in this research area was achieved by gathering first data and allowing for tendency interpretations.

As the survey was sent out via the author's own network, the sample may involve trends unique to this group of respondents such as for people with an already existing interest in ethics. In the future, this could be avoided by cooperating with a relatively neutral institution, for example a university with the idea of offering an MBA in the future, in order to distribute the survey via their channels. Combining this with a longitudinal study of ongoing MBA students with an EC including a control group of MBA students without an EC could be a way for future research and would allow analyzing and interpreting interrelations better. A good case would include data gathering from students of a program with an optional EC, leading to the existence of two types within a highly similar context.

As the data was gathered in a limited period of time without repeating the gathering under the same or similar circumstances, no check for consistency of the results across time, across different observers and also not across parts of the test itself was possible - therefore it is unclear whether the results could be reproduced. Based on the performed literature review though, the results tend to confirm claims as presented in relating academic work, but since those are of a rather theoretical nature, a direct comparison is not possible. For future research, it is therefore recommended to also measure expected effects similar to how it has been proposed in this work. Also, the framework with RC and a neurobiological perspective could be enhanced by including pedagogical and psychological considerations in order to allow an interpretation of what to be done in ECs in MBAs.

In conclusion, this work detected and measured some effects that can be expected from theory. Even though the survey outcome involves data from the participants' self-perception only, it shows that they (expect to) see themselves better prepared for future PS and DM when being taught ethics and also attribute a higher value to MBAs – a good first measured support for BE to keep including ECs.

References

- Audi, R. (2018). *Epistemology: How do I know?* (00:00:00-00:04:44) Closer To Truth [Video File]. Retrieved October 7, 2021, from <https://www.closetotruth.com/series/epistemology-how-do-we-know-what-we-know-0>
- Bardi, A., & Schwartz, S. H. (1996). Relations among Sociopolitical Values in Eastern Europe: Effects of the Communist Experience? *Political Psychology*, 17(3), 525–549. <https://doi.org/10.2307/3791967>
- Bicchieri, C., Muldoon, R., & Sontuoso, A. (2018). Social Norms. In *The Stanford Encyclopedia of Philosophy* (Winter). Retrieved November 11, 2021, from <https://plato.stanford.edu/entries/social-norms>
- Blenkinsop, P. (2021, September 28). *EU executive urges VW to compensate all EU consumers over Dieselgate*. Reuters. Retrieved October 2, 2021, from <https://www.reuters.com/business/autos-transportation/eu-executive-urges-vw-compensate-all-eu-consumers-over-dieselgate-2021-09-28>
- Bossart, Y. (2021). *Bin ich eine Marionette meines Gehirns?* (00:00:00-00:59:55) Schweizer Radio und Fernsehen: Sternstunde Philosophie [Video File]. Retrieved September 15, 2021 from <https://www.srf.ch/play/tv/sternstunde-philosophie/video/gerhard-roth---bin-ich-eine-marionette-meines-gehirns?urn=urn:srf:video:236a9842-a7a6-4e8e-8b01-d30575dd9573>
- Byrnes, J. P. (2002). The development of decision-making. *Journal of Adolescent Health*, 31(6, Supplement), 208–215. [https://doi.org/https://doi.org/10.1016/S1054-139X\(02\)00503-7](https://doi.org/https://doi.org/10.1016/S1054-139X(02)00503-7)
- Caruana, L. (2018). *Epistemology: How do I know?* (00:16:40-00:21:45) Closer To Truth [Video File]. Retrieved October 7, 2021 from <https://www.closetotruth.com/series/epistemology-how-do-we-know-what-we-know-0>
- Cattell, R. B. (1963). Theory of fluid and crystallized intelligence: A critical experiment. *Journal of Educational Psychology*, 54(1), 1–22. <https://doi.org/10.1037/h0046743>
- Cragg, W. (1997). Teaching Business Ethics: The Role of Ethics in Business and in Business Education. *Journal of Business Ethics*, 16(3). <https://doi.org/10.1023/A:1017974908203>
- Crane, A., Matten, D., Glozer, S., & Spence, L. J. (2019). Introducing Business Ethics. In *Business ethics: Managing Corporate Citizenship and Sustainability in the Age of Digitalization* (5th ed.). Oxford University Press.
- Daniel Dennett. (2021). *Daniel Dennett on Free Will: Philosophy and Moral Responsibility* (00:00:00-00:32:55) Closer To Truth Chats [Video File]. Retrieved October 26, 2021, from <https://www.youtube.com/watch?v=Mc07mF67KB4>
- Datar, S. M., Garvin, D. A., & Cullen, P. G. (2010). *Rethinking the MBA: Business Education at Crossroads*, p.43-74 Harvard Business Press.
- de Grefte, J. (2021). Knowledge as Justified True Belief. *Erkenntnis*. Retrieved February 10, 2022, from <https://link.springer.com/article/10.1007/s10670-020-00365-7>
- Dubbink, W., & Smith, J. (2011). A Political Account of Corporate Moral Responsibility. *Ethical Theory and Moral Practice*, 14(2). <https://doi.org/10.1007/s10677-010-9235-x>
- French, P. A. (1979). The Corporation as a Moral Person. *American Philosophical Quarterly*, 16(3), 279. <http://www.jstor.org/stable/20009760>

