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Exploring the connection between emotions, artefacts and institutional work: the case of institutional change for public facilities management

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ABSTRACT

Public Facilities Management (PFM) is currently moving from being an institution driven by ad-hoc practices to now introducing long-term and strategic practices. During this institutional change, human actors engage in institutional work to create new practices. However, old practices seem to be maintained within PFM to a large extent. Why? Data were collected through case studies in two public facilities management organizations, an interview study in eight organizations from the institution of PFM and a workshop with representatives from the institutional field of PFM. Findings show how the changing institutional setting for the institution of PFM produce negative emotions. To manage these, human actors engage in institutional work and here they employ artefacts as means to drive change. These artefacts functioned in various ways to reduce negative feelings by inducing a sense of safety (as soft blankets), by enabling the avoidance of dealing with 'the truth' (as shields) and by offering hope (as a vision of perfect future). Thereby, they did not take part in creating change, as much as they took part in maintaining current practices. The unintended consequences of the usage of artefacts, explain why practices are maintained during institutional change for PFM.

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Introduction

The organizations responsible for the supply and maintenance of public buildings: Public Facilities Management Organizations (PFMOs) and Public Housing Companies (PHCs) across Europe currently face multiple as well as similar challenges regarding their current building stock. Public buildings are in decay with a great backlog of renovation work (Uotila *et al.* 2019, 2020, Hopland and Kvamsdal 2019, Borge and Hopland 2017, Uotila *et al.* 2019, 2020, Svensson 2021), and at the same time, there is a need to build new, increase cost-efficiency, and to comply with environmental regulations (Nielsen 2016). Specifically, commonalities in challenges include: a lack of systematic knowledge of the building stock (Vermiglio 2011), a tendency to rely on ad-hoc measures (Uotila *et al.* 2019), difficulties in gaining recognition of the importance of long-term planning, difficulties in collaboration between stakeholders (Borg and Hopland 2016; Lindkvist 2020) and a lack of organizational

capabilities for long-term planning and strategic facilities management (Junghans 2013, Hartmann *et al.* 2008).

In addition, in Sweden, many public buildings were built during the so-called million program – the result of the Swedish parliament's decision that a million new homes should be built in the period of 1965 to 1974 – a mission that was achieved (Hall and Vidén 2005). Simultaneously, a large reform regarding day-care for children was introduced, resulting in the construction of a vast number of public buildings. These buildings are now in need of measures as they face several problems, including meeting today's energy demands and other sustainable objectives. As a response to the above, PFMOs and PHCs in Sweden, as well as in Europe, are recently beginning to implement new work practices, associated with strategic measures (Junghans 2013, Olsson *et al.* 2015, Ramskov-Galamba and Nielsen 2016, Atkins and Brooks 2017, Jensen *et al.* 2018, Bröchner *et al.* 2019,

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Hopland and Kvamsdal 2019, Pardalis *et al.* 2019, Svensson 2021).

While the majority of studies on Public facilities management (PFM) have focussed on technical solutions to meet current challenges, rather than on PFM organization, a few studies have indicated that the organizational context of PFMOs and PHCs influence their possibility to implement the new practices associated with strategic measures (Nielsen *et al.* 2016, Ramskov-Galamba and Nielsen 2016, Campbell 2017). The institution of PFM has been deemed 'multidimensional in its nature' (Vermiglio 2011), as the decision processes regarding maintenance and renovation of public facilities include, but are not limited to: political and financial (Ramskov-Galamba and Nielsen 2016), as well as social, environmental, and organizational aspects (Uotila *et al.* 2019, 2020). These complexities have increased lately; many officials in PFMOs experience a need to encompass a wider range of competencies than before and adhere to different perspectives in practice (Gluch and Svensson 2018, Svensson and Löwstedt 2021).

In many PFMOs and PHCs, there is a tendency for existing practices to determine the direction for future measures, despite efforts to implement new practices (cf. Thoreson 2015; Svensson and Löwstedt 2021). In a study of a Swedish PHC's energy efficient renovation process, Palm and Reindl (2016) found, by applying a practice theory framework, that existing technical infrastructure largely determined what issues came up for discussion at meetings, indicating that institutionalized practices were maintained. Moreover, professionals were only engaged in decisions in relation to their own specialized areas, which also benefitted established solutions. Likewise, innovative ideas on energy efficient measures during renovation of a public building stock in Sweden were down prioritized for practices connected to finances, which was the dominant logic within the PHC studied (Thoreson 2015). Uotila *et al.* (2020), conclude that the failure to (adequately) renovate a public-school building in line with new standards was due to organizational issues concerning overlapping work between the maintenance department and the developer department; there was ignorance of the work the departments had done and communication problems among the project participants, which complicated the decision-making process. Thus, practices seem to be maintained within the institution of PFM, even though efforts to create new practices. Why is it so? In this paper, this question will be investigated, using a theoretical frame for analysis that combines the emotional and practice turn in

organizational studies with the theoretical notion of institutional work. Focussing on institutional work enables an understanding of the relationship between actors, their actions and the context in which these actions take place, and as such, this focus offers great promise to increase understanding of change processes in the built environment (Chan 2018, Bresnen 2017).

The change present for PFM is in line with a so-called institutional change; meaning a change during which the fundamental idea of what PFM is changing (Svensson 2021). With the current pressure on PFMOs and PHCs to work more long-term and strategically with the management of the public building stock, PFMO and PHC-officials are engaged in institutional work (Svensson 2021); changing institutions entails institutional work in practice by different type of organizational actors engaged in 'purposive actions ... aimed at maintaining, creating and disrupting institutions' (Lawrence and Suddaby 2006, p. 215).

Following a practical and emotional turn in organizational research (cf. Gherardi 2018), the institutional work construct has provided an opportunity to extend institutional research to include the interrelations between *institutions* and *emotions* (see overview in Hampel *et al.* 2015). As the institution of PFM is changing, and PFMOs and PHCs are growing from short-term, ad-hoc oriented organizations, into strategic organizations, focussing on long-term, strategic measures and practices (Svensson 2021, Svensson and Löwstedt 2021) this place PFMOs and PHCs in an increasingly complex organizational and institutional context. Such contexts often *carry negative affect*, which in turn makes them produce *negative emotions* such as feelings of anxiety and stress (Djebarni 2010, Schein 2013). Moreover, previous studies from the construction sector have shown how project-based types of work environments contribute to excessive levels of work-related stress and negative emotions for individuals (Haynes and Love 2004; Djebarni 2010).

