

BE CAREFUL WHAT YOU CAMPAIGN FOR

How formal organization practice may negatively impact adaptability aspects of preservation

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Abstract – Digital preservationists often struggle using their expert knowledge to create change within their own organization. Because of this, they might need to resort to campaigning for decision-making authority. Why is this? Memory institutions are used to adhering to standards and rules. Rules and regulations are beneficial for stability and trustworthiness. But too much focus on rules may create organizational rigidity which negatively impacts adaptability. Adaptability is a major goal for preservation so how could we create more room for this? An important part of adaptability is organizational learning. In order to facilitate learning we must understand which aspects of organizational practice negatively affect it. For example, avoiding discussion of mistakes is an important barrier to learning. If an organization prioritizes learning this can have a positive impact on the motivation of employees. Practitioners may feel more in control when they understand how to use theories of organizational learning to further implementation of preservation principles. More room for learning within the organization might also benefit the field of preservation itself through enhanced knowledge of what works and what doesn't.

Keywords – Organizational theory, learning organization, adaptability, stability

Conference Topics – From theory to practice.

In my ten years of experience with preservation, one of the most striking and enduring aspects of this line of work is how much preservation practitioners know about their area of expertise and at the same time how difficult it is to use this knowledge to get preservation requirements implemented within the own organization. When I first read the article 'What's wrong with Digital Stewardship?' three years ago I was amazed by how similar the findings were to this first impression of mine. I always encourage people to read this article because I cannot do justice to it with a short summary. But what I learned from this article is that it is hard to implement a holistic model with a long-term focus on adaptability in a hierarchical organization that values short term measurable results and separate roles and responsibilities [1].

The article neatly describes some significant organizational factors that negatively affect implementation of preservation principles according to practitioners. For instance, hierarchical structures that disempower experts from taking part in decision making, leaving them no other option than campaigning for authority. In this article I will

I. INTRODUCTION

describe where we might look for improvement. An important part will be analysis of the organizational level and the implicit rules and restrictions that come with a certain organizational practice. Arguably the focus within organizations on rules and policies is what makes the stability goals of preservation easy to relate to. But how does this affect the goal of adaptability that is necessary as well for the model to actually work? And is the field of preservation itself keen enough to adapt their principles to new insights and changing circumstances? As I will argue in this article, paying attention to lessons from the field of organizational learning might help create a more complete implementation of preservation functions within the organization. The process might in its turn also benefit the field of preservation itself through enhanced knowledge of what works and what doesn't.

II. THE CONFLICTING VALUES WITHIN DIGITAL PRESERVATION: EXPLORATION VS. EXPLOITATION

Memory institutions usually do not seem to be daunted by rules and regulations. Coming from a library background I would argue the huge amount of rules related to title descriptions for cataloguing publications is a case in point. The requirements for Trustworthy Digital Repositories (TDR, also known as ISO-16363) about creating policies and fixed procedures for handling objects during the digital lifecycle should not feel like too much of a stretch. A preference for rules and policies is one of the traits that characterize people drawn towards the public sector (among other characteristics, the most surprising one is probably self-sacrifice!) according to the concept of Public Service Motivation [2]. Rules, policies and documented procedures are supposed to prevent ad-hoc actions that could lead to unpredictable decisions that might endanger digital objects or the trustworthiness of the repository. The goal is to create more stability through bureaucratic methods. However, stability is also the opposite of flexibility. Organizations in modern times need to be flexible to be able to keep up with technological change. This is especially relevant within the field of digital preservation that was conceived to a large extent with the goal of countering obsolescence by staying up to date.

Exploration of new avenues and exploitation of existing knowledge are contradictory processes

within organizations that need to be balanced out if the aim is to profit from both. Exploration should not be constrained by existing rules while exploitation should benefit from new knowledge that is generated through exploration [3]. The same dual focus can be seen within the field of preservation since the OAIS-model is describing functions for exploration of new technological developments and changed user demands, as well as functions for creating stability and use of existing knowledge through documented procedures. If for no other reason than sheer familiarity, we would expect memory institutions to feel more at home with the stability goals than with the flexibility goals of digital preservation. As a tentative suggestion that this is indeed the case we may look for example at the NDSA survey of 2021 where among all the functional areas listed as relevant to preservation no explorative (informal learning-oriented) functions such as Preservation Watch are present [4]. The areas that are listed involve technical implementation, planning and policy writing which implies exploitation, consolidation and streamlining of existing knowledge and practice.