- Giacalone, R. A. (2017). A Transcendent Business Education for the 21st Century. *Academy of Management Learning & Education*, 3(4), 415–420. <https://doi.org/10.5465/amle.2004.15112547>
- Goddard, J., & Eccles, T. (2012). *Uncommon Sense, Common Nonsense: Why some organisations consistently outperform others*. Profile Books Ltd.
- Hall, S. (2015, October 26). *Exxon Knew about Climate Change almost 40 years ago*. Scientific American. Retrieved October 2, 2021 from <https://www.scientificamerican.com/article/exxon-knew-about-climate-change-almost-40-years-ago>
- Hartley, C. A., & Somerville, L. H. (2015). The neuroscience of adolescent decision-making. *Current Opinion in Behavioral Sciences*, 5, 108–115. <https://doi.org/https://doi.org/10.1016/j.cobeha.2015.09.004>
- Hastie, R., & Dawes, R. M. (2010). *Rational Choice in an Uncertain World: The Psychology of Judgment and Decision Making* (2nd ed.). Sage Publications, Inc.
- Heidbrink, L., & Langbehn, C. (2017). *Handbuch Verantwortung* (L. Heidbrink, C. Langbehn, & J. Loh, Eds.). Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-06110-4>
- Hoffman, W. M. (1984). Ethics in business education: Working toward a meaningful reciprocity. *Journal of Business Ethics*, 3(4). <https://doi.org/10.1007/BF00381746>
- IESE Business School. (2018). *Business Ethics*. MBA Curriculum 2018. Retrieved February 10, 2022; from <https://mba.iese.edu/wp-content/uploads/BusinessEthics.pdf>
- Kant, I. (1785). *Preface*. Groundwork for the Metaphysics of Morals (Translated by Thomas Kingsmill Abbott). September 8, 2021 <https://www.edx.org/search?q=justice>
- Küng, H. (2006). *Was die Welt im Innersten zusammenhält: Religion und die moderne Hirnforschung*. Südwestrundfunk 2 Wissen [Audio File]. Retrieved October 4, 2021, from <https://www.swr.de/swr2/wissen/hans-kueng-ueber-hirnforschung-100.html>
- MacIntyre, A. (2015). The Irrelevance of Ethics. In *Virtue and Economy* (1st ed., pp. 7–18). Routledge. <https://doi.org/10.4324/9781315548067>
- March, J. G. (2013). *Handbook of Organizations*. Routledge.
- Marquis, C., Beunza, D., Ferraro, F., & Thomason, B. (2011). *Driving Sustainability at Bloomberg L.P.* 9-411-025. Retrieved October 22, 2021, from <https://www.hbs.edu/faculty/Pages/item.aspx?num=39209>
- Maryville University. (2021). *The Importance of Business Ethics*. Retrieved October 22, 2021, from <https://online.maryville.edu/online-masters-degrees/management-and-leadership/careers/importance-of-business-ethics>
- Payne, L. S., Hsieh, N., & Adamsons, L. (2016). *Governance and Sustainability at Nike (A)*. 9-313-146. Retrieved October 22, 2021, from <https://www.hbs.edu/faculty/Pages/item.aspx?num=44895>
- Pierce, L., & Snyder, J. (2008). Ethical Spillovers in Firms: Evidence from Vehicle Emissions Testing. *Management Science*, 54(11), 1891–1903. <https://doi.org/10.1287/mnsc.1080.0927>
- Popper, K. (2002). Falsifiability. In *The Logic of Scientific Discovery* (Second Edition, pp. 57–73). Routledge Classics.

- Raymond, M. A., McNabb, D. E., & Matthaei, C. F. (1993). Preparing Graduates for the Workforce: The Role of Business Education. *Journal of Education for Business*, 68(4), 202–206. <https://doi.org/10.1080/08832323.1993.10117613>
- Reinhard, F., Casadesus-Masanell, R., & Jin Kim, H. (2010). *Patagonia*. 9-711-020. Retrieved October 22, 2021, from <https://www.hbs.edu/faculty/Pages/item.aspx?num=39312>
- Roth, G. (2013a). Entscheidungsverhalten aus Sicht der Neurowissenschaften. *Journal Für Verbraucherschutz Und Lebensmittelsicherheit*, 8(3), 230–233. <https://doi.org/10.1007/s00003-013-0833-0>
- Roth, G. (2013b). *The Long Evolution of Brains and Minds*. Springer Netherlands. <https://doi.org/10.1007/978-94-007-6259-6>
- Roth, G. (2021). *Bin ich eine Marionette meines Gehirns?* (00:00:00-00:59:55) Schweizer Radio und Fernsehen: Sternstunde Philosophie [Video File]. Retrieved September 9, 2021, from <https://www.srf.ch/play/tv/sternstunde-philosophie/video/gerhard-roth---bin-ich-eine-marionette-meines-gehirns?urn=urn:srf:video:236a9842-a7a6-4e8e-8b01-d30575dd9573>
- Sandel, M. J. (2005). *Harvard University's Justice Course, Lecture 12: The Supreme Principle of Morality*. Harvard University. Retrieved September 8, 2021, from <https://justiceharvard.org/justicecourse>
- Sandel, M. J. (2013). Market Reasoning as Moral Reasoning: Why Economists Should Re-engage with Political Philosophy. *The Journal of Economic Perspectives*, 27(4), 121–140.
- Simon, H. A. (1960). The executive as decision maker. In *The new science of management decision*. Harper & Brothers. <https://doi.org/10.1037/13978-001>
- Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2014). Questionnaire Design. In *Business Research Methods* (pp. 143–159). Springer International Publishing. https://doi.org/10.1007/978-3-319-00539-3_5
- Stark, A. (1993). What's the Matter with Business Ethics. *Harvard Business Review*. <https://hbr.org/1993/05/whats-the-matter-with-business-ethics>
- Sucher, S. J. (2007). *Teaching The Moral Leader: A Literature-based Leadership Course: A Guide for Instructors* (1st ed.). Routledge.
- Sullivan, M. (2018). *Epistemology: How do I know?* (00:00:00-00:03:33) Closer To Truth [Video File]. Retrieved October 7, 2021, from <https://www.closetotruth.com/series/epistemology-how-do-we-know-what-we-know-0>
- van Fraassen, B. C. (2018). *Epistemology: How do I know?* (00:12:00-00:16:15), Closer To Truth [Video File]. Retrieved October 7, 2021, from <https://www.closetotruth.com/series/epistemology-how-do-we-know-what-we-know-0>
- von Glasersfeld, E. (1984). An introduction to radical constructivism. In *The invented reality* (pp. 17–40). W. W. Norton & Company.
- von Glasersfeld, E. (1995). *Radical Constructivism – A Way of Knowing and Learning*. RoutledgeFalmer.

