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# Doctrines for occupational health and safety

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The balance between structure and handling uncertainty through mindfulness remains a riddle in occupational health and safety. In a similar vein, the relationship between strategy, business models, management control, and its influence on actual practice is still poorly understood. Hence, the notion of doctrines is here suggested as a new way of talking about these tensions, as a middle-way between abstract models and routines on the one hand, and actual mindful practices on the other. What becomes clear in this exploration is that the tension between structural abstractions on the one side and the concrete everyday, and possibly mindful, practice on the other are not only theoretical and practical concerns, but touches on the fundamental intelligibility of human action.

## KEYWORDS

doctrines, management control, occupational health, safety, strategy

## Introduction

The chapter discusses the relevance of the notion of doctrines as local phenomena with regard to occupational health and safety and its relation to structural devices, such as management control systems. Hence, it is a qualitative endeavor rather than an empirical one, consequently suggesting novel ways of talking about things rather than seeking to establish the existence, frequency, and relation between phenomena within established categories. That also sets the stage for how the existing literature is discussed, i.e., in terms of its conceptualizations and omitting, rather than in terms of the observations within established categories and classifications. The main focus is thus not to discuss the empirical observations of the relations between occupational health and safety work and management control systems, or other findings on how to establish sustainable strategies and business models, except for the very relation between such abstractions and the concrete practices and how they can be mediated through doctrines.

Occupational health and safety is traditionally, to a large extent, a discipline of measurement of toxic substances, noise, stress, and alike. It is also a science of standardization of acceptable levels of such threats to health, safety distances, adequate equipment, systems, and routines. It is a normal science both in a [Kuhn \(1962\)](#) sense of established topics, methods, and knowledge, and in a [Simon \(1971\)](#) sense of reducing masses of brute facts into parsimonious scientific statements, principles, and routines, economizing on scarce attention in the management of safety issues. As such, the integration of occupational health and safety concepts and measurements into general management systems may seem like a promising way to achieve social sustainability

throughout the organization, in line with the adage “What gets measured gets managed”. The last decades’ development of multi-dimensional management control models (in addition to financial accounting), such as balanced scorecards, intellectual capital, and health statements, and the formalization of strategy through business models facilitates such integration. However, formalized models are not the same thing as actual practice, thus raising the question of when and under what conditions integration of occupational health and safety into such systems and routines leads to an actual impact on the organization.

A growing stream of occupational health and safety research takes the opposite perspective, often associated with the notion of high-reliability organizations (Weick and Sutcliffe, 2015) and mindfulness as a metaphor for the informal, lived experience, and interaction in everyday professional life that makes structures and routines mean something and produces actual occupational health and safety in practice. The tensions between these perspectives have attracted more attention recently. While mindfulness is often defined in terms of cognitive and conceptual creativity, Bjurström (2012) suggested that it should rather be understood as a non-conceptual flow of experience in line with its eastern origins also echoed in pragmatism and systems thinking. Reviewing safety research, Goerlandt et al. (2021) commented on its growth both in volume and perspectives. Martínez-Córoles and Vogus (2020) remarked that mindful organizing has become a foundation of research into high-reliability organizations. Discussing the future of safety science, Swuste et al. (2020) commented on the need to meet complexity not only with only structures, and Grote (2020) asked whether safety and autonomy will remain a contradiction forever. Hence, the time is ripe for discussing the different ways in which occupational health and safety work may be performed and the relation between general theory and practice.

Research into structural arrangements, such as management control, has developed in similar directions. While it has long been agreed that management control in practice is about communication between managers and employees (Anthony and Govindarajan, 2007), research into the topic has largely developed into a study of information systems and what kind of information is included, in the production of reports of different kinds. A smaller stream of research of a more critical stance has co-existed alongside as an alternative perspective (Baxter and Chua, 2003), often emphasizing, e.g., the uses of accounting and other kinds of reporting, i.e., their practices in different settings. Rather than departing from assumptions of rational decision-making à la “economic man”, this research often leans toward Simon’s notion of “bounded rationality” (March and Simon, 1958) and various sociological theories that have lately become known as a “practice theory”, emphasizing the social logic around the different usages and non-usages of management control systems. Consequently, a “practice notion” (Ahrens and Chapman, 2007) of management control puts the social structures that emerge from using the systems at

the heart of the theory, rather than the reporting systems in themselves.