Within contexts that produce negative emotions, studies outside of the PFM literature have shown how individuals are likely to look for different ways to claim and convey rationality (anxiety reduction) as they try to make change happen, through the use of different types of *artefacts* which may affect actors' ability to carry out the work they initially intended to do (Jarzabkowski and Kaplan 2015).

A combined focus on *emotions* and on *artefacts* are relevant for increased understanding of institutional work in general and particularly in PFM, mainly for its potential to reveal *unintended consequences* of the use

of artefacts (cf. Vince 2018). Investigating unintended consequences of institutional work can help to further increase understanding of why practices are maintained within PFM (cf. Palm and Reindl 2016, Thoresson 2015, Uotila *et al.* 2019, Svensson and Löwstedt 2021).

Following this, this paper examines *how and why actors employ artefacts, in their institutional work, and the unintended consequences of this usage, during institutional change for Public Facilities Management*. Thereby, the paper aims to both expand previous research on institutional work, by exploring the connection between emotions, artefacts, and institutional work and to advance the understanding of organizational issues related to changing practices for PFM.

Outline of the paper

Following the introduction, the theoretical underpinnings of the study are presented in detail, including a section on the analytical frame for data analysis. Thereafter, the interview study, case studies and workshop, from which data were collected, are presented. Next the data analysis is detailed. Following this, the findings are presented; the first part of the findings begins with a presentation of the empirical data detailing different strategies used, while employing different artefacts, to manage the context of PFM. In the next part of the findings, the different functions of the artefacts, as well as the implications of their use, are elaborated on. The paper ends with a discussion on the results and conclusions, including suggestions for future research.

Institutional work and emotions

Institutional work is a theoretical perspective, based on a practice perspective, which reconnects the construction of institutionally complex settings to the actions and interactions of the individuals who inhabit them (Lawrence and Suddaby 2006). Traditionally, institutional theory has foregrounded 'embeddedness' over 'situatedness' (Smets *et al.* 2017). However, with an interest in institutional work, a shift can be seen within institutional theory where institutional change is recognized as something that emerges from and in practice (Smets *et al.* 2017; Smets *et al.* (2012).

While research on institutional work typically have had a rational focus, for example, emphasizing the cognitive features of institutional maintenance work, (Townley 2002), some studies have begun to include emotions to understand institutional work. These

studies typically have focussed on how humans deliberately *use* emotions to pursue their means (Suddaby and Greenwood 2005) and by that have overlooked the *unconscious* aspects related to emotions and institutional work (Vince 2018). Suddaby and Greenwood (2005) elaborate on how preferable emotions can be awoken in human actors, by using different rhetorical strategies. Other studies include, investigations of how human actors, who are dissatisfied with existing practices engage in institutional disruption (Zietsma and Lawrence 2010). Likewise, Vince and Voronov (2012) propose that high levels of emotional investment in an institutional order, is likely to lead human actors to engage in institutional maintenance, whereas they postulate that agents engage in creating new, or disrupting old, institutional practices if the current situational order threatens their psychological wellbeing. Thus, in most previous studies relating to institutional work and emotions, it is implicit that agents have control over (their) emotions and can deliberately direct their actions to achieve intended consequences. Likewise, in studies pertaining to the built environment, emotions have been viewed as a tool to achieve a desirable end, as, for example, in research on emotional intelligence (cf. Lindebaum and Jordan 2012; Pryke *et al.* 2015; Konananhalli and Oyedele 2016), or emotional attachment to a certain project (Dainty *et al.* 2005). Emotions have, to a large extent, been theorized as a competence that can be utilized at a person's own will (Lindebaum and Jordan 2012; Pryke *et al.* 2015; Konananhalli and Oyedele 2016).

Moreover, in much organizational research, little attention has been paid to *emotions* with regard to the inter-relation between *humans and artefacts in institutional work*, the interrelations between humans and artefacts have usually been discussed purely in relation to goals and plans (Stein *et al.* 2014). This was the case in a study using institutional work to study changing practices for PFM, in which Gluch and Svensson (2018) concluded that humans purposively used different artefacts to pursue their means, when implementing practices related to strategic PFM. However, it is well known from research in psychology that when humans experience *negative emotions* such as stress and anxiety, they start, despite good intentions to change the current situation, to engage in behaviour that maintain the current situation (APA 2020). Such behaviours can, for example, be labelled avoidance behaviour, and these acts are usually not conscious but rather unconscious (APA 2020) often conducted with the use of different artefacts and they lead to *unintended consequences*. Specifically, recent

research has shown how humans and things *together* do work in connection to the introduction of new strategic practices in organizations pertaining to the built environment (Gluch and Bosch-Sijtsema 2016, Gluch and Svensson 2018, Ninan *et al.* 2020, Svensson and Gluch 2021) and that such work can produce unintended results (Jarzabkowski and Kaplan 2015). Using a practice lens, Jarzabkowski and Kaplan (2015) have explored the use of tools in strategy work (in their study, tools are a collective name for frameworks, concepts, models, or methods). They argue that during times of change, especially in complex, changing, institutional and organizational settings such as that of PFM, tools are intended to be useful in coping with the uncertainties and negative emotions associated with strategy making. According to Jarzabkowski and Kaplan (2015), the tools support what Simon (1978, p. 9) calls ‘procedural rationality’ to help actors perceive *as if* they make rational choices for the firm, given the limits of human cognitive powers (Cabantous and Gond 2011). The research conducted by Jarzabkowski and Kaplan (2015) provides insight into the actual (and often unintended) practices and consequences of seeking rationality through the use of strategy tools. Their research shows how human actors mobilize tools to enact a rational ideal, and in doing so achieve a wide variety of both intended and unintended outcomes for themselves and the organizations in which they operate. One such unintended consequence is, for example, to spend time on adjusting a tool, if it did not match the anticipation of its use.