Appendix A: Terminology and characteristics for possibilities from belief to knowledge

Belief	Opinion	Initial opinion... - unclear whether true or wrong - feeling of certainty of it to be true
Justified belief		... with good reason(s) - unclear whether true or wrong - existing support of proposition
Justified true belief		... with good reason(s) and true - clarity about truth - existing but lawful support of proposition
Justified wrong belief		... with good reason(s) but wrong - false clarity about truth - existing but lawful support of proposition
Unjustified belief		... without good reason(s) - unclear whether true or wrong - no existing support of proposition
Unjustified true belief		... without good reason(s) but true - no or false clarity about truth - existing but lawful support of proposition
Unjustified wrong belief		... with good reason(s) even though wrong - no clarity about truth - existing but lawful support of proposition
Knowledge	Truth	Truth... - in repeated experiences not falsified - existing and tested support of proposition
A priori knowledge		... based on a priori justification(s) - gathered through understanding and thinking about a proposition - no experience but only reasoning lead to knowledge construction
A posteriori knowledge		... based on a posteriori / empiric justification(s) - gathered through observations (senses or introspection) - past unfalsified self-experiences lead to knowledge construction
Generalized knowledge		... taken as a given by individuals and societies - not regularly questioned anymore (only exceptionally if at all) - generalized through a or a posteriori justifications

Appendix B: Overview of questions in survey

# of question as per respondent	Question level	Questions	Additional information that has been given to the respondent before posing the question
		<p>Information given as basic knowledge before entering the question levels: Dear respondent, thank you very much for taking the time to answer the following questions - it should take no more than 7-8 minutes. For evaluating your answers, no personal data is needed and you will not be asked anywhere to provide such. The answers will make part of a business administration master thesis, which has the aim of understanding effects of teaching ethics on people's decision-making. Your participation is greatly appreciated!</p> <p>Lisbon MBA - Católica Nova MIT Sloan</p>	
1		Have you ever learned about ethics in your prior formal education (e.g. in high school, university or in other certifications)? (Multiple Choice: yes/no/unsure)	
2	Profiling	Did you in the past learn about ethics apart from formal education (e.g. in your private time)? (Multiple Choice: yes/no/unsure)	
3		Did you in the past complete an MBA - Master of Business Administration - program? (Multiple Choice: yes/no)	If you don't know what an MBA program is, don't worry. You'll get information in the following section.
		<p>Information given as basic knowledge before entering the question level: An MBA program is an academic master program, typically taught at universities over the course of 1-2 years. It involves the learning of general business knowledge (from all major business functions, e.g. Finance, Accounting, Marketing, etc.) and can come together with learning very specific business knowledge (can be a focus area such as Entrepreneurship or Ethics, e.g. through the students' choices on specialisations or elective courses).</p>	
	Population	<p>Potential students (answered "no" in question 3)</p> <p>Past students (answered "yes" in question 3)</p>	
4		Talking about your current situation: Do you have the intention to apply for an MBA ever in your life? (Multiple Choice: yes/no/unsure)	Did you run through an ethic course during your MBA program? (Multiple Choice: yes/no/unsure)
		<p>Information given as basic knowledge before entering the question level for those who haven't run through an MBA: An MBA program often times helps students advancing in their career, e.g. through accessing higher career levels, higher salaries, desired jobs and more. MBA programs are not designed only for business people but for a variety of professions and branches (students applying to MBAs for example might want to move on to a leadership role within their prior professional area such as from an engineer position to being the head of engineering or similar).</p>	
	Subpopulation	<p>Potential students with intention to apply</p> <p>Potential students with no intention to apply and those unsure</p> <p>Past students having run through an ethics course</p> <p>Past students without having run through an ethics course</p>	
5		How likely are you to apply to an MBA during your life? (Scale 1-5)	Do you think an ethic course during your MBA would have helped you in taking personal career decisions after the MBA? (Scale 1-5)
6		Would the existence of an ethic course in an MBA program influence the likelihood for you to apply? (Scale 1-5)	Do you think an ethic course during your past MBA would have helped you in your decision-making on the job after the MBA? (Scale 1-5)
7	Level 1: Perceived importance of ethics courses	In general, do you think universities should include ethics courses in their business education programs? (Multiple Choice: Yes, as a mandatory component / No / Unsure)	
8		Do you think that an MBA with an ethic course is of higher quality than one without? (Multiple Choice: Yes, No, Maybe)	
9		How often do you see yourself confronted with ethical problems per year? (Multiple Choice: 1-5 with level per year: 0 times, 1-3 times, 4-6 times, 7-10 times, >10 times. If "0 times" is answered, survey ends)	All following questions relate to your decision-making in a professional context. Therefore, please tell us:

10		Approximately how often can you build a concrete opinion about these ethical problems? (Scale 1-5)	
11	Level 2: Radical constructivism	Approximately how often can you justify that opinion? (Scale 1-5)	
12		Approximately how often do you come to the conclusion that your initial opinion on this was false? (Scale 1-5)	
13		Do you think an ethics course in an MBA helps / would help you understanding such problems? (Scale 1-5)	
14		Approximately how easy is it for you to identify different courses of action in order to solve such problems? (Scale 1-5)	
15	Level 3: Intelligence as a problem-solving capacity	Approximately how easy is it for you to choose among those courses of action (if you identify more than one)? (Scale 1-5)	
16		How often can you successfully solve ethical problems? (Scale 1-5)	
17		Is your behavior in ethical problem-solving rather reactive (when issues comes up), proactive (to solve anticipated issues, e.g. recurring ones) or preventive (to keep issues from occurring)? (Multiple Choice: reactive/proactive/preventive/unsure)	
18		How often are you already familiar with ethical problems when they occur? (e.g. because you encountered the same or a similar problem already before)? (Scale 1-5)	Remembering that we are talking about your professional life only, how often...
19	Level 4: Organizational vs. industry knowledge	How often do you encounter ethical issues that you already know how to solve (e.g. because you learned about it)? (Scale 1-5)	
		How often do you follow the lead of others to solve such ethical problems (e.g. your colleagues or other companies)? (Scale 1-5)	
20		How often do you question your organizations' responses to ethical problems? (Scale 1-5)	
21	Level 5: Associative learning and memory formation	How often do you need to gather more knowledge in order to solve the issue? (Scale 1-5)	
22		How often do you take decisions without having sufficient knowledge about the ethical issue? (Scale 1-5)	
23	Optional open question - can be answered in bullet points.	Please describe a decision-making process you went through, in which you recognize an ethical dimension as important. Tell us, if and how you could solve such.	Thank you very much for participating in this survey. You have helped a lot in making this research possible. There is one last request we have, but since we know that your time is valuable, your answer is optional, though would be very appreciated - if you don't want to answer it, please just click the "Submit" button.