The strength of such a practice notion of management control is that it can potentially explain the connection between the systems and their actual impact on the organization by introducing more nuance to the picture. Empirical evidence suggests that the adage “What gets measured gets managed” should rather be restated as: “What gets attention gets managed, especially if it gets measured” (Catasús et al., 2007). This raises questions around the very notion of implementation of strategy, business models, and occupational health and safety into an organization’s actual practice. Ironically, the strength of a practice view is also its weakness: while it adds nuance, it also opens up the entire complexity of the actual everyday organizational practices which makes it hard to predict or even understand on a more general level what is going on. Going full circle would bring us back to the original reason why management control theory omitted practice in the first place, thereby losing its explicatory power as to when it actually matters and has a real impact on organizations.

In other words, the conflicting perspectives in occupational health and safety, as well as within structural approaches such as management control and business models, brings more into consideration than just the fact that different theories offer a different explanation: it also has consequences for how we understand the notion of implementation, the very notion of theory and practice, respectively, as well as the relation between them. These aspects are more often than not omitted in the existing literature, rather accepted as a peaceful co-existence of different theories than elaborated into attempts to reconcile perspectives. However, an everyday reconciling conclusion would be that structures and routines do not execute themselves, but need to be carried out by people and that there will be a qualitative difference whether this execution is done mindfully or not, if carried out at all. This sets a limit for the notion of predictive normal science with regard to what impact and consequences different systems or practice-arrangement bundles will have, if any at all. What gets measured does not always get managed and what matters is not the systems and structures in themselves, but what kind of social and practical consequences their usages will have, if used at all.

Whether structures and routines matter and get managed or not depends on what gets attention, which in turn is a matter of mindful or mindless practice: mindful more so and mindless less so. However, the actual practice is too complex and full of variation to be described in any consistent and objective way. Rules are obeyed and followed or ignored. Things play out differently in different situations depending on specific circumstances and coincidences. Actors play out their cards depending on the flow of the game. In well-managed high-reliability organizations, processes may look smooth at a distance just because individuals and groups of people solve problems and adjust their operations according to such

variations on a regular basis, in other words creating resilience as an ongoing “dynamic non-event” (Weick, 2011). Hence, actual practice does not lend itself to reduction into neat statements of the predictive theory, nor is actual practice mere instances of general theory. Routines will not rule the actual practice, but rather be a part of the practice-arrangement bundles. Routines and structures will partly set the conditions for, but actual practices are beyond reach for human apprehension in their multitude, variation, and complexities of everyday life.

What is apprehensible is rather a stylized version of actual practice that suits a person’s experience, perspectives, ideals, norms, and values. To the extent these are shared, they also shape expectations and attention. And what is given attention is what gets managed, especially if it is measured. The expectations on what should be given attention is what, together with concrete conditions, shapes practice more than anything else, especially if they are socially legitimate, i.e., authoritative norms within the organization, society, or any specific parts of it. This socially legitimate version of the practice is what is here called doctrine.

Doctrines may be seen as a middle-way between the extremes, looking only at the systems or trying to harness the full complexity of actual everyday practice in all its variation. The notion of doctrines as local phenomena is presented here in the following section, and is defined as the socially legitimated practice. Doctrines may be seen as an attribute of a real organization, but may perhaps, more importantly, be understood as a pedagogical tool for an organization’s management to reflect upon the intricate relations between actual practices on the one hand, and abstractions, such as strategy, business models, and management control systems, on the other. Ultimately, it boils down to how structural arrangements are understood and used, thereby also implying the very notion of implementation of such abstractions in itself, not least in the face of uncertainty and the need for mindfulness in occupational health and safety practices. In real life, routines do not implement themselves automatically, at least not mindfully. The core critique of practice theory against earlier decision-making-centered theorizing of organizational life is that it paints a too meager picture of life in organizations and ought to include more social and even emotional aspects of organizing (Schatzki, 2005).

## A practice notion of occupational health and safety

A practice notion of occupational health and safety focuses not on the measurement of toxic substances, noise, stress in relation to standards or safety distances, adequate equipment, systems, and routines in itself, but on how these things are actually used in an organization’s everyday life. Practice theory sees every human activity as a practice, all the way from performing everyday tasks in the ordinary production of goods

and services to the everyday work of occupational health and safety specialists, including occupational health and safety researchers (c.f. Latour and Woolgar, 1979). In other words, a practice theory defies the dichotomy of science vs. practice, hence focusing on the actual doings where scientific results and research-based tools and information may well be part of everyday practice, but insisting on practice to be more than only instances of general theories. From a philosophical perspective, practice theory thus adheres to traditions of pragmatism and its focus on concrete learning in direct interaction with the world, rather than a more Platonic idealist emphasis on abstractions as a more real reality than direct experience.