Thus, it becomes important to investigate how *emotions* can impact the *usage of artefacts* during institutional work and how this can lead to *unintended consequences*. Learning to accept and relate to unconscious dynamics within an institutional context is important because it offers an expanded perspective on how we regard institutions and our efforts within them (Vince 2018).

Analytical framework

For theorizing and analyzing the connection between emotions, artefacts, and institutional work during

institutional change process in PFMOs and PHCs, the author of this publication borrowed concepts from practice-based scholars, such as Stein *et al.* (2014), Gherardi (2012), and Gherardi *et al.* (2018), together with practice-based, institutional scholars (i.e. Lawrence and Suddaby 2006). Here, artefacts have been shown to take different forms and be both tangible and non-tangible (Cooren 2020) as well as imaginative (Gherardi 2012). Moreover; these practice-based scholars have acknowledged that practices take place in an *equipped context* that can carry affect and thereby produce *emotional experiences* (Gherardi 2012). Thus, in this paper, the reference-point for *affect* lies *outside* of the human body, making it possible to read many things, such as the context of PFM, as affective (Navaro-Yashin 2009, p. 12). Whereas *emotional experiences* exist *inside* humans (e.g. people feel upset), *affect* exists in the stimulus (it is the environment/object that is upsetting) (Stein *et al.* 2014, p. 163). *Emotions* are defined as an: ‘Episode of interrelated, synchronized changes in the states of all or most of the five organismic subsystems (cognitive, neurophysiological, motivational, motor expression and subjective feeling) in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism’ (Scherer 2005, p. 697, Stein *et al.* 2014, p. 163).

This implies first the importance to consider *the organizational context in which human actors operate, the affects this context carries and the emotional experiences this context produces*, when investigating changing practices and institutional work, within organizations, i.e. the context is not only equipped in the sense of functionality – allowing human actors to do the work at hand – but also equipped in the sense that *it can carry affect and produce emotional experiences*. Second, what becomes the focus of interest then is to see what human actors are doing when they experience emotions produced by the context in which these human actors operate (Stein *et al.* 2014).

In summary, there are three concepts that will be operationalized in the data analysis (shown in Table 1), to increase understanding of the connection between emotions, artefacts, and institutional work during institutional change in PFM.

Table 1. Conceptualization of the theoretical framework.

Theoretical terms	Theoretical terms operationalized
Equipped context	Organizational and institutional context and the affect it carries Emotional experiences produced
Institutional work + artefacts	Actions in response to emotional experiences produced (interactions of humans and artefacts) (artefacts can be tangible, non-tangible and imaginary)

The author wishes to posit that there was no interest in individuals’ emotions per se, but rather in collective emotions i.e. the affect carried, and *the emotions produced as a result of the organizational and institutional context* (cf. Stein *et al.* 2014).

Focus for the paper

To reach the aim of this paper, attention will be paid to the artefacts, which are used when *negative* emotions are produced, and what consequences this usage brings, to increase understanding of the connection between emotions, artefacts, and institutional work during institutional change. While there can be other feelings present these are not the focus for this paper. This paper highlights why some practices are maintained or changed to a minor extent during an institutional change. However, this is not to say that all practices are maintained, since it is an institutional change for PFM. New practices are created, and others disrupted in PFMOs and PHCs, however, those new practices are not the

focus of this paper. Thus, the focus in this paper is on actions that led to the *maintaining of practices during an institutional changer*.

Methodologies

Research approach

A qualitative research approach was adopted to explore the connection between artefacts, emotions and institutional work within PFM undergoing change, since it allows for capturing the actions, beliefs, and thoughts of individual actors during a phenomenon that has not been studied before (Edmonton 2007). The field material was collected between 2019 and

Table 2. Overview of data collection.

Interview study

Respondents

Three representatives from private FM organization: specialized in renovation of the million program (Two facility managers and the head of the unit)

Twelve representatives from 8 PFMOs (nos. 1–8) (line managers, managers, and facilities managers)

Line manager (head of facilities managers) PFMO 1

Head of facilities (head of unit) PFMO 2

Improvement manager PFMO 3

Head of PFM PFMO 3

Line manager (head of technical administration unit) PFMO 4

Head of PFMO 4

Line manager (head of facilities managers) PFMO 5

Improvement manager PFMO 5

Line manager (head of facilities managers) PFMO 7

Line Manager (head of facilities managers for pre-schools and schools) PFMO 6

Head of facilities at a PFM PFMO 8

Facilities strategist PFMO 8

Workshop

Participants

Two representatives from project management companies working closely with PFMOs and PHCs

One private consultant working with municipalities and their facilities management

Representatives from 4 PFMOs (no. 2, 4, 6, 3) involved in strategic work in relation to current challenges

Researcher in FM

Representative from a public housing company – Head of unit

Shadowing in FacilityUnit

Interviews

Line manager

Facility manager schools and pre-schools

Facility manager care premises

Facility strategist schools and pre-schools

Head of facility unit

Observations

Approx. 15 h of observations including internal and external meetings, presentations

Follow up with shadowed person

Approx. 10 h of conversations

Total number of hours shadowing including informal and formal settings

Approx. 150 h

Shadowing in FacilityDep

Interviews

Head of facility dep (3 occasions)

Project manager energy and ventilation

Project manager maintenance

Observations

Approx. 44 hours of observations including internal and external meetings, presentations

Follow up with shadowed person

Approx. 6 hours of conversations

Total number of hours shadowing including informal and formal settings

Approx. 50 hours

2020 (as seen in Table 2) and during this period, four different data collection episodes were performed: one interview study with eight different PFMOs; one workshop with representatives from PHCs and PFMOs; and in-depth studies of two PFMOs. First, the workshop was conducted, and thereafter, the interview study ran in parallel with the two in-depth studies. All four studies were based on findings from previous research conducted by the author of this paper (together with colleagues) within the institution of PFM, stemming back from 2016 and onwards.