* if the survey participant chose '0 times', for him/her the survey ends here



Questionnaire on teaching ethics in business education

Dear respondent,
 thank you very much for taking the time to answer the following questions - it should take no more than 7-8 minutes.

For evaluating your answers, no personal data is needed and you will not be asked anywhere to provide such. The answers will make part of a business administration master thesis, which has the aim of understanding effects of teaching ethics on people's decision-making.

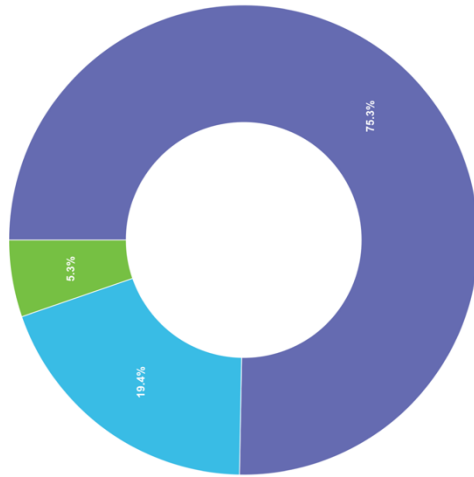
Your participation is greatly appreciated!

 Lisbon MBA - Católica | Nova | MIT Sloan

Appendix C: Survey Results Summary

Note: To get the summary in another format (pdf, xlsx, csv or json) or to get the full version which includes the results as per participant with 380 pages as a pdf format (also available as docx, xlsx, csv or json), please contact the author: miro.osorio20@thelisonmba.com.

Q1 Have you ever learned about ethics in your prior formal education (e.g. in high school, university or in other certifications)?*

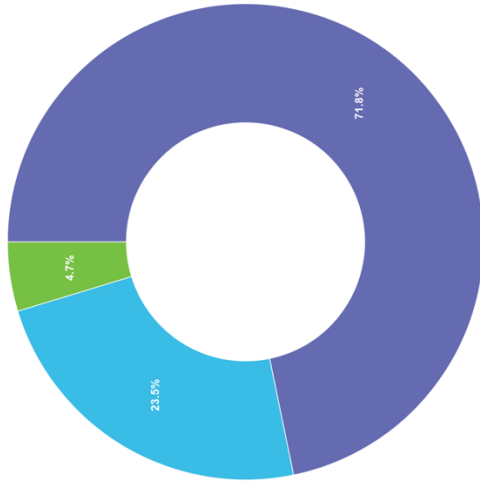


Answered: 170 Unanswered: 0



Q2 Did you in the past learn about ethics apart from formal education (e.g. in your

private time)?*

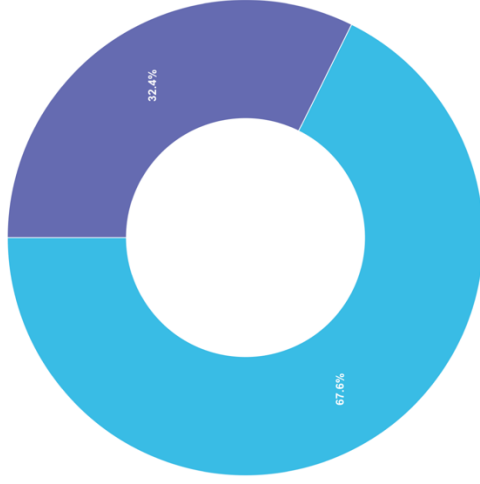


Answered: 170 Unanswered: 0

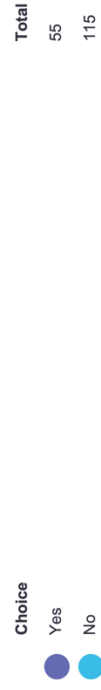


Q3 Did you in the past complete an MBA - Master of Business Administration - program?

If you don't know what an MBA program is, don't worry. You'll get more information in the following section.*



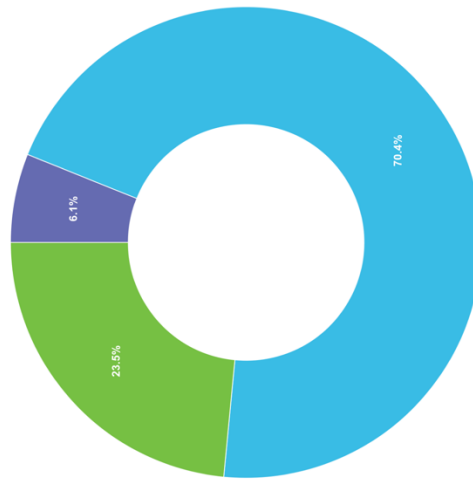
Answered: 170 Unanswered: 0



Q4 An MBA program is an academic master program, typically taught at universities

over the course of 1-2 years. It involves the learning of **general business knowledge** (from all major business functions, e.g. Finance, Accounting, Marketing, etc.) and can come together with learning **very specific business knowledge** (can be a focus area such as Entrepreneurship or Ethics, e.g. through the students' choices on specialisations or elective courses).

