Asian Journal of Social Science and Management Technology
ISSN: 2313-7410
Volume 8, Issue 4, July-August, 2026
Available at www.ajssmt.com

The Adoption of Management Control Tools by Executives of Service-Sector SMEs: A Review of the Literature through the Lens of Actor-Network Theory

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Abstract: The adoption of management control tools depends on several factors, as explained in the literature on the relationship between consulting firms and businesses: the choice of the designer; factors influencing adoption in general; the designer's assumptions regarding the results and expectations of the business leader; and the impact of the designer's profile. However, studies examining the relationship between the designer's profile and the adoption of management control tools do not sufficiently account for the factors that influence these tools—namely, the objectives assigned to them or the relationship with the user. This study, whose primary objective is to understand how a manager's profile contributes to the adoption of management control tools by executives of service-sector SMEs, aims to address this limitation. The theoretical framework used in this study is actor-network theory. It posits that actors construct networks that combine technical and social elements, all of which are simultaneously shaped and formed within these networks. This study adopts an interpretive and constructivist approach, placing the designer at the center of the process of adopting management control tools.

Keywords: Adoption, designer profile, MC tool, service SMEs, ANT, translator

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1. Introduction

The adoption of management control tools is an issue that has been extensively addressed in management studies over the last twenty years (De Vaujany, 2005, 2006; Carton et al., 2006; Grimand, 2006, 2012, 2022; Quemener and Fimbel, 2012; Bessire et al., 2012; Bédé et al., 2012; Mbang (2012); Bernard, 2019; Hertzog and Bollecker, 2022). Randrianantenaina, D. A., (2023*).* In light of previous studies, some authors have focused on the process of dissemination and adoption of management tools within organisations. In line with this trend, some studies have examined the introduction of MC in SMEs, and it is evident that the instrumental approach to these tools predominates.

This approach attributes omnipotence to the tool, there by overshadowing the human being who uses it. This has led many researchers to turn their attention to the adoption approach, in order to understand what human actors, do with the managerial solutions made available to them. Based on the premise that MC did not originate in small businesses, and is therefore generally unsuitable for traditional SMEs, and specifically for service-sector SMEs. In addition, to the fact that management tools are not tied to a specific context of use, which makes them transferable (David, 1996). Apprehensive about their future in the hands of users, given an evolutionary cycle often marked by the premature disappearance of certain tools whilst others persist in organisational management.

The perception that stakeholders have of these tools draws on the meaning they attribute to them, which implies the need for complementarity between the instrumental approach and the human relations approach. The realisation of this complementarity contributes to the survival of the tools and, by extension, to the development of the organisation in an environment fraught with uncertainty; this is known as the socio-material approach. It enables us to recognise the factors that influence these tools, such as the objectives assigned to them or the relationship with the stakeholder (Perez, Chalayer et al., 2005).

The aim is to conduct a literature review on the concept of adoption, whilst specifying that this specifically concerns the adoption of management control tools (MCTs). To this end, an attempt is made to define the concept of adoption, after which its dimensions are identified. We examine the implementation of management tools, focusing on four key ideas: the actor-tool relationship, intended uses and actual uses.

2. The concept of adoption: a literature review

Examining the concept of adoption involves studying how the actor takes ownership of and subsequently uses management tools within a specific context. The issue of the implementation of these tools and the dynamics of change that this entails occupies a particularly important place in thinking about contemporary organisations (David, 1998; Moisdon, 1997).

This issue stems from the growth, fluctuations and unforeseen effects arising from the mechanisms of these management tools as they are used to regulate collective action.

'The *"inappropriate"* nature of language, with its unrestrained shaping of *the "sayable"* in relation to the nominalist reduction of the world, also forms the basis for understanding the fundamental role of languages in the development of cultures' (Lambert Lucas, 2018). A semiotics of *adoption* thus opens up several avenues for theoretical reflection, including:

- The '*path of adoption*': this first perspective concerns the relationship between semiotics and hermeneutics. The hermeneutic circle, which may begin with a philosophical engagement with the object, traces a narrative path of interpretation ranging from explanation to understanding, followed by adoption. This must function as the final validation of the transmission of a cultural heritage, but it also constitutes the first stage of *an 'incorporation'*, a *'taking of possession'* necessary for the re-articulation of meaning. This first perspective is in line with our focus in this research project. However, the other two lines of research are equally interesting.
- The *'marks of adoption'.* The second line of research concerns the inscription of traces of subjectivity on objects, whether physical or digital. As a form of *retrospective* connection*,* adoption legitimises a privileged and legitimate relationship between the identity of the object and that of its owner.
- *Adoption and functional adaptation*. The suitability of the relationship between the object and the subject can be optimised to the point of symbiosis achieved through a prosthesis, but it can also be measured against an ethical dilemma that requires a new sense of distance from otherness and from the self. The antiphase *'That's my own'* seems to call into question what overly reflects the complicity between the subject and their environment of objects, verging on the thresholds of abjection. Appropriation is only possible after a process of 'distancing from the text' (Ricœur, 1986; 112). The approach based on adoption challenges the distinction between the design and use of management tools. Thus, the study of the adoption of these tools leads to the characterisation of the relationships that actors maintain with the tool, with the aim of enabling its subsequent use. The use of MC tools depends of specificities of context and actors Dangereux, Chapellier, and al. (2017).