What follows from the uses of different tools, measurements, and direct interaction with humans and artifacts is a social order that while possibly may exist in an objective meaning first and foremost exists in form of individual perceptions. Furthermore, as people not only take part in one and the same practice, these patterns of interaction in practice-arrangement bundles (Schatzki, 2005) also overlap between different individuals who take part in different activities. Hence, the consistency of these should not be taken for granted. In addition, practice variation (Lounsbury, 2008) means that practice should not necessarily be seen as constant. Consequently, practice theory serves as a lens for understanding the complexity of human everyday life, rather than simplifying it into neat formulas for predicting human action. Nevertheless, what may emerge through the use of different occupational health and safety tools, measurements, reports, and routines are structures of intentionality as an emergent, collective social phenomenon, which provides a sense of direction and focuses on certain issues, at the cost of others, through teleoaffective structures (Schatzki, 2005), i.e., feelings about goals and directions (from Greek “telos” meaning “aim” or “goal”). Hence, working together for a common goal also takes on social and even emotional structural properties in an organization over time.

While the use of traditional accounting-based and the introduction of new multi-dimensional performance measurement and reporting tools may have such consequences, there is no guarantee that they do, and if they do, they risk doing so at the cost of attention for other things. Hence, a practical view of occupational health and safety is not a silver bullet for the implementation of abstract ideas into everyday work. Yet, it paints a more realistic picture of what should be expected from the implementation and use of such tools. While it may be argued that accounting-based reporting systems are the backbone of organizational coordination, at least through budgets and mandatory financial reporting, it does not necessarily build upon realistic views on human decision-making and power of attention. Rather, the use of such systems and procedures assuming such human capabilities may rather be seen as theater props in a play where rationality itself is celebrated through myth and ceremony (Meyer and Rowan, 1977). Even in traditional accounting, the essential

control question in the case of deviances from budgets is clearly: So what? If deviances do not matter, then budgets do not matter either, and it consequently has no function for providing direction for operations and everyday organizational life. In a similar vein, if budgets are the only thing that counts at the cost of any other aspect of the organization, such as adaptation to reality or sustainability in different dimensions, the message is clear.

The contribution of a practice notion of occupational health and safety is not the solution to implementation problems. Rather, it provides a more realistic starting point than the normally assumed: abstractions that should materialize in operations and everyday organizational life. This moves the focus to what is rather than what ought to be, which tends to be messier than neat formulations of strategy, value statements, or management philosophies. In real life, coherence cannot be assumed, but normally takes hard work to realize in actual practices: it is a matter of months or quarters, but rather years and decades, which typically makes it an ongoing work in the face of practice variation, uncertainties, and changes. Even the change of focus from abstractions to actual operations and aspects of culture and value in everyday operations is not a small challenge, as is the shift of attention away from the measurements themselves toward the actual challenges in everyday practice they are thought to represent. Nevertheless, such a journey away from the abstract toward higher degrees of consistency and real-world impact is the very starting point for perceiving and developing more functional doctrines as further explained here below.

As a starting point, doctrines may be understood as the established, taken-for-granted practices that are already established through habit in an organization. At its extreme, divergence of organizational practices may be so radical that it may be questioned whether the organization has one or many different doctrines, typically formed by the diverse practices in different parts of the organization. As a pedagogical tool for developing consciousness about these things, the notion of doctrines' greatest contribution is the question in itself: What is our doctrine? Hence, doctrines start with the lived experience and habits in the actual organizational practices without assuming consistency or conscious management of the practices themselves. As such, it is a radically different thing than asking about an organization's formal strategies, business models, culture, value statements, or different kinds of management tools. The question is rather aimed at what the existing teleoaffective structures are: What do we really care about and what has real consequences that we deal with in our everyday organizational life?

It is not until the next step doctrines become a matter of merging established practices with new ambitions through the introduction of new technologies, ways of understanding the organization's environment, ways of dealing with those challenges that thereby get discernible, structures, and processes

to facilitate the adaption to these changes, and finally, what measurements, reporting, and routines that are associated with these attempts at deliberate adjustment of established practices. Not least, a practice notion of occupational health and safety management becomes necessary when trying to do something such unusual as trying to use management control systems for coping with uncertainty and ambiguity through mindfulness, as doctrines themselves reveal how we think about management control in relation to reporting systems, business models, and the characteristics of the challenges that should be managed.

## The notion of doctrines

### The origin and character of doctrines

Just like the very notion of strategy, as well as Fayol's ground clearing work on administrative management, the notion of doctrines stems from the military tradition.