Talking about your current situation: Do you have the intention to apply for an MBA ever in your life?*



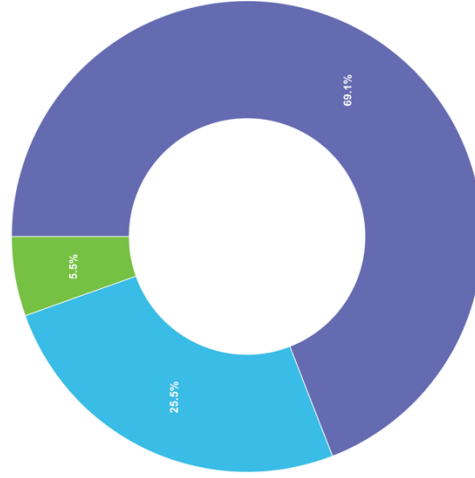
Answered: 115 Unanswered: 55

Choice
 Yes
 No

Total
 7
 81

Choice
 Unsure
 Total
 27

Q5 Did you run through an ethic course during your MBA program?*



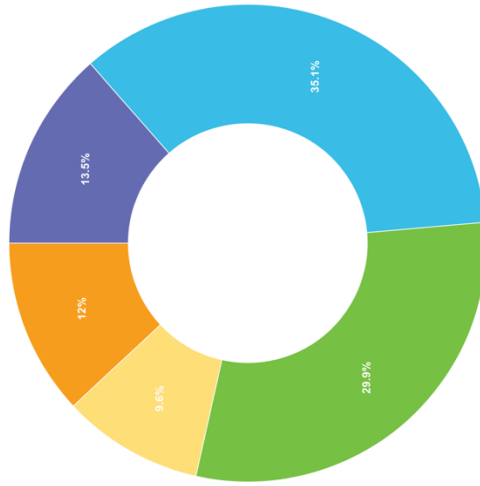
Answered: 55 Unanswered: 115

Choice
 Yes
 No
 Unsure

Total
 38
 14
 3

Q6 An MBA program often times **helps students advancing in their career**, e.g. through accessing higher career levels, higher salaries, desired jobs and more. MBA programs are not designed only for business people but for a variety of professions and branches (students applying to MBAs for example might want to move on to a leadership role within their prior professional area such as from an engineer position to being the head of engineering or similar).

How likely are you to apply to an MBA during your life?*

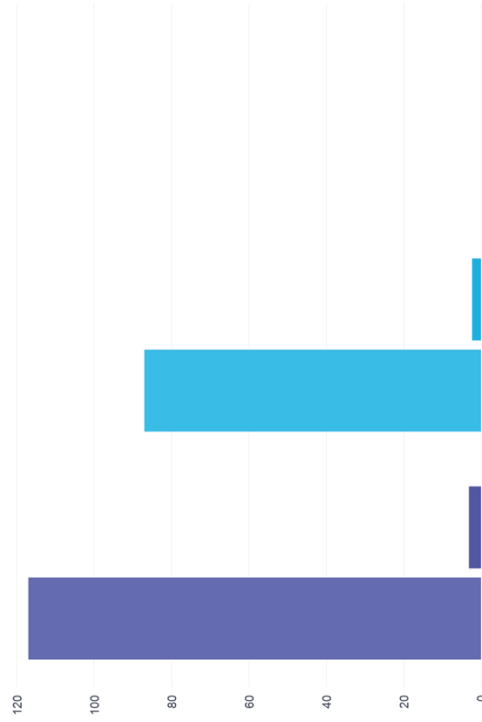


Answered: 115 Unanswered: 55 Average Rating: 2 - Not so likely

Choice	Total	Rating
1 - Not at all likely	34	34
2 - Not so likely	44	88

Choice	Total	Rating
3 - Somewhat likely	25	75
4 - Very likely	6	24
5 - Extremely likely	6	30

Q7 Did your MBA ethic course(s) influence your decision-making during the following phases of your life?*



Answered: 38 Unanswered: 132

Choice	Score	Average
1 - Not at all likely		
2 - Not so likely		
3 - Somewhat likely		

Choice	Score	Average
Influence during job search (e.g. on career choices)	117	3.08
Influence during work life (e.g. on managerial choices)	87	2.29

Q8 Would the existence of an ethic course in an MBA program influence the likelihood for you to apply?*

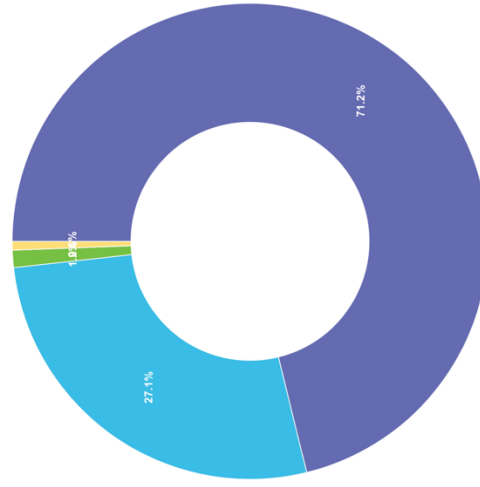


Answered: 115 Unanswered: 55 Average Rating: 2 - Not so much

Choice	Total	Rating
1 - Not at all	35	35

Choice	Total	Rating
2 - Not so much	29	58
3 - Somewhat	32	96
4 - Very much	15	60
5 - Extremely much	4	20

Q9 In general, do you think universities should include ethic courses in their business education programs?*

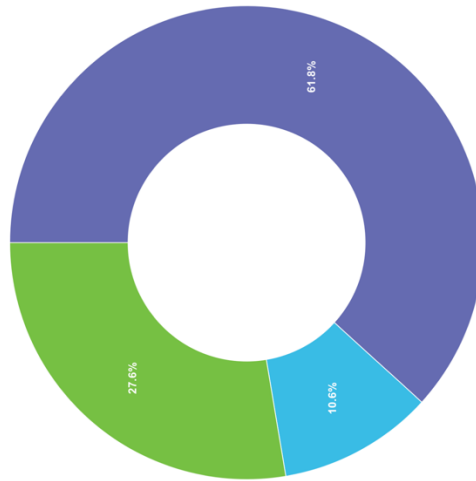


Answered: 170 Unanswered: 0

- Choice**
- Yes, as a mandatory component
 - Yes, as an optional component
 - No
 - Unsure