2.1. The adoption of management control tools by stakeholders within SMEs

Management tools are designed to be compatible with the concept of adoption in that they are adaptable and embody knowledge of the mechanisms governing the organisation's functioning. The simultaneous emergence of new tools and their proliferation has been brought to public attention through media coverage of their dissemination within the managerial sphere, a development which has not left many stakeholders indifferent. Whilst some stakeholders confined themselves to dissemination, others went on to adopt, then use, and thus adopt them (Nieto Bru, 2009); prolonged use is the manifestation of adoption. Service activities are the trend in contemporary organisations, which immediately adopted tools already in use in the industrial context, such as budgeting, reporting, etc.

The service sector, since its explosion onto the contemporary economic scene, unlike other sectors of activity, appears to be the least subject to uncertainty (Condor, 2012); it is therefore considered to be standardised. The first studies on MC in this sector appeared in the works of authors such as Cappelletti and Khouatra (2009); Meyssonnier (2012), and Bampoky and Meyssonnier (2012). In the context of this study, our focus is on how management tools are utilised by the managers of service-sector SMEs. Firstly, we attempt to define the concept of adoption; secondly, it is necessary to trace the development of the argument based on previous studies concerning the issue of adoption in relation to the designer.

2.1.1. An attempt to define the concept of adoption

The concept of adoption of tools has its roots in organisational sociology, where the actor is engaged in the process of collective action to implement these tools within the organisation. Things without an owner are, by their very nature, susceptible to adoption. In a first sense, adoption can be understood as a voluntary individual investment aimed at gaining the capacity to assume responsibility for them. Under these conditions, adoption involves both the domination, acquisition and assimilation of an object. Applied to the concept of tools, voluntary adoption by a legal or natural person signifies liberation from a state of subjugation; the acquisition of full capacity as a user; and a break with moral, social or intellectual subjugation. Viewed from this perspective, appropriation refers to the empowerment of the user.

In a second sense, the second aspect refers to personal commitment to the use of a tool, from the moment it is taken in hand, and to the responsibility that follows from this. It is a matter of embracing the tool rather than merely tolerating it, and of actively participating in its creation rather than simply carrying it out. It also involves taking responsibility for one's use of the tool rather than passively enduring it, and participating proactively rather than merely obeying, given that the individual's voluntary investment in the project should not be perceived as a constraint.

Uses are fundamentally linked to the context of social relations of production and reproduction, as defined by the process of adoption. These focus on the acquisition of the means of production (Proulx, 2002). According to the *'social autonomy'* school of *thought*, adoption is both an individual and a social process. According to proponents of this school of thought, the focus is on the issues raised by the study or the subject matter. They firmly maintain that *'appropriation is a process'* closely linked to the desire to construct one's self (Jouët, 2000). As regards information and communication sciences (ICS), the concept of adoption has clearly evolved. This is because these punishments successively focused on the adoption of the media in the 1970s, and subsequently on that of ICTs in the 1980s.

This research has thus relegated the specific or exclusive aspect of the organisation to a secondary role, focusing instead on the concept of IT use, often from a microsociological perspective (Granjon, 2004). The term 'appropriation' derives from the Latin words *'proprius'* and *'ation'* (Laulan, 1984), which mean 'belonging to oneself' and *'to perform the action of',* respectively. These two concepts reinforce the ideas of 'being' and 'having'.

This etymological justification gives rise to two meanings: adaptation, which consists of making something suitable for a specific purpose or adapting something to a particular use, conforming to something or a situation, or being adopt. The second aspect relates to the act of claiming, often unduly, something as one's own or making it one's property. The Latin suffix 'ation' indicate the action in the process of being carried out. In light of this analysis, the author describes the process as one of adoption (Laulan, 2006). To better understand the concept of adoption in this context, it is essential to revisit the process of adopting tools, as well as the various approaches to adoption that have been observed.

- **Dynamics of the adoption of management tools**

Many authors have expressed their views on the future of these tools (Dreveton, 2008; Lux and Petit, 2016; Grimand et al., 2018). Adopt *"is the long process that begins well before the phase of using the object and continues well after the emergence of the first usage routines",* according to Vaujany (2005). For Grimand (2006, p. 17), adoption is *a process of interpretation, negotiation and construction of meaning within which actors question, develop and reinvent models of collective al action'.* Specifically, the question is how

individuals appropriate these tools and, above all, how to facilitate this process of adoption, which is essential to the tool's success (De Vaujany, 2006).

All things considered, the process of adoption is defined by David (1996, p. 17) as *'a particular state or process of reciprocal transformation of the tool by the actors and of the actors by the tool';* in the same perspective, Mallet (2006, p. 4) refers to a *'reciprocal construction of the individual and the tool*'. According to Nieto-Bru (2009), the process of adoption corresponds to changes in knowledge and/or behavior brought about by learning: a re-evaluation of one's approach to the organisation's functioning and of one's perception of tools at an individual level (Grimand, 2012); *'appropriation is usually defined as the act of making something fit for a particular use or purpose';* this definition implies both a state (a use, a purpose) and a process (the act of making it fit), and both these dimensions are essential when discussing adoption. To address adoption is to examine the four perspectives on the dynamics of management tool adoption proposed by Grimand (2012): rational (instrumental), socio-political, cognitive and symbolic.