It became clear, through inductively coding and analyzing the material from the workshop, that the current institutional context of PFM, and the organizational context of PFMOs and PHCs brought with it feelings of anxiety and stress. It also seemed as if human actors were using different artefacts to try to manage this situation. At the workshop, the participants were asked to detail if any artefacts were presented in their daily work life, related to the introduction of strategic measures. They were not specifically asked to give account of how these artefacts were used to reduce negative feelings; instead, the usage and function 'emerged' from the material through inductive thematic coding (Braun and Clarke 2006). The following studies (interview study and two case studies) are then used to further enhance and deepen the understandings from the workshop, both in terms of the context of PFMOs and the use of artefacts

Interview study

As the experiences, perspectives, and subjective viewpoints of individuals were of interest for the research, interviews were conducted (Flick 2014). The interviews focussed both on how the individuals experience their current organizational situation and how their work, affected by both the change that has already happened and the pressure to continue changing, and a general quest to become strategic for PHCs and PFMOs. The interviews also focussed on organizational changes in relation current challenges, and how the roles and different functions are changing. Oral consent to record the interviews were given from all respondents.

The interviews varied in length from 30 min to 1 h and was conducted either by telephone, face-to face meetings or through Skype/Zoom. The interviewees were chosen through a combination of snowballing: asking previous interviewees for connections to other municipalities and organizations working with Swedish

PFMOs, contacts generated from the workshop, and an aim to find participants spread out in Sweden. In order to avoid bias in the data collection, the snowballing method was complemented with other measures.

The interviews were semi-structured so that the interviewees could talk openly about whatever came to their mind related to the questions and focussed on the current situation for PFMOs and the change process these organizations experience (Flick 2014). All in all, 15 persons from nine different organizations were interviewed (see Table 2). The interviews were transcribed verbatim.

The workshop

The workshop was a whole-day event in November 2019 and was attended by nine practitioners from different organizations, which were either PFMOs or organizations working closely with such organizations, plus one expert in facilities management (FM). The aim of the workshop was to gather different roles and functions working in the PFMOs, or organizations working with these, to discuss common challenges and organizational issues connected to these. The author of this publication organized the workshop together with three researchers, specialized on research pertaining to the built environment. The workshop started with a presentation of previous research conducted by Gluch and Svensson (2018). Thereafter, the participants at the workshop were divided into three groups in which they were to discuss different aspects of current challenges for PFMOs and relate to their own organizations. Examples of questions were: What are the conditions for the current transition towards strategic facilities management? Which actors are involved in the change, at different organizational levels; what do they do and how is their work changing? How are your current work practices affected by the current situations for PFMOs? Are there any artefacts involved in your/your collaborators' work that you like to mention? How do these artefacts influence practice(s) and work?

Shadowing in two public facilities management organizations

Included in the data collection are in-depth studies of two PFMOs: FacilityDep and FacilityUnit. The sampling was purposive (Flick 2014). The case organizations were selected to fit the objectives of the study and were deemed appropriate cases' (Flyvbjerg 2006), as

they were changing their operations towards a more strategic and long-term ways of working. It was decided that one person in each organization was to be shadowed; persons inhabiting roles described as strategically and actively involved in change work, in order to get a more detailed understanding of the day-to-day operations of officials in PFMOs. Shadowing is a form of observation that enables an understanding of the daily work and practices of officials (cf. Czarniawska 2014), which was in line with the aim of the study.

In total, about 200 h of observations were conducted, of which about 150 h were in the FacilityDep and 50 h were in the FacilityUnit. This include both formal setting such as meeting and presentations as well as informal settings, such as lunches, car-rides and coffee breaks. During meetings and presentations at FacilityDep and FacilityUnit, extensive field notes were made. At online meetings, the author was on mute and took notes on the computer. At physical meetings, notes were taken both on the computer and in some cases on paper. During both online meetings and regular meetings, facilitators introduced the author as 'a researcher that is following the work with facilities management' and took a silent role. Due to the Covid-19 pandemic, at physical meetings, all participants were spread out in the room with distance from one another, including myself. During informal meetings no notes were made.

During a period of 10 weeks between the end of March and beginning of June 2020, the author 'shadowed' a facilities strategist at FacilityUnit. During this time period, the author followed this person on several of her meetings and had scheduled conversations (informal interviews) at the end of almost each week during this 10-week time period, all about one hour in length. The author also interviewed people within FacilityUnit that this person was working closely with (see Table 2) and followed along in some of the meetings that the facility strategist deemed interesting, to be able to understand the dimensions of her work.

At the time of the shadowing, officials at FacilityUnit were working from home to a large extent due to the Covid-19 situation and could mostly only attend meetings online. The author attended meetings both online and at the office. However, some meetings were cancelled due to Covid-19, and some could not be attended due to Covid-19. The strategist also described that much of her work was done 'by the coffee machine', which was not possible these days, due to the Covid-19 pandemic.

A planning manager, a new role/function at FacilityDep, was shadowed between May and October in 2020. This person was specifically enrolled to manage the work with inventorying the building stock. I began by following this person around wherever she went, for around one month to get a sense of her working life. After the first month, the focus was on the work that the planning manager was specifically enrolled for: to manage the work with inventorying the building stock. The planning manager was to manage the work and be part of both the working group and the steering group. Here, I was invited to all meetings with the working group (the ones identifying the codes and planning for the inventorying), as well as the steering group that decided the directions for the work and took all executive decisions. During this period, regular check-ups were conducted with the planning manager on her experiences of the work. At FacilityDep, there were several persons continuously at the office during the entire duration of the shadowing period.

Notes on the COVID-19 pandemic

Most of the data were collected either prior to the outbreak of the Covid-19 pandemic or in the beginning of the outbreak. In Sweden, almost all public institutions were open during this period, except for upper secondary schools. Therefore, the operations of PFMOs were not influenced to a large extent at the time of data collection by the COVID-19 pandemic. Furthermore, data collection was conducted in the beginning of the pandemic, where no one could anticipate the length of the restrictions.