It is sometimes said that research into normative strategy has imploded through its lacking explanatory power and the number of different perspectives and understandings about the strategy process and its internal and external conditions that have emerged (c.f. Mintzberg et al., 2008). The same could be said about the search for universally normative business models which risk to contradict Knight's (1921) basic insights on the necessary uncertainties involved in the generation of profit. Indeed, it can be questioned whether there could be a science of making a profit. In this way, present business models and strategy debates echo early 19th-century disagreements about the possibilities of the science of warfare. Hench (2009) pointed to the dispute between the military theorists Jomini and Clausewitz for a better understanding of today's changing view on strategy as ongoing challenge and innovation, better described through Clausewitz's complexity theory than Jomini's Newtonian mechanical metaphors. However, convictions have shifted over time, from the disastrous belief in planning in WW1 to the flexible German Auftragstaktik in WW2 and the obsession with analysis in the Vietnam war (van Creveld, 1985), and ontological uncertainty about the very character of war and the possibility of a science of war has persisted over two centuries.

In the face of such uncertainties, it has become established as useful to formulate doctrines in order to scrutinize present practices and assess future possibilities, in relation to new challenges and ambitions, often triggered by technological or strategic developments. In the military sense, the doctrine is narrower and temporal compared to the literal translation of Lat. Doctrina as a general teaching, unchanging dogma, philosophy, or universal theory. While these may inspire and materialize through doctrine, the doctrine itself is first and foremost about the legitimate development of concrete local practice where wars are won or lost. Hence, doctrines will vary

radically between different countries and branches depending on their circumstances.

There is no generally agreed definition and classification of doctrine and its components. Discussing its essence, [Winton \(2011\)](#) reminded us about the artful combining of discipline and intuition in the craft of warfare, [Jackson \(2013\)](#) pointed at the inherently epistemological aspect of doctrine, and [Høiback \(2011\)](#) emphasized its dimensions as a tool of change, education, and command. [Sloan \(2012\)](#) remarked on the reciprocal relation between doctrine and strategy and the imperfect conditions under which doctrine as “the soul of warfare” is used: the nature and outcome of the war are both uncertain and ambiguous as information is at the best partly correct but often a matter of deception, and it is under such conditions that doctrine will succeed or fail. Hence, the doctrine has to grasp the character of the challenge without prescribing specific actions. [Høiback \(2011\)](#) argued that doctrine should be seen as a 3-fold composite of rationality, authority, and a-rationality, i.e., theory, subordination, and culture. Hence, doctrine stands for the logical argument, supported by (managerial) power to be taken seriously and ultimately judged through an alternative reason of “the feel and flavor of things” ([Eagleton, 2000](#), p. 57). While ultimately out of grasp for any detailed examination, [Sloan \(2012\)](#) discussed it in terms of [Gooch’s \(1997\)](#) division of doctrine into six different components that produce doctrine:

- the nature of technology;
- the influence of formative experience;
- organization and institutional interests;
- ideology;
- national culture;
- the political and strategic situation.

(after [Gooch, 1997](#)).

The most remarkable aspect of this classification is perhaps that it is not a classification of the doctrine itself, but of the factors shaping it. Another noteworthy feature is the blending of hard and soft aspects that merge into a more organic than the purely analytical expression of tradition, rationality, self-reflection, and will. The more concrete and practical aspects of technology, interests, and the political and strategic situation blend into softer issues of formative experience, ideology, and culture. Hence, the doctrine says as much about who we are, where we came from, and where we are heading as it says about specific technical systems and how they should be used. In other words, it is an acknowledgment of the more organic side of organizing as an evolutionary progression, contextualizing technical systems and theoretical ideas by linking them to experience, identity, and ambition.

One of the most ironic insights into warfighting is that troops are typically trained to be prepared for the last war, rather than for the next one. A crucial component of this historical routine of mismatching is an overemphasis on decontextualized

technology. Thus, in many cases, it has taken an entire war of failure and decades of evaluation to establish a proper and functional use of new technology in real-world theaters, by then encountering new challenges. However, technology *per se*, without a proper embedding in doctrine and command and control philosophy has not shown to render any advantages. On the opposite, seen as isolated from the rest of operations, the telegraph, airplanes, tanks, or information technology have not been proven to increase efficiency in operations. Another crucial aspect to illustrate the bounded aspect of human rationality and yet the role of agency in the development of military performance is the role of formative experience. Indeed, formative experience may be seen as the major reason for systematically preparing for the last war instead of the next one.

Hence, as [Sloan \(2012\)](#) pointed out, the relation between doctrine and practice is pro-active but intricate, and although promulgation and legitimacy are central aspects of doctrine, they may not always be explicitly formulated but rather implicit. [Høiback \(2011\)](#) argued that explicit or not doctrines exist, and if the doctrinal need is not filled by an official doctrine, it is filled with something else: “[E]ven if the development of doctrines is doomed to fail the highest expectations, the alternative is worse.” (p. 898).