The instrumental approach considers that the use of the tool is primarily geared towards prescribing and standardising behavior. Viewed from this angle, the aim of the tool is to solve concrete problems by drawing on its technical validity, whilst acknowledging its ability to mimic reality.

From a socio-political perspective, appropriation can be seen as a key issue in the structuring of social relations. By revealing power dynamics and the positions of actors, management tools are like 'interpretation-generating machines' (Boussard and Maugueri, 2003). This perspective enables an assessment of the political and strategic choices involved in the appropriation of tools. More specifically, it acknowledges the possibility of alternative uses.

The cognitive perspective views the tool as a means for users to question their own practices. To this end, the adoption of a tool involves two elements: assimilation and accommodation (Piaget, 1975). The symbolic perspective refers to the role of tools as a means of supporting identity and as a vehicle for sense-making (Karl Weick's 'sensemaking', 1995). It also dispels beliefs, organisational ideologies and myths surrounding adoption. Nieto Bru (2009) acknowledges that this dimension confers prominence on both individuals and organisations. According to this author, the issue of adoption has often been sidelined in favor of the resistance to change. However, resistance to change arises when the adoption of a tool encounters difficulties that may stem from certain factors capable of hindering the process, leading either to partial adoption, rejection or abandonment of the tool.

Table 1: Four perspectives on the adoption of management tools

RATIONAL	SOCIO-POLITICAL	COGNITIVE	SYMBOLIC
VISION OF ADOPTION			
Appropriation as a vehicle for rationalising managerial decision-making and action	Ownership as the result of the interplay between actors	Ownership as a learning process	Ownership as a process of meaning-making
PREDOMINANT PRESENTATION OF MANAGEMENT TOOLS			
A challenge of normalising and standardising behaviour	A challenge in structuring social relationships	A source of flexibility in one's own practice	A vehicle for identity; a source of legitimacy and action
DOMINANT REGULATORY MECHANISM			
Control-based regulation	Joint regulation	Joint regulation	Autonomous regulation
RELATIONSHIP BETWEEN DESIGN AND USE			
Design and use as two distinct stages	Design and use as part of an iterative and continuous cycle		Design and use that are largely inseparable

Source: Grimand (2012, p. 245)

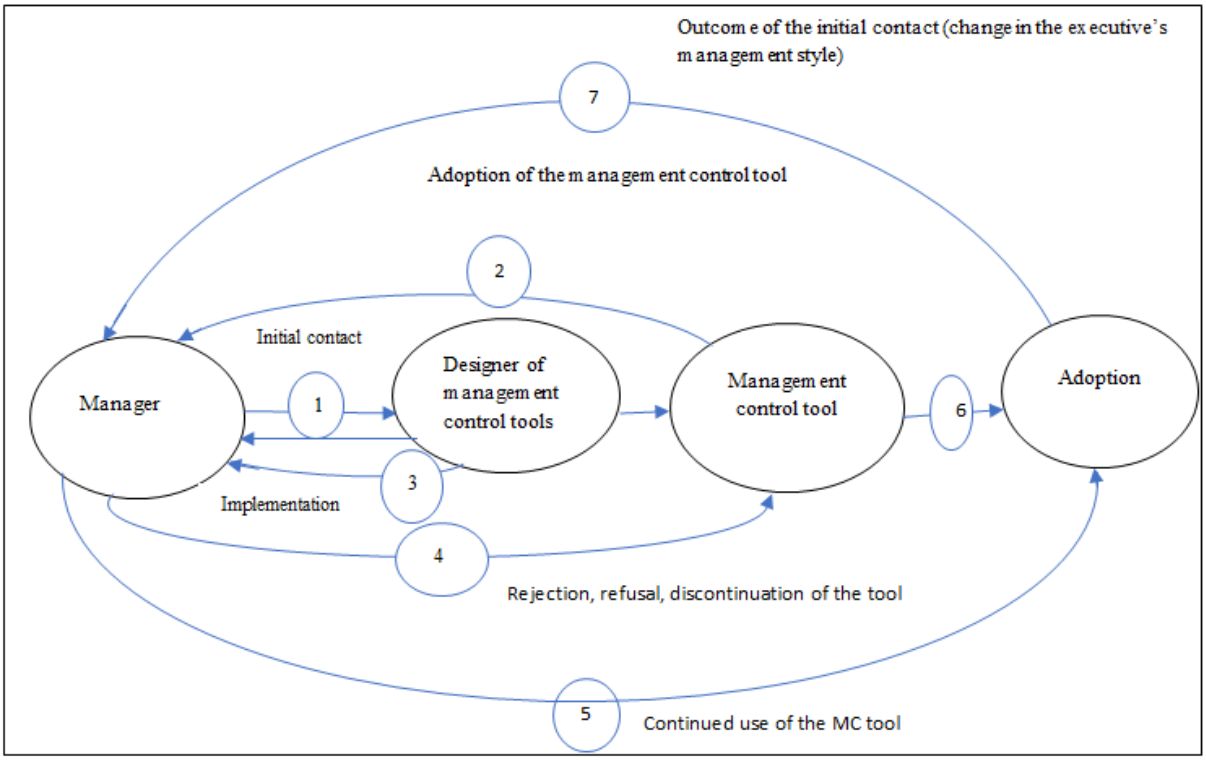
MC tools represent an evolution, or even a repurposing, of existing practices to produce the desired outcomes. Without the manager's buy-in, the designer's work risks being doomed to failure. However, the adoption of these tools is subject to an obligation to succeed, as it enables the formalization of MC which the manager desires. Indeed, in independent small organisation, this control is not imposed, but is desired with a view to potentially improving performance (Bourguignon, 2004).