In the requirements for certification, we also see a heavy focus on stability. This can be seen in requirements that describe the need for fixing organizational procedures by way of integration and documentation. Both ISO-16363 and CoreTrustSeal [5] refer to documented processes as proof that ad-hoc decisions are minimized. CoreTrustSeal specifically has a whole requirement (R11) dedicated to this. As can be seen however from literature on the effectiveness of process management, implementing fixed processes can have negative consequences for innovation and flexibility. Within a stable and predictable environment process management can increase efficiency and therefore benefit the organization. However in an innovative and changing environment it can negatively impact results because organizational learning and creativity is hampered by processes that are based on exploitation of existing knowledge. This focus can even lead to resistance to change [6]. The reliance on documentation as evidence of trustworthiness is also motivated by the fact that this makes the auditing process more objectively verifiable. However, risk is socially constructed. The creators of the standards, the auditors and practitioners can

have different opinions on what the most relevant risks are and what the best way of mitigating these risks is. These differences are rooted in the different stakes persons have through their various roles in the process of certification. For example, from a standards perspective it is useful to have written proof of continuity in the form of a succession plan but practitioners may have doubts that this method is effective in countering risks to continuity [7].

Too much focus on rules and regulations not only makes us less flexible but the ideal of finding universal solutions also ignores the fact that knowing the context and the specific cultures of organizations is important if we want to implement solutions that fit the environment. Organizational culture should not be treated as something that hinders ideal implementations but rather as something that needs to be understood in order to create room for diversity. By understanding the complexity of human behavior, for instance in decision making, solutions can be found that better match real-world situations [8].

If we only focus on rules based on existing knowledge this will not impede aspects of preservation that are supposed to provide stability. But it may have negative effects on those aspects of preservation that imply the existence of processes of cyclical, informal learning and improvement. An example of this is Designated Community monitoring. The goal of monitoring the Designated Community is to signal when changes are needed to information or services through regular gathering of non-expert, informal information. As can be seen from the literature, there is still a dearth of information on how to implement this concept, while it is foundational within the model. The concept itself also reflects conflicting values in the sense that public institutes aim to serve a broad community while the model requires being specific about what is done for whom, implying a more exclusionary definition. Furthermore, this function is aimed at adapting to the needs of future users as well, not only to the requirements of current users [9]. It seems we need to learn more about the concept as well as about how to apply it. Using only existing knowledge to justify our policies and practice, it is not likely that we will achieve the goal of catering for

future requirements. We cannot just follow a training or ask a colleague. And even the familiar method of doing a survey would not suffice since this only targets our existing user base.

If we want to adapt to new developments we need to learn how to innovate and learn, not just on a personal level but also at the level of the organization. We got the stability aspects of digital preservation in clear focus through policies and standards, but what about the adaptability aspects? The fact that organizations struggle with more explorative concepts of the model, like the idea of the designated community, may be a hint that these aspects do not work smoothly with formal organization practices still current within memory institutions.

III. IMPLEMENTING A HOLISTIC MODEL IN A FORMAL ORGANIZATION

It is not only explorative concepts that might be relatively unfamiliar to memory institutions but also another important aspect of the OAIS-model: the fact that it is a holistic model that affects the inner workings of the whole organization. In 'What's wrong with digital stewardship' this is described as a major stumbling block [10]. When we understand what characterizes the formal organization we can better understand why this is so. The idea of the formal organization was conceived of from the perspective of efficiency within a factory work line so as a classic example, think of a factory a 100 years ago. It is clear what the product should be, who works on which parts, how the parts should be assembled and how many products can be manufactured per day. The production process as well as the distribution of associated tasks are determined by top management because all necessary knowledge about the product and about efficient processes is concentrated at the top. The employees who work on different parts do not have to understand how the whole production line works. They just need to ensure that they can perform their own limited task within the bounds of the production standards set by the top management. Of course, working in a factory can be very different in practice, but this is to outline the extreme end of the spectrum by describing the workings of a very formal organization. In this type of organization, employees who do not belong to the top are expected to be performing simple,