The main argument here for suggesting the use of doctrines as local phenomena is the historical tradition itself within the military, where it has served as a means to cope with ontological uncertainties over two centuries. Its major strength lies in its character of not being an implementation of theory, but a more down-to-earth tradition of getting one’s hands dirty, crafting new ways of being, doing, and believing in the light of uncertain possibilities, and often ambiguous impressions of what has been. Hence, the military experience tells us that whatever proofs and arguments may be presented, the solution to ontological uncertainties does not lie in analysis alone, but in being and doing itself.

## The use of doctrines

The point of doctrines lies in their uses, which defines what they are, at least locally. Practice is local, but that “local” is defined by practice, gradually losing its geographical dimension and being all about the definition of meaning, practice is notoriously redefining itself (c.f. [Castells, 1996](#)). While the doctrine is trying to be a mirror of practice, mirrors may be of different shapes and qualities, rendering different results. However, if well-received, they may shape the very reality of practice itself (c.f. [Holmgren Caicedo, 2005](#)). While the practice itself defies reification and is accessible primarily in individual perceptions of overlapping practice-arrangement bundles ([Schatzki, 2005](#)), by iterating formulation and uses, we could ideally formulate how doctrines operate and

what outcomes they are believed to create, which could also be scrutinized.

While this may look like a promising new start for contingency studies, the consequences of talking about doctrines may even serve as a vehicle for fundamentally rethinking social science and how it can foster intelligent social action through applied phronesis (c.f. Flyvbjerg et al., 2012). The Aristotelian notion of phronesis should be thought of as a type of wisdom or intelligence, i.e., the knowledge that includes the management of “episteme” (universal truth) and “techné” (technical know-how) with sensitivity to its application in specific settings. As a philosophy of engagement and skill, having phronesis should be seen as inseparable from practicing it, where an application should not be understood as a top-down approach emerging from general theory, but as a bottom-up approach from contextual, action-oriented knowledge, searching to understand and effect change in specific contexts by getting one’s hands dirty (Flyvbjerg et al., 2012).

However, prescribing exactly how doctrines should be used would be ironic as the very point of the notion is the acknowledgment of human consciousness, volition, power, and reflexivity. Instead, whatever ontological and epistemological convictions researchers may have, practitioners will continue using doctrines according to their convictions and interests within the limits of their practical and cultural context. Hence, if the view on everyday practice sanctioned by the local doctrine means that it is nothing but an instance of general economic theory, it is likely to shape local realities into mere contractual relations according to the incentive system at hand. Consequently, the point of talking about doctrines is not to prescribe what they should be, or how theory should be used, but to be able to address the essence and legitimacy of local practices. Also, military history clearly illustrates that talking about doctrine by no means is a silver bullet solution to the challenge of establishing efficient ways of operating in an ever-changing environment. However, the military use of doctrines reflects an awareness of ontological uncertainties.

In the military tradition, the doctrine is not seen as an instruction in itself. While they are not immune to theorizing, they are never seen as pure theories. Rather, doctrine interprets ideas about war, its conduct, and character, combining strategic theories and operational plans into guidelines for action: it articulates war without prescribing it and it is a point of reference to bear in mind while trying to solve practical problems. The most crucial part of the notion of doctrine is the aspect of social sanctioning of what is believed, supported, and legitimately practiced. Hence, doctrines will always have a fundamental aspect of values and identity, as well as practical experience. In order for any theoretical fragment to become part of the local doctrine, it has to be received, understood, embraced, and sanctioned by the community to which it will belong. In consequence, the most important aspect is the winning of institutional approval as doctrines consist of the accepted body

of ideas that have been approved by their long-term usage or sanctioning. Essentially, it is the task of highly experienced professionals to examine and accept the theory and best practice constituting doctrine (c.f. Sloan, 2012).

## Business models as doctrines

How then, should we understand business models? To begin with, it is debatable whether business models is a field of research in its own right, or rather a subdivision of strategy research. In the latter case, business models is simply one expression of strategy among other. Mintzberg et al. (2008) discussed the many nuances of the notion of strategy and in a similar vein, there is much to be said about the different understandings of business models. In the following section, it is suggested that business models should be understood in terms of doctrines to make them more than mere abstractions, yet being more than just actual practices.