Total
121
46
2
1

Q10 Do you think that an MBA with an ethic course is of a higher quality than one without?*



Answered: 170 Unanswered: 0

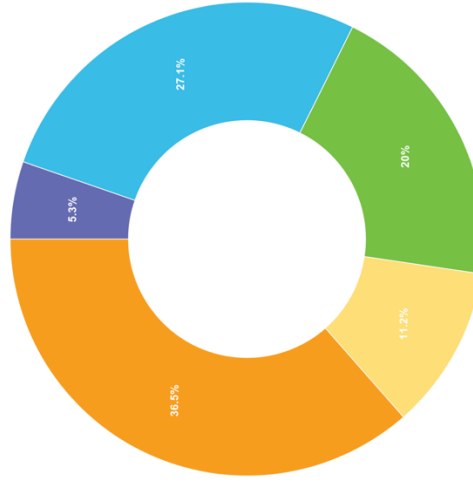
- Choice**
- Yes
 - No
 - Maybe

Total
105
18
47

Q11 All following questions until the end of the survey relate to your decision-making in a professional context.

Therefore, please tell us: How often do you see yourself confronted with ethical problems per year?*

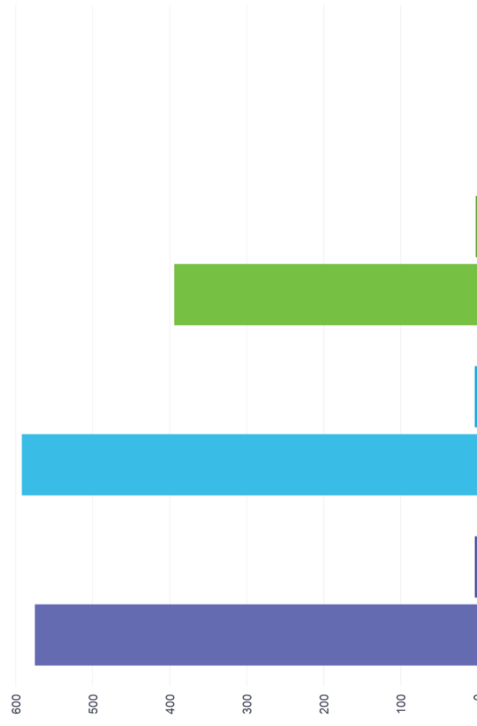
Give us your best spontaneous approximation.



Answered: 170 Unanswered: 0

- | Choice | Total |
|-----------------------------|-------|
| 0 times per year | 9 |
| 1-3 times per year | 46 |
| 4-6 times per year | 34 |
| 7-10 times per year | 19 |
| more than 10 times per year | 62 |

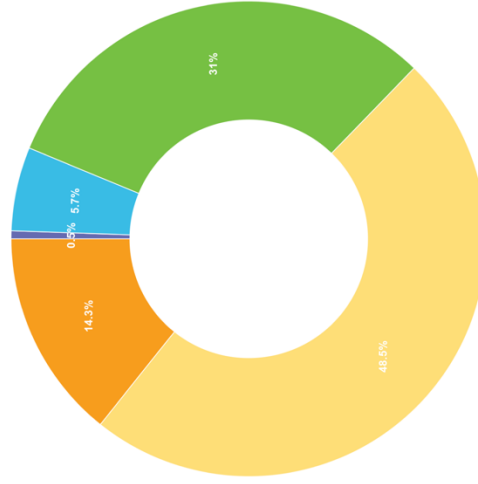
Q12 Approximately how often can you...*



Answered: 161 Unanswered: 9

- | Choice | Score | Average |
|--|-------|---------|
| ... build a concrete opinion about these ethical problems? | 575 | 3.57 |
| ... can you justify that opinion? | 592 | 3.68 |
| ... do you come to the conclusion that your opinion on this was false? | 394 | 2.45 |

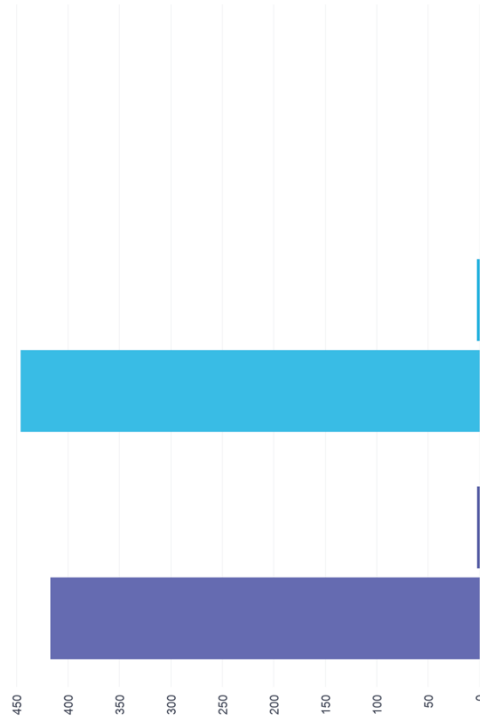
Q13 Do you think that an ethics course in an MBA helps / would help understanding such problems?*



Answered: 161 Unanswered: 9 Average Rating: 3 - Somewhat

Choice	Total	Rating
1 - Not at all	3	3
2 - A little bit	16	32
3 - Somewhat	58	174
4 - Very much	68	272
5 - Extremely much	16	80

Q14 Approximately how easy is it for you to...