Data analysis

The data analysis has been a recursive process involving a constant moving back and forth between the entire data set, coded extracts of data, and the emerging analysis of the data to generate and describe (theoretical and empirical) themes in the material (cf. Braun and Clarke 2006, van Maanen *et al.* 2007). Although the process has been uneven (van Maanen *et al.* 2007), three main parts can be distinguished. One part focussed on establishing the characteristics of the organizational setting. Here, data was firstly coded and themed according to the organizational challenges found in relation to the change that PFMOs are going through. A theme, according to Braun and Clarke (2006), 'captures something important about the data in relation to the research question(s) and represents some level of patterned

response or meaning within the data set' (Braun and Clarke 2016, p. 82). Second, it was established what affects this context carries and hence what emotions it produces. In the third part, the data was thereafter read through again, with the specific intent to investigate the institutional work conducted as a response to the themed challenges and which artefacts were used. The artefacts included in the analysis were selected based on the following criteria: a) they were somehow connected to the current challenges of PFMOs; thus, they were either created, wanted, or used in specific relation to current challenges; b) they were also shaping the actions in relation to current challenges; and c) the type of artefacts identified were apparent in more than one organization. Thus, they were used similarly in and by different organizations (cf. Friedland and Arjalies 2021). The final thing was to group and analyze the function of the artefacts. In addition, when analyzing the data, both explicit and implicit levels were included, as is common for qualitative data analysis (Flick 2014). This meant, as an example, that both what was said and also not said during an interview, written or not written in an organizational document, as well as what was said and/or not said during observations, was of interest, as well as information regarding how the participants felt during a meeting. The data analysis, with its themes and codes, is summarized in Table 3.

The first section of the findings will present the institutional context or PFM, i.e. the organizational context for PFMOs and PHCs, and detail the actions taken to create new practices within this context. While detailing these actions, different artefacts that were used to manage negative emotions will be presented. In the second section of the findings, the different functions of the artefacts and the implications thereof will be reflected upon.

Findings

Actions in response to emotions produced

Developing concepts and sayings

Recently, according to several interviewees, to manage the issue with the large building stock in decay, PFMOs and PHCs in Sweden are moving away from organizing their operations, focussing foremost on facility management to become project-based organizations, responsible for both facilities' management, extensive re-building projects and new construction. With that, greater complexity is imposed on PFMOs, with increased collaboration, increased timelines for planning and more things to consider when planning

Table 3. Overview of theoretical terms and empirical observations.

Theoretical terms operationalized	Empirical observations (theoretically and inductively informed)			
	Organizational and institutional setting for PFMOs and PHCs is complex, uncertain, and composed of three main organizational challenges and issues:	Artefacts identified	Functions of artefacts	Result of interaction between humans and artefacts
1. Organizational affect	1. Problems with connecting the different parts of the organization. 2. Problems regarding collaboration with external stakeholders. 3. Trouble with delivering the right/relevant information to the system, especially in relation to new roles and functions. The above together makes <i>the context carry negative affect</i>			
2. Emotions produced	Anxiety and stress (negative emotions)			
3. Actions in response to emotions produced	Actions to create new practices <ul style="list-style-type: none"> Developing concepts and sayings Creating new work roles and functions Creating processes and reports Crafting and implementing new IT-systems and programs 	<ul style="list-style-type: none"> Concepts Empty Phrases Mental barriers Work roles Reports /investigations Processes IT-system IT-program(s) 	<ul style="list-style-type: none"> Artefacts as shields Artefacts as soft blankets Artefacts as concrete visions of the perfect future 	Maintaining or very little change of current practices.

for a renovation or more regular maintenance work. However, while spending substantial time to educate others, such as customers and politicians, about the new way of working, interviewees indicate that managers have not realized the organizational changes that need to take place within the PFMOs' own organizations, as an improvement manager says:

They (PFMO)s do not understand that the new way or working is a massive change work, they think it is just about tweaking it a bit, they simply do not understand the magnitude of the change that needs to be done. (Improvement manager, PFMO 3)

Not realizing the changes that need to be done has several consequences for individual actors working in these organizations, according to the CEO of a private FM organization, referring to his time as a head of a PHC:

For an organization that has not prepared or has done this (type of change) before, it is a crisis. Crises are about people as I see it... I notice this anxiety that exists... many have clear anxiety. (Private FM organization, CEO)

Aside from not realizing the organizational changes that need to take place at the operational level in PFMOs, respondents also discussed the disconnect between the top management/boards of especially municipal housing companies and the knowledge situated on the operational level. In an attempt to bridge these divides, concepts, and different sayings have been used.

New concepts and organizational ideas have been developed, such as: strategic facilities management. This is a concept that has been introduced in several PFMOs lately, as a way to summarize different measures taken towards a more strategic management of the public building stock. Some respondents mentioned that although the creation and introduction of new concepts in an organization, such as strategic facilities management initially can be used spur enthusiasm and optimism, these types of concepts can also be used to 'hide behind' for managers. In this way, managers can overtly claim that their units are working according to a certain concept, however, in practice, people are tasked to carry out the work by adopting ways that are not in line with the ideas behind these new concepts. The line manager at Facility Unit mentions that in his previous organization, that has been somewhat famous for working with strategic facilities management, the ones who were to carry out the practices associated with strategic facilities management, in hindsight, say they

deliberately misunderstood the concept and did not work according to it, since:

... then we would have needed to change our way of working ... and learn a lot of new things and let go of old patterns, and we were quite happy and confident in doing as we always had done. (Line Manager at FacilityUnit, quoting old colleague)

In several PFMOs, there are many buildings from the million program that need extensive measures. One reason for why so little has been done with the facilities from the million program is, according to one of the interviewees, that the 'label' itself has functioned as a mental barrier:

There is so much that needs to be done within them (the buildings in bad conditions), especially for the housing companies with million programs, and it is like the housing companies have made regular changes in many other areas, but when it is called million program, it is almost like you dare not move. Then it becomes like a mental barrier. (Facilities Manager, private FM organization, specialized in renovation of the million programs)

According to the interviewees, it has become 'praxis' to rationalize in public housing companies by referring to the 'million program' as too extensive and money-consuming to even bother about. However, in reality, several interviewees, claim that the people working at operational levels know that the variety is large between different areas within the million programs, and even within the same area in the million program housing areas, there are large varieties.