While still increasing in popularity (c.f. Massa et al., 2017), the notion of business models has come of age, reaching a phase where its very essence has come into question. Sketching the field’s further development, Nielsen et al. (2018) emphasized the need for performative views on business models and theoretical development based on empirical studies. Performative as opposed to ostensive views highlight what things are through their uses, rather than what they pretend to be (c.f. Mouritsen et al., 2001). Hence, business models boil down to what they are in practice, which may be quite different things. For example, Cuc and Miina (2018) generated four basic notions of business models according to their purposes in relation to innovation and strategy, and Massa et al. (2017) distinguished between three basic understandings of business models as attributes of real firms, as cognitive/linguistic schemas, and as formal conceptual representations, respectively. Randles and Laasch (2016) emphasized the need to break away from the business models literature’s design perspective and instead take business models in situated practice more seriously, consequently seeing ontologies and change as more problematic. These debates raise questions not only about how to understand business models, but also more concretely how business models should be implemented and studied.

So, what are business models in practice? Following the development of business models in a large number of companies over several years, Lund (2014) concluded that the popular view of business models in terms of tools like the business models canvas misses the central point that while such analysis may be useful, it does not create businesses. Instead, it is the linkage between different aspects of the canvas through narratives and story-telling that energizes and gives meaning to the business endeavor. Indeed, such stories go way beyond frameworks all the way into the normative teleoaffective structures, feelings about goals and directions, that characterize a deeper notion of

practice (c.f. Randles and Laasch, 2016). Consequently, future research on business models can hardly see business models only as formal conceptual representations or analytical tools, but will have to take real-life organizations and their environments more seriously (Randles and Laasch, 2016), thereby raising ontological questions on the relation between such abstractions and organizational realities. This relation will in turn be crucial also for the implementation of new business models in real-world organizations, thus challenging assumptions of pure design.

But, some may object, should business models research head down the same road as organization studies and lately also marketing theory problematizing value creation and design in ever more complex terms, finally resembling general sociology? Does not the strength of business model research lie in its appeal to practitioners and real-world relevance with its focus on value capture? Yes. It certainly does. However, there seems to have been a lack of a middle-way of understanding business models as something between mere abstractions or ways of thinking on the one hand and the actual business practices on the other. In other words, there seems to be a need for a reconciliation between the pure design tradition stemming from Simon's (1996) "sciences of the artificial" on the one hand and the practical interest in actually earning money through real-life organizations on the other. This article claims that understanding business models in the light of century-old military uses of doctrines could provide a middle-way for future developments of business models, between the deepest respect for the practice and legitimate interest in design.

Understanding business models as doctrines would essentially mean to see them as neither purely abstract entities nor concrete practices, but rather as the legitimized narrative, written or not, contextualizing technology and theoretical fragments and analytical ideas in a broader understanding of who we are, where we came from, and where we are going. Business models as doctrines mean a proactive but intricate role in the legitimate development of a multifaceted practice that defies reification. With this understanding, business models can neither be pure abstractions, nor the actual practice of real organizations. Instead, business models as doctrines are something in between, of far lesser perfection, yet having a practical stance that has shown to be useful for handling ontological uncertainties about the very essence of the business over two centuries. Business models as doctrines are socially legitimate practices that may allow for emergence and variation, yet provide a notion of direction. Hence, what is suggested here is that, e.g., sustainable business models (c.f. Lüdeke-Freund et al., 2020) could be understood in terms of doctrines for, e.g., occupational health and safety.

Hence, a notion of business models as doctrines goes more in line with Lund's (2014) emphasis on business models narratives and Randles and Laasch's (2016) insistence on the normative function of business models than Massa et al.'s

(2017) dichotomies between abstract formal models or cognitive schemas on the one side and actual attributes of real firms or practice on the other. Without providing any silver bullet solutions to neither classifications nor actual practice, the military notion of doctrines has served well as a tool for managing the tensions between concreteness and abstraction, as well as between the many facets of human rationality and its limits, to convey "the feel and the flavor of things" (Eagleton, 2000, p. 57).

## Management control as doctrines

Viewing business models as doctrines, i.e., as the socially legitimate practice linking everyday doings with a notion of direction, management control becomes a part of business models, rather than a pure implementation of abstract ideas or mere practice. Furthermore, management control becomes a central part of business models, as the socially legitimate way of exercising management control virtually sets the limits for how business models and strategy can cope with uncertainty and emergence, through prediction or mindfulness at its extremes.