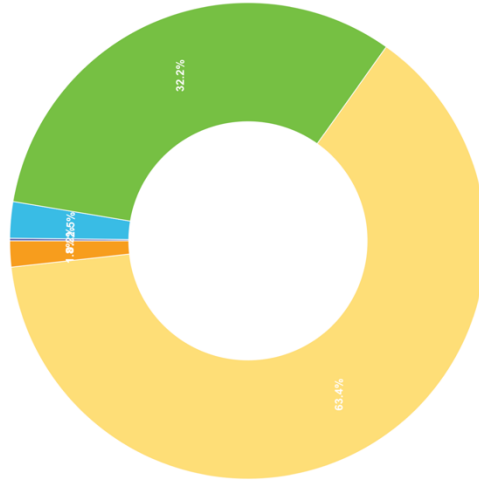


Answered: 161 Unanswered: 9

Choice	Score	Average
... identify different courses of action in order to solve such problems?	417	2.59
... choose among those courses of action (if you identify more than one)?	446	2.77

Q15 How often can you successfully solve ethical problems?*

Hereby "successful" refers to your personal perception



Answered: 161 Unanswered: 9 Average Rating: 4 - Often

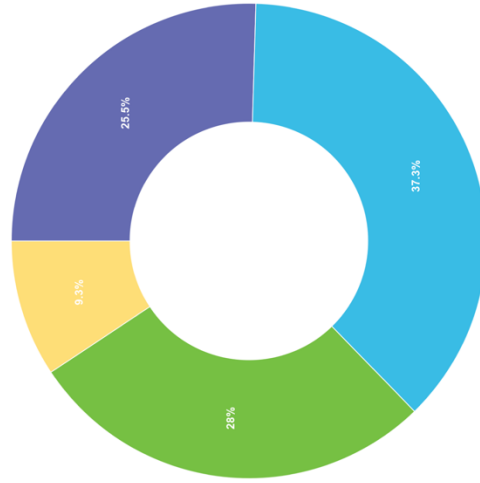
Choice

Total

Rating

Choice	Total	Rating
1 - Never	1	1
2 - Rarely	7	14
3 - Sometimes	61	183
4 - Often	90	360
5 - Always	2	10

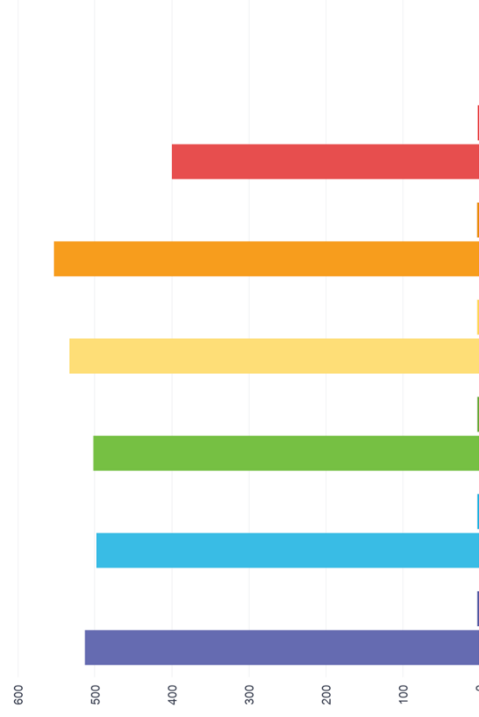
Q16 Is your behavior in ethical problem-solving rather reactive, proactive or preventive?*



Answered: 161 Unanswered: 9

Choice	Total
Reactive - when issues comes up	41
Proactive - to solve anticipated issues	60
Preventive - to keep issues from occurring	45
Unsure	15

Q17 Remembering that we are talking about your professional life only, how often...*



Answered: 161 Unanswered: 9

Choice Score Average

Choice	Score	Average
... are you already familiar with ethical problems when they occur (e.g. because you encountered the same or a similar problem already before)?	513	3.19
... do you encounter ethical issues that you already know how to solve (e.g. because you learned about it)?	498	3.09
... do you follow the lead of others to solve such ethical problems (e.g. your colleagues or other companies)?	502	3.12
... do you question your organizations responses to ethical problems?	533	3.31
... do you need to gather more knowledge in order to solve the issue?	553	3.43
... do you take decisions without having sufficient knowledge about the ethical issue?	400	2.48

Q18 Thank you very much for participating in this survey. You have helped a lot in making this research possible.

There is **one last request** we have, but since we know that your time is valuable, your answer is **optional**, though would be very appreciated - if you don't want to answer it, please just **click the "Submit" button**.

Please describe a decision-making process you went through, in which you recognize an ethical dimension as important. Tell us, if and how you could solve such.

Bullet points are sufficient.