- **Adoption process**

The process begins with a pre-adoption phase during which the initial discussions regarding the tool take place; according to De Vaujany (2005), this phase is closely linked to perception. The initial contact illustrates this phase in the diagram below. An exchange takes place between the two parties during this initial contact, which must result in an agreement that initiates the design process. Lemaire and Nobre (2014) emphasise that at this stage, the tool is either not yet present within the organisation, or it is under development; in any case, it is not yet operational. Thus, even if its integration is not yet effective within the organisation or is not yet sufficiently advanced for its adoption to begin, the tool already has a perceptible impact on individuals.

This leads to an initial 'black box' being presented regarding the identification, assessment or measurement of users' perceptions of this tool (de Vaujany, 2006). In principle, it is important to understand how future users perceive the tool in order to assess its effectiveness and its impact on organisational practices and performance. The tool is also social in that it undergoes collective phases that unfold over time, incorporating numerous routines and processes of re-adoption, with users contributing to its evolution. This initial stage gradually gives way to a point where the tool achieves a minimum level of acceptance, leading to an initial stage of adoption in which numerous socio-political or psycho-cognitive processes are activated within the organisation (Vaujany, 2006, p. 118; Martineau, 2020). From this point onwards, the tool takes on an emotional dimension and evokes feelings.

Figure 1: The progression of the process of adopting management control tools within service-sector SMEs



Source: Author

Drawing on the work of Lorino (2002, 2007) on management tools, as well as that of Grimand (2006) and Vaujany (2005) on adoption, Brillet and Hulin (2010) propose a model of adoption that highlights one of the least understood aspects of this process: the individual's perception of the tool (interpretative schema) and the way in which this 'black box' is interpreted (understanding of three conscious registers).

The 'Black Box' of the Interpretation Scheme by Brillet et al. (2010) considers a tool to be an instrumental artefact possessing specific characteristics that are subjectively perceived by the individual (usefulness, ease of use, design, etc.), and which in fact reflect the representations the individual forms based on their context and environment (Brillet and Hulin, 2010). The interpretative schema resulting from this process of adoption may or may not be rational, and may depend on socio-political or psycho-cognitive factors, involving a form of rationality specific to each process of appropriation.

The interpretative figure employed may be influenced by a user's interaction with others, which implies a collective dimension to the process of appropriating tools (Vaujany, 2005). Thus, these specific characteristics and interpretative schemata have an impact on the functions attributed to a tool. It may even be the case that these functions are prescribed in line with the designer's expectations, are not prescribed and are invented by the user during use, or that they take on a symbolic character, referring to connotations attached to the tool that are not strictly utilitarian (Brillet and Hulin, 2010, p. 245). This 'black box' of the interpretative schema is the central focus of much research in management science: understanding the relationship between individuals and tools. The majority of research has often been limited to a methodological approach that prioritises the verbalisation of conscious and controlled processes at the expense of more automatic and unconscious processes, which are more difficult to verbalise.

2.1.2. Review of the literature on the relationship between the adoption of management tools and the designer

The issue of adoption, which is the subject of a vast and evolving body of literature, has thus highlighted the need to revise the conceptual framework of these studies. Initially, research centred on a 'technical determinism' approach, placing particular emphasis on 'instrumental coherence'. More recently, research has shifted towards social and psychosocial perspectives, thereby emphasising the complementarity between the first approach and the second, namely 'psychological coherence' (Bourguignon and Jenkins, 2004; Lajante and Lux, 2018). Here, the aim is 'to open the black box' of emotions in order to understand the process by which management tools are adopted. This study puts forward the proposition that the future of the tool within organisations is thus linked not so much to its technical aspects as to the ideas that stakeholders hold about the tool. The psychological aspect, which allows us to take the human dimension (meaning for the actors) into account, led us to examine the relationship between the designer's profile and the adoption of MC tools.

The integration of the MC tools into the organisation is far from being a utopian ideal when viewed through the lens of the adoption approach. This raises questions about the various factors likely to influence the process of adopting these tools, which have so far been explored in the literature from the designer's perspective. According to previous studies, there are four main areas of focus on this issue, depending on the authors.

Cuillère's (2006) study focuses primarily on the selection criteria of an external designer of the management control system. The issue of adoption is therefore addressed implicitly, as the author assumes that the outcome of adoption stems from the designer's characteristics. This author addressed the issue but, on the assumption, that management control tools had been developed by external designer to the organisation. The issue of adoption therefore naturally arises in this case.

Mole (2002), for his part, studied the factors influencing the adoption of tools in general. According to him, the sustainability of the tools implemented depends on the compatibility of the designer's and the user's cultures, as well as on their respective values. For stakeholders to adopt a new tool, the values and knowledge conveyed by the tool must align with the organisation's culture and values. Indeed, there are differences between organisations in terms of beliefs, values, relationships between stakeholders and culture.