predetermined tasks that form just a small part of the whole. Employees are rewarded on the basis of achieved results [11]. In lots of ways aspects of the formal organization - such as decision making at the top - are still prevalent in modern organizations, and indeed in memory institutions. It should not be a surprise that the holistic view of preservation activities across the organization and the shared responsibility implied by this view should not sit well with people who are used to having clearly separated roles and responsibilities within a chain of command. This is borne out by the conclusions in 'What's wrong with Digital Stewardship' and most aptly formulated in the chapter title "Hierarchical organizations exacerbate stewards' lack of authority". Also other stumbling blocks mentioned in this report can be linked with the workings of the formal organization. For instance lack of long-term commitment and structural funding is linked to the fact that organizations make decisions based on financial benefits in the short term, such as project funding.[12] A focus on short term, measurable results is also a clear feature of the formal organization. As mentioned earlier, having separated and clearly defined roles is a feature of the formal organization and a means for achieving efficiency but it hinders coordination of preservation activities across the organization.

IV. LAYING THE GROUNDWORK FOR ADAPTABILITY: ORGANIZATIONAL LEARNING

What should be clear from the above is that aspects of the formal organization seem to agree with the formal aspects of the OAI model but not so much with preservation principles aimed at adaptability. One of the aspects that suffers most from the rigidity of the formal organization is learning because workers are trained not to ask questions or question authority [13]. If we only consolidate existing practice we are not discovering new ways of doing things. Theories of organizational learning provide solutions on how to create better conditions for learning to take place. Learning itself is an important part of preservation but creating the conditions necessary for learning should also improve other aspects that hinder implementation such as hierarchical decision making.

So what does the ultimate learning organization look like? The idea of the learning organization in its

most extreme form (think of a small startup) is in many ways the complete opposite of the formal organization. In order to be more open to learning, it is necessary not to determine everything in advance, to give employees autonomy, to show initiative, to accept mistakes, to flatten the hierarchy and to gradually learn what works by trying new things. Transparency is paramount and critical thinking is seen as a crucial skill to improve things. Employees are rewarded for having the right attitude, not for successfully performing planned actions [14].

The differences between these two organizational views can best be illustrated with the concept of collaboration. From the idea of the formal organization, being a good employee means that you stay within the boundaries of your role as much as possible and not try to do things that fall outside your jurisdiction because this hinders efficiency. Failing to do this can be perceived as meddling and lack of trust (even if people might be too diplomatic to say this out loud).

From the perspective of the learning organization, however, it is important that there is overlap (at the cost of efficiency) because in this way new ideas may come up. This process is called creative interference in the literature. Within a learning organization, it is considered beneficial when people are working on the same thing from different perspectives. The contribution of group members might be based not only on their professional knowledge but also on their personal knowledge. People can have useful information that is not part of their job description but contributes to solving a problem in a way that has not been tried before [15]. It is important to understand that desirable outcomes that are typical for a learning organization, such as creativity, autonomy and innovation, cannot be achieved by using the methods and goals of the formal organization such as efficiency, separation of tasks and planning. If we want both, we need the right balance of formality and learning, but without the two sets of methods and expected outcomes getting mixed up. Knowledge and awareness of the differences between these opposite orientations is the first step. Organizational learning can contribute to achieving preservation goals because it will enhance creativity

and innovation. If we only focus on rules and regulations we miss the learning-focused aspects of preservation that will help us adapt to new developments in the long term.

V. WHAT WE SHOULD UNLEARN

These insights on what stimulates innovation have been around for some time and might sound vaguely familiar to people acquainted with agile software development principles. So why is it so difficult to put this knowledge into practice? Though there might not be one simple answer to this question, I think this can partly be explained by realizing the formal way of doing things is so enmeshed with things we value and things we are used to, like our expertise and our way of communicating.