While management control usually is defined as the mere implementation of strategy, Anthony (1965) devoted a large part of his seminal work to discussing how they were interconnected. Nevertheless, management control became "sandwiched" between strategy and operations (Otley, 1999). The first decades were to a large extent dominated by different kinds of contingency studies, exploring where and under which conditions different configurations of management control systems were applied (Gigliani and Bedeian, 1974), with the main finding that organizations facing greater uncertainty would use their management control systems more actively (Simons, 1990). The 1990s saw a surge in suggestions on how reporting could include new dimensions of quality, process, customer relations, learning, and intangible aspects, such as human resources, intellectual capital, and employee health. While creativity in performance measurement and reporting flourished, less attention was given to Anthony's (1965) argument for insisting on one-dimensional reporting in purely financial terms, namely, that one cannot optimize over different dimensions in any objectively rational manner: it all boils down to judgment. In a similar vein, Hofstede (1978) had complained about "the poverty of management control philosophy", pointing at predictive models as a foundation for management control, suggesting that the most realistic mode would typically be "political control".

Simons' (1995) framework took uncertainty as a point of departure and included risk and core values. However, it was still an information-based framework based on strategic planning treating strategic uncertainties as a matter for top management to be surveyed through interactive control, i.e., mainly shortening the time-frames for predictions. Hence, the

cybernetic idea that provided the metaphor for Anthony's (1965) theoretical foundation of the domain largely remained intact, and the core idea of cybernetics, to rely on feedback rather than on prediction in a self-regulating system, prevailed despite insights into its shortcomings, and management control largely remained the tail of strategic planning (c.f. Mintzberg et al., 2008). While operative and non-financial measures were included, thereby undermining the one-dimensional basis for optimization, management control kept its rational aura as strategy implementation, sometimes down to the level of instruction of individual employees' scorecards (Kaplan and Norton, 2001).

Meanwhile, an increasingly globalized world speeding up change through innovation and the breakdown of traditional borders for business in different branches made uncertainty and adaptation crucial for performance and survival. Based on a series of interviews with Swedish top managers of large companies, Jönsson (2021) emphasized how speed and change have shifted the logics of management from one of the engineering-based skills of production and prediction to a communication-based skill, based on trust in the moral compass of employees for making the right trade-offs of priorities in each situation and managers' ability to keep together somewhat coherent operations through trustful relations and interaction throughout the organization. These changes, as well as the insight that different companies may use their management control systems in quite different ways, regardless of size and business, calls for new ways of discerning what is going on in the organization. Saying that "we use balance scorecards" does not say much about what the reporting system actually does in the organization with regard to trade-offs between dimensions, how uncertainty and change are treated, or to what degree the organization is managed top-down and bottom-up through learning and feedback, or both. Furthermore, too high expectations on indicators is long known to be the most frequent reason for implementation to fail (Kaplan and Norton, 2001), and we still know little about how they are actually used in organizations.

Simon et al. (1954) distinguished between three different uses of accounting measurements: score-keeping, problem-solving, and attention-direction uses, respectively.

1. Score-keeping uses are well-aligned with traditional notions of prediction-based management control through representations of reality through measurement.
2. Problem-solving uses are also representation-based, but rather analytical in nature, i.e., using measurements for learning. Here, measurement is still central, but without assuming any predictive model.
3. Attention-directing uses distinguish themselves from the other two uses by not necessarily putting measurement and representation at the center, but rather being a possible

trigger for non-representative knowledge through direct observation or mindfulness in the face of uncertainty.

In other words, the varying uses of management control measurement may well generate very different management control practices, potentially directing attention to the uncertain problem at hand in a decentralized way, rather than through centralized management of uncertainties, or reporting and analysis based on representation through measurement. Hence, different uses of management control information may generate very different management control doctrines and teleoaffective structures, in turn, decisive of not only what gets managed but also how it is managed.

One of the most central insights from a practice perspective and the notion of management control doctrines is the potential interconnection between business models and management control as parts of one and the same doctrine, i.e., a well thought through and socially legitimate practice whether written down or not. Furthermore, rather than assuming the business models to be definitional of management control practices, it may well be the other way around: management control doctrines set the limits of what business models are possible to realize, both cognitively and in practice. A management control doctrine based on assumptions or prediction with an emphasis on score-keeping uses will be of little help for a business model striving for a more distributed way of treating uncertainties and trade-offs in everyday operations. A management control doctrine leaving more room for problem-solving uses of reports and measurements will allow business models to be more reliant on learning. Finally, a management control doctrine that emphasizes attention-directing uses of indicators as mere indicators of something deserving closer examination through direct observation will allow for a business model that encourages more mindful interaction with the environment in everyday work.

## Management control of doctrines for occupational health and safety

Commenting on the future of Safety Science, Swuste et al. (2020) underlined that the handling of an unforeseen event is of increasing importance and will demand and require board room involvement. In this departure from the earlier focus in research on centralized decision-making, hierarchical control, and predefined routines, Grote (2020) found uncertainty to be a fruitful moderator of the safety-autonomy relationship, not only as an external factor, but possibly an internally and actively created phenomenon deserving further research. Martínez-Córoles and Vogus (2020) called for "more conceptually sophisticated, empirically robust, and practically relevant" (p.