According to Stumpf and Longman (2000), in the context of outsourcing, the designer relies on preconceptions regarding the results and expectations of the owner-manager. Implementation may therefore fail if the designer's preconceptions do not align with the owner-manager's actual expectations.

Bernard (2019), for her part, seeks to understand the impact of the management control system designer's profile on the owner-manager's adoption of MC tools. The author seeks to identify and explain, as far as possible, the link between the profile of the MC system designer and the outcome of the adoption of MC tools.

Having provided an overview of the concept of adoption in relation to previous studies closely linked to the designer, it seems obvious to move on to the second sub-section of this section, which concerns the implementation of the tools.

Having set out these various points, the authors unanimously agree on one obvious fact: the designer of MC tools is at the heart of the process of adopting these tools. As a central figure, they are indispensable. For it is they who shape the tool, give it meaning, and guide its development through monitoring and support via training and refresher courses, whilst resolving the tensions and conflicts that may arise from discrepancies between prescribed and actual uses. The aim is to bridge the gap between the organisation and the tools (David, 1996) through negotiation and compromise, thereby ensuring the tool's success.

3. The concept of the use of a management tool

However, before examining the stages of the adoption process, it is important to understand what is meant by the 'use' of a management tools. For one can't speak of adoption which is the process of assigning a specific use to tools without clarifying the concept of the 'use' of a MC tools. Tools acquires its own specific use when it is put into practice in a specific situation and context. This is why the usefulness of tools is only recognised when it contributes to management activities. The adoption of tools can therefore only take place during its use. Contemporary organisations are, for the most part, fundamentally characterised by paradoxes. Just as management tools are at the heart of how organisations operate today, so too are organisational paradoxes. It is therefore essential that the interplay between management tools and organisational paradoxes be managed, hence the concepts of *'strong coupling'* and *'weak coupling'* in the use of management tools (Grimand et al., 2018).

It should be noted that a management tool may be adopted and thus present within the organisation without its use necessarily following. Therefore, the presence of the tool does not necessarily imply its actual use; it is in this sense that Grimand (2006) rejects the assertion that use is supposed to follow automatically from the adoption of the tool. This view refers to two situations: on the one hand, either the tool is present, accepted and in actual use, and will be constantly updated; on the other hand, the tool is rejected, leading to its abandonment. According to Breton and Proulx (2002), use is: 'what people actually do with technical objects and devices'; this author limits his focus to what is actually done with the technical object without considering the manner or procedure. Hussenot (2008), on the other hand, takes the procedure into account, considering the precise moment; it is in this sense that he perceives use as being: 'what individuals do with the object and how they do it at a specific moment', which has led to an examination of 'why and how tools are used'. It therefore appears necessary to draw a clear distinction between the adoption of the tool and its uses (Brillet, al., 2010).

3.1. Uses of management tools in relation to the management of organisational paradoxes

Management tools are used in two ways: uses intended by the designer, or prescribed uses; and actual or effective uses within the context of a specific organisation. Akrich (1998); (Akrich, Callon, Latour,1988b; 2002, 2004) in ANT, proposed a typology of forms of user creativity which also highlights the discrepancies between the uses prescribed by designers and users' actual practices: displacement (the tool is used in a context other than that envisaged by the designer), adaptation (the tool is slightly modified to suit a particular context of use), extension (the tool is augmented with elements that expand its functionality) and, finally, repurposing (the tool is used for purposes other than those intended by its designers).

3.1.1. The intended uses of management tools as defined by the designer

Intended uses represent the uses that the tool's designer imbues the tool with at the time of design. According to Hussenot (2008), he encourages us to view adoption as an iterative social process. The view that uses must be fixed as soon as the tool is adopted is criticised, since the repurposing and reinvention of the tool are an integral part of the dynamics of adoption. Design and use are thus engaged in a recursive and continuous process, which is also influenced by the technical imagination – that is, the forms of perception that users project onto the tools.

Grimand and al. (2018) argue that management tools are considered effective if their uses actually correspond to what was envisaged by the tool's designers. They refer to this as *'strong coupling*'. However, these authors note that the functioning of contemporary organisations is largely characterised by paradoxes. When management tools are rolled out, they serve to highlight these paradoxes whilst creating others. Consequently, this strong coupling is capable of destabilising an organisation because it does not allow for the management of organisational paradoxes. Every organisation faces unforeseen situations; therefore, the strong coupling of management tools seems too rigid to regulate a structure that aims to be flexible, such as an SME. Consequently, the intended uses will inevitably be confronted with a reality different from that anticipated by the stakeholders and the design. Consequently, we see *a 'weak coupling'* that allows stakeholders to demonstrate their ability to cope with unpredictable situations within the organisation.

The reliance on flexibility whilst using the new management tool may lead to partial adoption. This management practice results in hybrid methods, which are seen as a combination of, on the one hand, the old management practices already mastered and, on the other, new management practices that are only partially mastered. This is done with the sole aim of being able to cope with paradoxical situations within the organisation. This controversy points to *a 'weak coupling'* of management tools; the tool appears capable of making compromises by adapting to the reality and the actual experiences of SMEs as perceived by the stakeholders. The partial adoption envisaged in this sense represents a form of repurposing of the new tool, which can be perceived as an effective means of managing crisis situations in SMEs.