The latter point will become clearer by zooming in on the work of Chris Argyris whose professional output has been significant in the field of organizational learning. In his work, he stressed the importance of looking at the underlying values within a process of problem solving that effectively prevent change from happening. The organizational process where certain types of solutions are automatically selected creates the effect that new solutions, after a while, will start looking very much like the old problems they were meant to solve. Underlying values steer behavior within a problem-solving context. When people realize that their values in dealing with problems is what is creating failure this is called 'double-loop learning' and is important for organizational learning to happen [16]. If we want to translate this idea into something recognizable within the field of preservation, we could think of the ingest process. According to the OAI model, quality analysis should be part of the ingest process. The goal is to safeguard quality. However, this step might take time during which the content isn't being preserved. A single-loop solution would be to try and speed up the process. Double-loop learning would be to question the underlying values of the solution and try to provide alternatives, such as ingesting first and then doing quality analysis as was proposed by the authors of the "Minimal Effort Ingest"-paper [17].

According to Argyris, the way we communicate can prevent double-loop learning from happening. A diplomatic way of dealing with mistakes and criticism fits the formal organization. One can think of face-saving actions after dubitable decisions and giving reassurance to people to protect the trust they have in the chain of command. This type of diplomacy is protective behavior that leads to a reduction in transparency and is therefore a barrier to learning. From the perspective of a learning organization, conflict avoidant behavior gets in the way of detecting mistakes and learning from them. It is also something that becomes automatic behavior which means people aren't even aware they are doing this [18]. In preservation this could happen if we do things because the guidelines state this as a necessity or because it is considered a best practice. This means the guidelines or best practices themselves aren't open to questioning anymore, only the solutions based on them are.

This problem can be solved by actively facilitating critical thinking within the organization. For example, by making statements based on facts that can be verified or tested by others because the same information is made available to everyone. This also requires a certain attitude towards questions in the sense that asking for verifiable facts is not perceived as distrust but is rewarded as an attempt to stimulate open communication. Reciprocity and flexibility are important here: we must be open to adapting our ideas on the basis of verifiable, factual arguments. Learning from mistakes is an important part of this. In practice it might be hard for preservationists to openly discuss mistakes because trustworthiness is one of the core concepts in the field of preservation. Making mistakes might mean data loss which shouldn't happen in trustworthy digital repositories, right? So how should we improve our attitude towards mistakes? One of the first steps to change is making undiscussable things discussible. The second step is to confront any threat or embarrassment that might result from this, instead of avoiding it [19]. In the case of preservation this might mean talking about which decisions actually resulted in data loss. In this way the organization can use this information to come up with alternative solutions. If we do the opposite and automatically avoid embarrassment we might stick to policies and solutions even though they are not

effective and maybe never even realize that this is the case. If we want to optimize processes of learning we also need to take the human factor into account. Motivation is an important part of learning so this is what we turn to next.

VI. THE HUMAN FACTOR

As is very clearly stated in 'What's wrong with digital stewardship', constant campaigning for decision making authority is said to lead to burn-out and frustration. The situation of the digital steward, according to this report, is often one of autonomy without authority [20]. That is to say, people are free to explore options but they do not have the authority to implement solutions. There are indications that preservationists are not alone in this. Research on academic libraries for example, points out that library staff in general may experience lower morale due to status differences, lack of participation in decision-making and silo-ed communication. These are all features of the formal organization and point to organizational barriers leading to personal difficulties [21]. Having experts outside the management team but not involving them in decision making seems like a clear case of mixing up elements of the formal and the learning organization in a way that is counterproductive. As stated before, in a very formal organization both expertise and authority are vested in the top management levels of the organization. The situation as described in the report is one where the expertise has trickled down to the lower levels of the hierarchy while the decision making authority didn't follow suit. This leaves the preservationist no other option than communicating and campaigning to the point of exhaustion. This takes up time that isn't spent on implementation, testing what works and learning new things about preservation. Bureaucracy has an impact on creativity both by centralizing decision-making and by providing rules (formalization). There are indications that centralization, more than formalization, is an environmental factor that deactivates creative behavior in learning-oriented people [22]. If this is correct, then the lack of authority should be a priority to solve. The stability aspect of preservation needs rules and procedures and therefore it is good to know that formalization doesn't necessarily hinder creativity. But both stability and adaptability are negatively impacted by centralized decision making, respectively through siloed communication and undermined creativity.