#	Answer
1	Handling of client data - To a certain extent there are existing guidelines on how to manage external data, so this did facilitate the ethical use of the data between non-related clients
2	I wouldn't want to describe a specific situation relating to my workplace, but in general I try to gather as much information and facts as possible that help solve the "problem". Furthermore talking to other people helps a lot (communicating).
3	Deciding whether to intubate and ventilate people without a patient's provision and a pre-diagnosed deadly disease just to keep them alive and therefore comply the family's will even though the quality of life doesn't increase for the patient
4	The most obvious that comes to mind is the decision making process I made in order to quit my job. It all came down to unethical (and lacking) leadership, which resulted in an extreme lack of trust in the company, which led me to present my resignation letter.
5	Behandle andere so, wie du selbst behandelt werden willst. Dieser Leitsatz ist ein wichtiger Satz in meinem pädagogischen Beruf. Z.B.: Ein Kind hat das WC schmutzig hinterlassen und wird von anderen öffentlich beschuldigt und angeklagt. Das Kind vermeint, ich interveniere in Ruhe und unter vier Augen, nachfragend. Kann so zum Wohle aller Lösung mit dem Kind finden und die Situation entzerren und bereinigen.
6	Academic research and publishing
7	We are architects, and build for the whole society, for example social housing projects it big vaccination centers, so we use the different languages if architecture and create space or houses for different social networks and familia systems and their heritage wherewith they are grown and educated. Also we have refugees as professionals in our company as architects
8	In the field of accounting I run into ethical questions each day when interpreting accounting standards and how to apply them.
9	As a teacher of international course of university program, the majority of ethical issues are arising around the international background and variety of students, thus I always have to be careful with general information, examples that I give etc.
10	As an independent lighting designer I was asked to apply for the planning of a private home. When I learned that it was almost like a palace with 40 rooms and 1.000 sqm I refused to apply for it, because I had ethical concerns.
11	Create a need of urgency to progress a change process in a team environment
12	Ethical problems in palliative care. Continue with with life-supporting/sustaining therapies or procedures for a patient with a life-threatening disease or abort them? Which decision in which situation? Procedure: Gaining as much information about the whole situation as possible together with all the people concerned. Trying to find a common decision.
13	- we realized that we needed to ensure a more diverse and representative audience (BIPoC, LGBTQ+, etc.) at events on local level - primarily use partners and their channels to ensure a more balanced representation of these communities
14	- ad this agency we made loads of trash at unnecessary expenses because of unorganized, inventory and ordering - either you look it all through on your extra time and come up with a system incl. suppliers for producing less trash or you just keep on going with the mess
15	Not really a decision making process but rather a guiding principle in our team. We pride ourselves being inclusive, open and fair, we pay everyone according to their skills and experience. We nurture a culture of open and respectful feedback and address issues immediately.
16	I work for an NGO in the United States and we have regular convening of a equity workgroup to uncover and propose solutions to unseen biases. In this process, it was critically important to include voices from EVERY employee, and to give opportunities for both anonymous and collaborative, discussion-based feedback. The results of the exercise uncovered part-time, adjunct work, which included less job security, was disproportionately offered to employees of color, and the organization took steps to remediate.
17	Data protection issues that we solved through anonymisation of user-identifying features. Also once worked on a side project around algorithmic ethics and which decision directions exist, because there isn't just one justifiable ethical decision. We never finished that project though, so can't talk about how we solved an actual problem there.
18	Negotiating suppliers for blue collar services such as cleaning where a large share of the costs are salaries. Here, the working conditions are fairly tough on the workers anyway. We used an open book calculation to ensure that the supplier could only provide savings based on non salary related items.
19	Accepting a colleague with very bad Performance in the team. Despite the fact the colleague endangered the team Performance we tried to include her in the team which was something not everybody was comfortable with. I would have liked to follow a structured approach here how to engage ethically.
20	Setting monthly KPIs for a performance based bonus. Shifting strategy over the course of the month that is not 100% aligned with the set KPIs. The ethical problem that occurs at the end of the month is, choosing between sticking to the defined KPIs i.e. following a strict line or adjusting the KPIs afterwards to match monthly activities. We went for not adjusting the KPIs to not develop expectations/ give space for negotiation that KPIs will be adjusted post performance
21	Helped to report repeated sexual harassment in the workplace on behalf of my female co-workers concerned since they were not able to speak up by themselves at that time
22	Decided not to extend the contract of an under performer who had not improved over time. Knowing a family was in the picture it felt wrong (ethically), but despite having talks about the performance earlier, it did not improve over time and hampered the morale of the entire team. In the end the decision was about "sacrificing" one for the team (and the business.)

23	Anonymous complaint about management sent per email to all staff and shareholder. Manhunt began instead of questioning why this method of complaining was used. My advice was turned down to be welcoming and more open for employees' problems
24	dismissal processes, disciplinary processes I'm often confronted with ethical problems, therefore I'm used to find a solution. It is important to realise that those exist in this diverse world with different cultures and religions. I'm not sure if an ethic course would help out solving ethical problems, but it could be a basis for the process of solving. I had a senior colleague that often yelled with his team. He yelled in our open workspace, accusing us of doing a bad job. The first time it happened with me I decided to do nothing. I thought that he was having a bad moment with a lot of stress. The second time I pushed him aside to try to talk with him in private. I said that it was never a good decision to yell or to be rude. I didn't care if he was a senior, he should not talk with everyone with that attitude. He took the message wrong, and interpreted as me challenging his authority. The third time he yelled at me - and with a colleague that tried to defend me (he was being super unfair, but that was not even the point) I decided to report his behavior to our team manager. The days after that I felt bad because I would prefer to deal with this problem by myself, or inside the team. But because I escalated the problem, his behavior actually improved. He never understood why I did what I did, but knowing that he was being "monitored" made him thought twice before being aggressive with anyone else.
25	In my work with an NGO and our project with a Colombian community of internally displaced people. Humanitarian aid in Form of Christmas presents without the often problematic western-centric approach to such aid and the difficult representation of the "white savior". To tackle and solve this issue, a partnership with a local organisation and frequent and open communication about the community needs, impact of possible presents and portrayal of "aid" where integrated into the process. Finally, the local partners are on charge of organizing the event to distribute presents instead of us as the European and therefore foreign partner. Furthermore, all presents where selected to fill apparent needs but also have long term impact, e.g. clothing for school uniforms to allow access to education while reducing financial strain on families
26	During the most intense covid times when death rates were sky high, testing was necessary in order to access the building where I used to work. A colleague openly recognised he had been in contact with positive patients and he entered the building without getting tested and did not use a mask when approaching other colleagues. I didn't want to put him at risk of dismissal nor put the remaining of my older colleagues at risk by not saying anything (they did not know) so I found myself at a crossroads. I felt responsible for not doing anything being the only one who knew about these circumstances and knowing some of my other colleagues were risk groups due to their health condition. To solve it, I decided to only share this information with a more experienced colleague I trusted and ask for her advice - she helped me to let management know about the situation without directly giving names so they would make sure the covid rules were being respected in the building.
27	ethical questions arise on quite different levels in my work (public health research) - for quite a view studies we formally have to consult an ethic board explaining our study, interactions with participants and data protection issues - since most of our research results are published, some of them with presentations during press conferences, in my opinion many ethical questions arise with regard of - how one can simplify results without loosing the "true" contend - how to bring meaningful aspects into the public discussion. With this kind of questions it is always important to check your formulations/presentations with colleagues and "outsiders" before they become public