3.1.2. The actual or unintended uses of management tools in practice by organisational actors

Actual uses refer to situations that can be described as stealing and circumvention of intended use. Owing to its utilitarian nature, the management tool thus serves to highlight the operational dimension of the MC. Similarly, Grimand et al. (2018) identify *'weak coupling'* as the most adoption approach to managing organisational paradoxes. Weak coupling between the way the tool was designed or built and the way it is actually used within an organisation *'creates a space for managing organisational paradoxes and, as such, appears to offer a renewed way of understanding the status of management tools and their role in collective action'.* The concept of 'actual use' or 'unintended use' (Oiry and Ewan, 2011) endows tools with a certain capacity for adaptability in the event of new and unforeseen situations within an organisation.

The tool incorporates the notion of flexibility, which constitutes a source of development for employees and the organisation itself, rather than a source of new paradoxes, as seems to be the case with *the 'strong coupling'* of tools. These contributions explore two ways of conceptualising the relationship between design and use, and the 'value' of tools (Grimand and de Vaujany, 2005).

4. Adoption centred on two values: constructed value and use value

These two values lend new meanings to adoption: on the one hand, the meaning attributed to it presents the process as the result of an interaction between actors and tools within the context of a specific organisation; this is constructed value. On the other hand, use value makes the adoption of a tool a process that is consubstantial with its use.

- **The concept of constructed value**

This concept highlights the process of adoption as the result of an interaction between actors and tools, within the context of a specific organisation. This process involves multiple sequences of 'reciprocal prescriptions' (Hatchuel, 1994). Design and use, whilst conceptually distinct, form part of a vast, recursive and continuous process. Moisdon (2005, p. 248) goes so far as to envisage a logic that would create *'concomitance and mutual reinforcement between the process of instrumental design and that of establishing the terms of use, which would be based on the organisation of continuous interactivity between stakeholders*.

The quality of these cycles of interaction nevertheless depends on how the designer analyses the user's learning process and recognises the difficulties the user faces; they depend on the designer's assessment of the validity of the user's arguments regarding the shortcomings of the initial specifications. The adoption of management tools therefore contributes to its gradual contextualisation and is dependent on the institutional context in which it is implemented.

- **The concept of use value**

This approach refuses to distinguish between a design phase and an implementation phase. It considers that implementing the tool or implementing the organisation is in itself an act of designing them (Lorino, 2002). This concept considers the fact that action often precedes the formation of preferences; these preferences are likely to evolve 'as things progress' (March and Weil, 2003). Having clarified the concept of use, we now turn to the process of adopting MC tools in its multidimensional aspect.

4.1. Adoption : a multidimensional concept

Whilst the characteristics of management tools make them conducive to adoption, the cultural and behavioral context plays a major role in their success. Hence, the aim of this research is to understand how stakeholders perceive and familiarise themselves with the new tool, in light of recurring observations of unintended uses, shifts or even diversions in use, and even instances where the tool is abandoned (Aggeri and Labatut, 2010); (Grimand, 2012). Stakeholders are sometimes forced to seek ways of adapting the new tool to their organisational realities. Unfortunately, the need for adaptation sometimes comes up against resistance from stakeholders, stemming from several factors. Indeed, tools designed for a specific context do not always work well when transferred to a different context. This process may sometimes encounter resistance due to various concerns: suspicions of evaluation, the tool being used for monitoring, or even a loss of power and prerogatives over certain tasks (Hertzog and Bollecker, 2022); (Meyssonnier and Zawadzki, 2008), the failure to adopt MC tools is viewed through the lens of proximity theory.

The concept of adoption comprises several dimensions: dissemination, design, access and use. Dissemination is understood in three distinct ways. Firstly, there is dissemination conceived as a linear process consisting of a succession of phases. Secondly, there is dissemination through mimicry, theorised by proponents of neo-institutional theories. And finally, diffusion is viewed as a vortex-like process; this perspective is proposed by scholars of translation theory, who challenge the linear model. Subsequently, the adoption-based approach is examined, characterised by its distinction between the stages of design and reception of the tool by the actors. The appropriative perspective is described; it is presented as a conception that challenges the separation of the design and usage phases. Ultimately, the development of management tools is viewed as a process that focuses on the importance of interactions between stakeholders with a view to achieving a tool that evolves through these exchanges.

The first phase of the adoption process involves assessing the current status of management tools within the organisation. It is in this context that the theoretical framework drawing on the concepts of access and diffusion has been highlighted (Rogers, 2003; Alcouffe, 2004). This is because diffusion is a process that encourages a potential user to become aware of the use of a new idea or tool. It refers to communication about an object or idea that takes place through the media. Adoption, for its part, can be subdivided into *the 'adoption* **process'** on the one hand – regarded as the steps leading to adoption status – and *'adoption* **status'** on the other, which in turn can be viewed simply as the presence of the tool within the organisation.

According to Breton and Proulx (2002), the individual appropriation of tools is the process by which the user integrates it into their daily life whilst adapting it to their personality and needs. Thus, full adoption involves: a learning process enabling the user to acquire a minimum level of technical and cognitive mastery (proficiency in its use); the integration of the technology into their routines and lifestyle (incorporating the object into daily life, making it commonplace); and creative uses (innovation beyond the instructions for use). These criteria may constitute the conditions for realising an ideal type in the trajectory of adoption.