According to one of the interviewees who had experience from several PFMOs, there is a tendency for the boards of municipal housing companies to pretend to be in control. *'Rather than acknowledging the truth, people state that: "we are working with this issues" ... But "Once you get to ask a bit deeper, "working with this issues" usually meant discussing the problems, not doing anything in practice',* the respondent continues.

Creating new work roles and functions

With increased complexity, there is believed to be a need for roles and functions that can coordinate and manage strategic aspects in several PFMOs. A key professional for PFMOs is the facility manager. The role of the facility manager is described as being in a state of change, and steadily moving away from how it was previously described: as someone carrying a toolbox and being focussed on the 'here and now', instead these people *'should be able to think, so that means*

they have had to slow down a bit and start trying to think a bit... more strategically and not just go on like before' (Line Manager PFMO 5). The facility managers are expected to inhabit broader competencies and a wider range of work tasks than before; as put forward by Line Manager in PFMO no 7: *So the challenge is (for facilities managers)... you have to cover a very wide area... It can be a challenge, in terms of skills... They should be able to 'know their building stock' but also to be customer related and also have the ability to 'look up' and work strategically; a 'Spider in the web'.* Previously it seems that most facility managers have had either a customer or a technical focus, with most working towards the technical side. Either way, both types of facility managers now should take on a broader role, thus other demands on the facility managers, to be both here and now, in the future, custom-related, and encompassing technical know-how. This transition was mostly argued to be difficult and brought with it negative feelings, since *'it goes against the nature of being a facility manager to think strategically'*, as articulated by a manager.

To solve current issues, related to a desire to become strategic and working across organizational boundaries, in addition to changing the role of the facility manager, new work roles have been created and introduced in PFMOs. Examples of these are the planning manager at FacilityDep and the strategist at FacilityUnit. The persons inhabiting these roles express that they have not been able to do their job, due to how the PFMOs are organized today. Not being able to do ones' job creates frustration and feelings of stress as articulated by Facilities Strategist PFMO 7:

'I feel it is a lot of unrealized potential... I have been here for 1.5 years, but my role on paper do not correspond with the reality... I cannot do anything strategic in practice, nor can the organizational context enable this type of work'. 'It is frustrating. I have been thrown in here and cannot do anything'. (Facilities Strategist. PFMO 7)

At the workshop, rather than focus on the people that are already hired in many organizations, and how to integrate existing work roles, even more new roles and functions were discussed, together with fantasies about new types of education. As one example; new education was put forward as one solution to manage renovation of the so-called million program: *'Do we need to start a three-year education to renovate the million program?'*, a project manager asks his group rhetorically at the workshop (representative from private CM company).

Reports/investigation and processes

Current challenges for PFMOs do not only require new educations, they also create a need for professionals to develop new practices and routines in several different areas in relation to their new work roles. However, due to lack of time and resources it is hard to develop sufficient practices for all different areas needed. According to one of the participants at the workshop (head of schools, public FM organization): *'The "ventilation-investigation" (a brief summary of work that was done with ventilation measures) later was referred to in plenty of other occasions; "that you can read in the ventilation investigation"'* became a common expression to tackle diverse issues.

Likewise, at FacilityUnit, a facility manager had developed one process for a special type of building (a heritage building). At a meeting, he was discussing with his colleague on how to develop processes for, other types of premises, in this case, care premises. *'Use the one you have for the heritage building'* was the solution, given their limited amount of time to develop processes that fit the special needs of the different premises.

Crafting, fantasizing about and implementing new IT-systems

The new, strategic type of facilities management has resulted in a need for increased coordination within the organizations and with the user organizations. While previously primarily being focussed on maintenance, PFMOs have, as of late, expanded their operations to also include larger renovation and even to plan for new premises, as expressed by one of the representatives from a private FM company specialized in public buildings from the million program at the workshop: *'There is a huge difference, to go from being in a maintenance mood to become a project-based organization'*. This in turn has put increased pressure on single PFMO-officials. One CEO of a private FM firm describes his time working in a PFMO, during these type of changes:

'...For example, a project manager should now be able to handle massive projects with lots of relationships with the contractor and tenants and everything. I discovered that these persons were beginning to fall apart. Sleep problems, depression, those kinds of issues. If you had been a project manager at a school before, you have to change the roof... these are manageable quantities and known processes. But now it started to be about a hundred million and about 15 different groups to be coordinated, there are architects involved and then comes the politics screaming and then the company

management that requires reports because now this is important... and by tomorrow you have to have a report on this, etc. This in turn led to strong frictions between the various organizational units' (CEO, Private FM organization/specialized in renovation of the million programs)... 'Now, it is not enough to change a roof, you need to have system-knowledge as well as manage strategic and operative aspects and information'.

The quote illustrates the negative emotions associated with the new type of organizing. It also illustrates how the new type of organizing has consequences both for the organizations and the individuals within them, and for the collaboration with the user organizations. Individuals now need to manage much more complex issues than previously.

IT systems

One way of dealing with organizational issues in terms of collaboration within and outside PFMOs, is through using the mind to design IT solutions that will ease the coordination and collaboration work. The need for new (IT) systems for strategic FM to become reality, was a common way to frame the solution to the current issues, such as data bases that enabled collaboration and the avoidance of working in silos. However, what such system would include is not clear:

'A lot of people talk about the need for a "new system" for PFMOs to be able to manage the million program, (including increased collaboration with stakeholders)... but it is very difficult to know what content is intended?'While waiting for these systems, many other things become "on hold". (Head of FM of schools PFMO, 6)

One type of computer program that was sought to ease collaboration between the PFMOs and their costumers (in this specific case representatives from the school administration) was a calculation tool in FacilityUnit that was supposed to calculate the places needed for school children in the coming years within the municipality. However, according to the school-representatives, the results from the calculation tool were not correct. For example: According to the calculation tool, all kids that go to school, between the ages of 6 and 15, were bundled together. This posed problems in practice, since, for example, if there are 25 places left in the central parts of the municipality, is that for 6-year-olds or for 15-year-olds? This is important to know, according to the representatives from the schools, since there are differences in how much space a 6-year-old and a 15-year-old need, and there is also a difference in their ability to travel long distances to get to school.