4) research taking on mindful organizing for safety, taking the fragility of mindful organizing and the difficulty in both creating and sustaining it across organizational levels seriously. Hence, the present research has with only a few exceptions tended to be too micro-oriented, not taking the organizational and societal context and diversity sufficiently into account.

A similar tendency to underestimate diversity can be noted in research more focused on the challenge of coordination through the notion of Situational Awareness. While Hunter et al. (2020) found the notion to be appropriate for paramedicine, Steen-Tveit and Munkvold (2021) found it challenging to build a Common Operational Picture and argued that what efficient collaboration requires is a common situational understanding, which does not equate to shared information. In a study of nurses, Shinnick (2022) found Situational Awareness to vary even among more and less experienced colleagues in the same team, suggesting a correlation between Situational Awareness and clinical judgment. Hence, there is still much to explore about the relation between individual and group perceptions of the same situations and how organizational structures and management systems can do to promote and sustain mindful organizing for safety across organizational borders.

In earlier research, management control systems have been seen as a vehicle for promoting occupational health through systems for planning and follow-up on employees and safety routines, or at least putting the issues on the organizational agenda, in line with the adage “What gets measured gets managed”. Catusús et al.’s (2007) empirical investigation rather suggests that what gets attention, gets managed, especially if it is measured. At the same time, measuring things for the sake of holding people accountable may, in fact, turn attention away from a more unlimited responsibility (Catusús, 2008), which may be, especially, relevant in the face of uncertainty. Hence, the inclusion of occupational safety and health issues in control systems through, e.g., balanced scorecards and alike has not changed the basic limitation of the understanding of control systems as tools for strategy implementation (Anthony, 1965) based on prediction and top-down instruction (Kaplan and Norton, 2001) in the face of uncertainty.

Simons’ (1995) attempt to include uncertainty into a general management control framework may be deemed too limited, information-based, and clinging to the notion of an omniscient top-management, able to isolate strategic uncertainties rather than rely on a distributed capacity to handle uncertainties throughout the organization. Hence, while new dimensions of measurement have been included, Anthony’s foundational definition of management control as “sandwiched” (Otley, 1999) between “strategy formulation” and “operations” and the emphasis on the formal information system have largely remained intact. Later developments into “a practice

notion” (Ahrens and Chapman, 2007) of control systems, emphasizing the emerging social order around such formal systems, are still in their naissance, and while the role of such systems in directing attention across organizations (Bjurström, 2007) may seem promising, much of the research is still scattered and locked into divides between cognitive and social paradigms, respectively.

What this research misses out on is the potential role of practices around the control systems for creating and sustaining *adaptive expertise* (Axelsson and Jansson, 2018) throughout the organization. Drawing on Herbert Simon’s ground-clearing work, Ocasio (1997) argued that the notion of “bounded rationality” had mainly been emphasized as a negative theme with regard to individual decision-making, thereby missing the dual aspect of the phenomenon on both individual and organizational levels, thereby missing the point of organizing as a way of directing attention throughout the organization. Given that the organization’s scarce attention is not directed toward only the measurements *per se*, but at the potential uncertainties related to the object of measurement, management control systems might develop into a vehicle for a more mindful form of control, relying on the capacity for professional judgment at a glance in the face of uncertainty.

What emerges from these observations on the notion of doctrines for occupational health and safety is not least the potential for mindful collaboration across community borders (Boland and Tenkasi, 1995), exercising adaptive expertise (Axelsson and Jansson, 2018), leveraged throughout the organization through *uses* of control systems (Ahrens and Chapman, 2007), acknowledging the value of different kinds of knowledge throughout the organization (Seidl, 2007), as a source for resilience as well as activities on the periphery as a source of insights (Seely Brown, 2004). The development of doctrines for occupational health and safety that are able to realize this balance between structural aspects of organizing and distributed handling of uncertainty through mindfulness is a challenge, but seems like a promising path for further practical experimentation and theorizing. Hence, the contribution of this exploration is that the notion of doctrines for occupational health and safety should be a new and better way of talking about the challenges and possibilities to balance the structural aspects of formal organizations with their routines on the one side, and the more informal aspects of what gets attention and gets taken care of mindfully in everyday operations on the other side.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary

material, further inquiries can be directed to the corresponding author/s.

## Author contributions

The author confirms being the sole contributor of this work and has approved it for publication.

## Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships

that could be construed as a potential conflict of interest.

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