Collective appropriation, on the other hand, refers to the implementation (use, design, development) by a group or social category, with a view to increasing its autonomy and its capacity to act (*empowerment)* in relation to other components of society.

4.1.1. Dimensions of the concept of adoption

As a reminder, adoption comprises several stages: dissemination, design, adoption and use. Management tools facilitate reflection; consequently, viewing stakeholders' reluctance solely in a negative light would amount to a refusal to scrutinise organisations and, by extension, hinder their development. It therefore seems

worthwhile to view stakeholders' reluctance as an asset that not only allows us to reassess the status of management tools but also represents a potential source of evolution and, consequently, their role in the functioning of contemporary organisations.

To add weight to this argument, Bonneveux and Calmé (2010, p. 4) describe the process of adoption as comprising an initial phase of access, a second phase of use and a third phase of transformation of the object. In practical terms, these authors define 'learning by producing' (access), 'learning by using' ('assimilation') and 'learning by interacting' ('accommodation', in the sense used by Piaget, 1975). Based on previous research, the authors agree that the process of adoption consists of three sequential phases: adoption, assimilation and accommodation.

4.1.2. Implementation of management tools by service-sector SMEs: the relationship between the actor and the management tool at the heart of collective action

The implementation of management tools refers to their actual use. The aim is to place the actor back at the center of managerial action. This is because instrumental rationality alone cannot suffice, or at least cannot ensure the sustainable performance of contemporary organisations. The need for instrumental coherence also goes hand in hand with the need for psychological coherence among the actors. There is an increasingly strong presence of tools within organisations (Ségrestin, 2004; Sponem and Pezet, 2022). As they are sold, purchased, designed, imitated, imported and taught, this multitude of actions gradually elevates them to the status of an institution (de Vaujany, 2005). Regardless of whether they are developed internally or externally, the proliferation of tools (Moisdon, 1997) raises the question of how actors interact with them. Starting with dissemination, moving through adoption and culminating in usage—which, according to, unites the construction of tools by the actors. Rabardel (2005) had already emphasised, in discussing the relationship between the actor and the tool, that the tool is what makes collective action possible, in the sense that it appears as the consequence of past rationalisations of that very collective action, or that it helps to bring about new conceptions. Here, the tool is both constraining and empowering (Grimand, 2016). Thus, the tool imposes constraints, but it also favors certain learning trajectories over others. Similarly, the tool is empowering as it enables cognitive economy; in this way, it allows actors to maintain a reflective distance from their own practice. *'In their activity, the subject is not merely in a relationship with the object; they are also in a relationship with themselves: they know themselves, manage themselves and transform themselves.'*

4.1.3. Adoption: an ambiguous concept centred on a constellation of ideas

Research into the adoption of management tools points to various conceptions. In this context, we believe it is necessary to elaborate on the following points:

- The interaction between tools and the user is the starting point for adoption. According to Desanctis and Poole (1994; p. 121), the adoption of technologies corresponds to the way in which people interact with existing structures. *Adaptive Structuration Theory* examines two types of structure*: 'the types of structures provided by advanced technologies and the structures that ultimately emerge in human actions when people interact with these technologies.* Orlikowski (1992) prefers the concept of 'enactment' to that of adoption, which refers to the way in which human action brings emergent structures into being through interaction in practice.

-Adoption involves the construction of meaning for the participants. According to Rabardel (1995, p. 12), appropriation is *'the process by which the subject reconstructs for themselves patterns of use for an artefact during an activity that is meaningful to them'.* Similarly, he highlights the mechanism of meaning-making; according to Grimand (2006; p. 17), adoption is *'a process of interpretation, negotiation and meaning-making within which actors' question, develop and reinvent models of collective action'.*

-Adoption sometimes gives rise to reluctance, or to a diversion from the originally intended use (Akrich, 1998). Adoption develops as a *'form of resistance to standardisation'* (Cova and Cova; 2001); what Pesqueux (2020) describes as resistance to change, the manifestations of which include: inertia, critical argumentation, revolt and sabotage. Furthermore, in the medical field, Dechamp and Romeyer (2006) highlighted *'a particular form of adoption: the circumvention of the organising vision strongly influenced by the corporatist discourses of the medical community'.*

4.2. The adoption of management tools: a source of change within SMEs

Following numerous unexpected effects and the proliferation of management tools—amplified by the role they play in the functioning of these enterprises—many researchers have taken an interest in this new approach. The aim is to understand the relationships between actors and tools, with a view to facilitating the social integration of these individuals at the heart of organisational functioning.

According to Bernard (2019), stakeholders can sometimes introduce behavioural biases that risk hindering the process of adoption, given that management tools encourage critical thinking. In other words, the knowledge generated resonates with day-to-day challenges. Interpreting the results provided by the tools enhances understanding of how the organisation's mechanisms function, as it puts this knowledge to practical use. The aim of the adoption phase is therefore to guide the manager towards making decisions and putting them into action. This is because the actionability of knowledge (Charreire, 2002) is linked to the relevance of the tools to the context, thereby enabling decisions to be implemented. It follows that numerous creative approaches, which could lead to potential development, are possible around MC tools. However, as Tahar (2020) had already noted, managerial innovation cannot be viewed as a mere act of grafting that is simply added to or adjusted within an existing package without the slightest alteration.