During a meeting between FacilityUnit and the school administration, the representative from the school administration stated: *According to the way you (i.e. FacilityUnit) calculating capacity for students, it is not possible to run the schools in this municipality.*

New computer systems based on thorough coding

Also, with regards to more concrete maintenance work, IT systems have been introduced. One way to solve current issues with maintenance is to introduce an IT-system that will produce reports on the buildings' conditions and enable a maintenance plan, which will ease communication with both external and internal stakeholders. Thus, a common measure to engage in for many PFMOs, including FacilityDep, during the last five years has been to begin with inventorying needs of the building stock, put codes on all measures and then have data systems that produce reports with the costs. The purpose with this is to create a 'clearer picture' of the needs of the separate premises as to be able to plan for maintenance and know the costs for it. Previously, the respondents say, there has been no systematic way of reporting the needs of the buildings; information has been sorted a little bit 'all over the place', sometimes in people's minds, sometimes in folders no one reads, in spreadsheets that are not aligned with one another, or with other processes within PFMOs. The reaction to these previous measures is to obtain detailed knowledge on each public premise within a municipality to know exactly what measures need to be taken and how much these measures will cost for the upcoming 30 years. In FacilityDep, each measure will be given a certain code, then these codes will be put in a computer program, and this program will then produce reports that contains all relevant information. Respondents says that it is extremely important to enter the correct level of information to the system; too shallow of information will not be sufficient because costs will then 'disappear forever': *'16 billion can easily disappear...if it is not in the system, it does not exist'*. However, too much detail will make the system hard to manage and people unwilling to enter data. Deciding on the codes is nitty-gritty work that takes a lot of time, as well as the inventorying itself and details were scrutinized. Question of concern were, for example, is a parquet floor the same as a wooden floor? Or do we need to include codes for tiles in the kitchens? Having a code is important, otherwise it will not show up in the report. During meetings, a lot of time was spent discussing all the wonderful things that could be done, once all the codes were in place.

Functions of the artefacts

Artefacts as a shield

The sweeping expression, *'That is the million program'* has prevented actors from thoroughly investigating each building to see what they actually look like and their different needs. Rather, measures in these areas have been postponed for the future. The same goes with the phrase, *'we are working with this issue'*, which signals action but results in the lack thereof. Likewise, while there might be a need for new competencies, such as those stemming from a 'three-year education' to manage current challenges, this way of reasoning might lead to no real action in practice, and people wait for this 'three-year program' program, as one example, to become reality rather than acting in the present.

The new functions, such as the facilities strategist, that have been introduced, are not filled with content. However, having a strategic role on paper within one's organization is argued to calm the actors in the present. Organizational members can overtly claim that they are using a certain concept, such as 'strategic facilities management' or have implemented a new role/function, however in practice, the practices they are adopting may not be in line with the ideas behind these new concepts and the people hired cannot perform their job. Through stating that they are working according to these concepts help to claim both themselves and the managers/organizations as valid and can function as a shield against the real problems.

Artefact as a 'soft blankets' to rely on

The current challenges for PFMOs creates a need to develop new practices and routines in several different areas. Once the organizations had managed to act and create new work practices and plans for one problem area, these plans were used for other areas, such as the ventilation-investigation. Due to lack of time and a lack of awareness of the work needed within the organizations to manage the changes at hand, there is no time to make detailed processes for all areas needed. These artefacts, like the ventilation-investigation, can be seen as a functioning 'soft blanket', and in moments of change, it is easier to lean on this rather than to create more and/or new practices/reports.

Artefact as concrete vision of the 'perfect' future

The reaction to the previous lack of strategy and knowledge of the building stock was to rely on very

specific codes. Working with developing a coding system for all premises can be seen as a way to give the officials a sense of meaning in the sense that: *'If we have the right codes, it will sort itself out'*. A lot of time was spent developing codes and reports to the politicians and to discuss all the wonderful things that could be done, given that the exact level of information was in place in the future.

Solutions for current challenges, such as collaboration(s) were put into certain IT-systems that in the future would *'solve everything'*. Discussing and relying on this future system calmed people in the present and it appears as if they felt they were productive in discussing these systems. However, in practice nothing changed; instead, activities became 'locked up' waiting for these systems. So, while not being able to work with certain issues due to waiting for these IT solutions, the belief was that once these new systems are in place *'everything will get in order'*.

Discussion

This paper has explored how *emotions* can impact the *usage of artefacts* during institutional work and how this can lead to *unintended consequences*. As PFM is subject to an institutional change, PFMOs and PHCs-officials engage in institutional work. With concepts borrowed from the emotional turn in practice-based studies (cf. Gherardi 2018), it has been possible to increase the understanding of work during the institutional change for PFM and why practices are maintained, despite efforts to change current practices and introduce new ones (cf. Palm and Reindl 2016, Thoresson 2015, Svensson and Löwstedt 2020, Uotiila et al. 2020). As the institutional and organizational context of PFM produce negative emotions, different artefacts are used during institutional work, to manage these feelings. While it is believed that these artefacts contribute to change, they in fact maintain current practices by functioning as shields, soft blankets and visions of a perfect future.

Studies on emotions and work in research pertaining to the built environment have hitherto focussed on either *the influence* on emotions for the work environment or *the usage* of different emotions (Haynes and Love 2004; Djebarni 2010; Gluch and Svensson 2018, cf. Lindebaum and Jordan 2012, Pryke et al. 2015, Konananhalli and Oyedele 2016). Adding to both this and to research on institutional work and emotions in which it has been implicit that agents have control over emotions and can deliberately direct their actions and use emotions for institutional work

(Suddaby and Greenwood 2005, Voronoc and Vince 2012), this paper has elaborated on the unintended consequences of the usage of artefacts during institutional work (cf. Vince 2018). The artefacts presented in this paper were associated with unintended consequences of institutional work (Vince 2018). Their main function in practice are as implements for emotional regulation, much like how strategy tools were found to convey rationality in Jarzabkowski and Kaplan's (2015) study.