In this article, unlike previous studies which have focused solely on the utilitarian nature of management tools without considering the designer's knowledge—which must interact with the desires, expectations and managerial knowledge of the user, namely the manager— Our focus centers on this oversight. The aim is to assist the executive in making optimal decisions in order to improve the organisation's performance. We examine the synergy between the two dimensions of coherence (4.2.1).

4.2.1. The need for synergy between instrumental coherence and psychological coherence

Building on the critique of instrumental rationality—which has long sidelined the actor in favour of the tool at the center of managerial action—organisational management control provides a solid argument for placing the actor back at the center of the stage by integrating the strategic dimension. However, this is not solely a matter of management tools; on the contrary, it incorporates the interplay of actors through their interactions. Management control, as defined by Simon (1995), demonstrates its originality in that it can be carried out in either a diagnostic or an interactive manner. It is the latter characteristic that appears most interesting, as it highlights the importance of human relations in the context of control. However, even before him, Berry (1983) had already discussed 'invisible technologies', emphasising *the impact of management tools on the evolution of human systems*. This author was one of the first to highlight the structuring effects of tools on reality and how it is perceived by those involved, thereby calling for a move away from the view that management tools are merely vessels for the intentions of their designers, and thus their *'invisible hand*'.

In the same vein, Hatchuel and Weil (1992) focus on managerial techniques. They define these as comprising three consubstantial elements, namely: a technical substrate, a managerial logic and a configuration of relationships between actors. Moisdon (1997: 13) believes that *'it can be argued that the effectiveness of organisations depends less on their management tools than on the relational mechanisms that are built up within working groups*'. The research of Bourguignon and Jenkins (2004) supports the proposition that the requirement for 'instrumental' coherence in the service of performance and success cannot, without causing harm, ignore the need for 'psychological' coherence amongst the actors.

-Instrumental coherence: Winner (1977) points out that this concept is based on a hypothesis of 'technical determinism', which implies that, whilst management systems are said to contribute to the implementation of strategies, this is because they are regarded as a means of channeling human behavior in a direction favorable to specific strategies. The argument for coherence in strategic management has been repeatedly invoked since the 1980s to promote new methods; these new tools are supposed to restore harmony between strategic and functional elements – a harmony that is vital for performance and, ultimately, the organisation's survival. Kaplan and Norton (1996), with the balanced scorecard, which is based on the implicit idea that these indicators draw managers' attention and, beyond that, foster user-oriented perspectives and behavior's, thereby enabling the implementation of a strategy that places the user at the center.

-Psychological coherence: this, for its part, forms part of a 'social choice' perspective that places the primary emphasis on people and their reactions to systems. Psychological al coherence is defined as a mental construct that is significant in terms of both cognition and motivation for a given organisational agent (individual or group). In short, instrumental coherence aims for flexibility, whilst psychological coherence aims for stability. The sense of coherence has been extensively studied in relation to health issues (Antonovsky, 1987); Weick, K. E. (2021), in the context of sensemaking in organisations. This concept helps to explain why some individuals do or do not fall ill when faced with stressful situations. 'Cognitive coherence' is another aspect of psychological coherence, a concept that has given rise to numerous theoretical and empirical studies (Abelson et al., 1968).

5. Conclusion

The concept of adoption underpins the modern debate surrounding these management tools, as it helps us understand the mechanisms through which a tool becomes socially embedded (Bessire et al., 2006). Consequently, several authors have sought to identify individuals' representations and feelings regarding these tools (Dreveton, 2008; Lux, 2016); Lajante and Lux (2018, 2017) proposed studying the primary emotional processes that precede the formation of perceptions and feelings in order to explain the concept of psychological coherence.

This study reveals that the process of adoption is not based solely on a controlled and conscious evaluation, but also on an automatic and unconscious evaluation process that structures the formation of primary emotional episodes and guides human behavior within any form of social organisation (Rafaeliet and Worline, 2001). A breakthrough was achieved by the work of the Center for Scientific Management at the Paris School of Mine (CSM) on the dominant representations of management tools (Grimand, 2012).

As a result, it was suggested that management tools could also serve as vehicles for reflexivity, learning or change (Moisdon, 1997; David, 1998), and subsequently (De Vaujany, 2005; Grimand, 2006; Martin and Picceu, 2007; Dominguez-Pery, 2011; Oiry, 2011). Whilst achieving unanimity on the theoretical approach underpinning these authors' work is not a feasible objective, they do share a common aim: to move away from a strictly instrumental view of management tools in order to enhance their role in the construction of meaning, the structuring of relationships between actors, and organisational learning. The tool designer is at the center of the appropriation process as a network actor.

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How to cite/reference this article: Marie Emmanuelle Anastasie MBEZELE, Alexis NGANTCHOU, The Adoption of Management Control Tools by Executives of Service-Sector SMEs: A Review of the Literature through the Lens of Actor-Network Theory, *Asian. Jour. Social. Scie. Mgmt. Tech*. 2026; 8(4): 34-48.