The findings in this paper show how human actors did not use the emotions (in this case anxiety and stress) (cf. Greenwood and Suddaby 2005), but rather that the emotions were part of the context, that in turn impacted the humans and the interaction between humans and artefacts (cf. Stein *et al.* 2014, Gherardi 2018).

Adding to Jarzabkowski and Kaplan (2015), who studied strategy tools, tools specifically aimed at helping to implement strategy, the research in this paper has highlighted the usefulness of being attentive to different types of artefacts. The artefacts from the outset might not look like they are involved in implementation of new ways of working, but rather they impact these processes, through being involved in institutional work at maintaining practices. They may also be both tangible, non-tangible and imaginative (cf. Gherardi 2012, Cooren 2020).

In the paper, it is shown how acts that can be interpreted by humans themselves (and others) as aimed at creating change, may instead maintain institutionalized practices, or at least not change them nearly as much as was intended. Acknowledging this deviate from a previous rational perception of the maintaining of institutional practices (Townley 2002). Even though emotions have been shown to be a powerful device for and in institutional processes and affect human actions and their interactions with artefacts (Friedland 2018), research is directed towards the work of maintaining institutions; has foremost emphasized the cognitive features of this phenomenon (Townley 2002). Institutional maintenance has been studied as routine work leading to the reproduction of a world view (Zilber 2009). A more fine-grained picture has been achieved in this paper, through the exploration of failed or unintended consequences (Lawrence *et al.* 2010; Lawrence *et al.* 2013).

The findings also complement previous research that has shown how humans engage in creating new or disrupting old institutions, if the current situational order threatens their psychological wellbeing (Vince and Voronov 2012), and/or engage in institutional

disruption because they are 'dissatisfied with existing practices' (Zietsma and Lawrence 2010). In this paper, it is shown how humans can engage in activities that lead to the maintaining of practices when their psychological wellbeing is threatened. In psychology, these types of behaviours are called 'avoidance behaviour' (APA 2020) i.e. behaviours that are guided by the regulation of negative emotions.

This research was conducted within the institution of PFM; however, given the extensive theoretical underpinning of the research, together with the rich descriptions of the empirical context, it is believed that the results can be transferred not only to PFMOs and PHCs but also to other organizations within complex, changing, institutional contexts as well as contexts that produce negative emotions such as for example project-based organizations (cf. Dyer and Wilkins 1991; Halldórsson and Aastrup 2003; Flyvbjerg 2006, on generalizability of qualitative research).

Conclusions and future research

The research presented in this paper helps to provide insight into the actual (and often unintended) consequences of the usage of artefacts in institutional work, specifically during times institutional change, such as empty phrases, dreams of future IT-systems, processes copied from one issue to another. These artefacts reduce negative feelings by avoiding dealing with the truth (shields), induce a sense of safety (functioning as soft blankets), and give hope and thereby take away negative feelings (vision of perfect future). All together, they decrease anxiety and convey rationality. Creating and inventing new concepts, forming work descriptions, and hiring human actors in new functions/roles, discussing pressing issues, planning future IT-systems and using empty phrases, are all active actions, and the interpretations is that human actors do these because they think that these actions will make a change and create new practices, however it appears as in practice, minor adjustments are carried out in many cases. Thus, human actors believe they engage in institutional work of creating or disrupting established practices, however, they are in a sense maintaining current practices as they seek rationality and aim to reduce negative emotions, produced by the organizational (and institutional context).

The research in this paper has highlighted the value of focussing on day-to-day practices connected to the wider context during institutional change, in research pertaining to the public built environment (Bresnen 2017; Chan 2018). Adding to previous research that

has investigated the usage of artefacts in organizations, and research on emotions and institutional work, the research presented in this paper has examined *how and why actors employ artefacts, in their institutional work, during institutional change for PFM and the unintended consequences of this usage*. Thereby, the paper aimed to advance understanding of institutional work, by exploring the connection between emotions, artefacts, and institutional work during times of institutional change. By this, the paper also aims to increase understanding of organizational aspects of change for PFM, particularly why practices are maintained in PFMOs and PHCs, despite efforts to implement new practices.

In previous studies on emotions in the built environment, the advice for stress reduction is typically aimed at the individual, for example, through engaging in mindfulness (Leung *et al.* 2016) or be better at navigating the different logics of PFM (Svensson and Löwstedt 2020). In this paper, affect and emotions are seen as generated from the context, influencing humans' institutional work and how they employ artefacts (Stein *et al.* 2014; Gherardi 2018). Hence, to reduce negative emotions such as stress, individual measures may not be the preferred choice; since it is *the organization* that carries affect and produces emotions, it is the *organization* that needs measures, not the individual. This opens up for a possibility to focus on the organizational structure, rather than on (or in addition to), individual measures when humans experience negative emotions during institutional change in PFM as well as in other institutional settings. (cf. Leung *et al.* 2016; Svensson and Löwstedt 2021).

The main limitation of this paper were the methods adopted. In this paper, it is foremost theoretically established, although partially empirically, the emotions and affects at hand. Future studies ought to elaborate on fine-grained methods to capture the emotions/affections at hand. For example, using standardized questionnaires? This might also ease comparison between different organizational settings. More, in this paper it is discussed how anxiety and stress lead to actions related to the maintaining of institutional practices. However, within the institutional change that PFMOs and PHCs are subject to, there are also possibly other types of institutional work conducted and other types of emotions present. For future research, it would be interesting to investigate how and if other types of emotions in the context of changing PFMOs and PHCs are both present and how they affect actions. In this paper, it is postulated that practices are maintained. For future studies, it would

be interesting to continue investigating the interplay between institutional work and artefacts and see whether the inertia discovered in this paper endure, or if the future systems and the soft blankets have been part of institutional work to disrupt old and create new practices for the longer run.

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