Therefore focusing on decentralization and empowerment should benefit both exploration and exploitation goals of preservation.

If we want to understand what organizations can do to empower employees, we can turn to self-determination theory. This is a broad framework for the study of motivation and personality [23]. This overarching concept consists of a number of mini-theories, one of which is Basic Needs Theory. The central tenet of this theory is that people have a basic need for autonomy, competence and relatedness. This means people need to feel in control over their actions and behaviors, people need to feel a sense of mastery over their environment and people need to feel a sense of bonding with other people. As stated before, ideas about the formal organisation started out from an industrial perspective which led to fragmentation and simplification of tasks and external control over these tasks. It should not be difficult to see how external control is thwarting the need for autonomy and how simplification and fragmentation might have a negative impact on the need for competence. Formalization as a way to enhance organizational control has been said to lead to alienation within the public sector. This is why learning organizations focus on improving job satisfaction by empowering workers, making them part of the decision-making process and prioritizing learning [24]. The organization benefits from individual learning while the need for self-development that employees might have will also result in commitment to the organization through shared goals of learning [25]. Especially people within the organization who are high in Need for Cognition, that is to say, people who enjoy effortful cognitive activities, will benefit from an organizational culture that rewards innovation and creativity. This will lead to greater activation of creativity which is important for organizations to adapt [26].

An important part of improving the motivation process within the organization is creating awareness about motivating styles. This concept centers on how employers motivate their employees. Motivating style can range from controlling to autonomy support. A controlling style means being prescriptive and being insistent on

what employees should think and do. The autonomy supportive style, on the other hand, is one where respect for the perspective, input and initiatives of employees is salient. For instance, by explicitly asking the perspective of employees, providing rationales for decisions and using a non-pressuring, informational communication style, among other things. The management of an organization needs to understand what their motivating style is and how to change this style if necessary. A controlling motivating style can be improved by teaching supervisors the principles of autonomy support. The autonomy supportive style leads to conditions that support and satisfy the basic needs of autonomy, competence and relatedness [27]. Basic need satisfaction leads to autonomous motivation which has been linked to aspects of well-being, including commitment and work performance [28].

Through the above suggestions of how learning organizations improve motivation, we get a glimpse of what could help remedy the situation of the authority-deprived digital steward. The downside is that we will probably need to campaign for this as well...

VII. WHAT WE CAN CONTROL: CHOOSING TO REACT DIFFERENTLY

Instead of campaigning for implementation of preservation solutions, we could therefore be strategic and campaign for implementation of principles inspired by learning organizations in the hope of being granted more discretion in handling preservation issues. But this still implies external control of our goals. What can we do ourselves to feel we are making progress in our area of expertise?

If indeed it is the case that digital preservation practitioners have autonomy without authority, then at least we can put the autonomy to good use. As mentioned above autonomy is one of the basic needs according to Basic Needs Theory so to be able to explore new solutions according to our interests is in and of itself a valuable asset. Setting up small experiments, even thought experiments, could help maintain a better balance between stability and adaptability. Previously mentioned pitfalls of mixing up formal and learning methods may also happen on the individual level so it is important to be aware of

our own reactions and problem-solving techniques if we want change. Say for instance we want to problem-solve the previously mentioned lack of decision making available to the digital steward by petitioning management to enforce clearer roles and responsibilities. Given the above we should realize that this is a solution from the formal organization which in the long run will not enhance learning, intrinsic motivation and flexibility. After all, more authority for the preservation practitioner does not mean more egalitarian decision-making processes for everyone. Instead, we could consciously choose to adopt an alternative solution taken from theories about organizational learning. For instance, raising awareness about the benefits of autonomy support. In an indirect way this could solve the problem as well, but without negatively impacting flexibility and motivation. It is important to realize that the things we campaign for can contribute to stability goals or adaptability goals but both types of goals need different things and are opposing values that need to be balanced carefully. When we decide to take action, we can consciously choose to use a method that contributes to a better balance between these two types of goals.

If we want to help create a learning climate within the organization (and also in the broader network of memory institutions), it is important to be aware of our own communication style. Instead of presenting preservation requirements as strict rules we could open them up for questioning and communicate improvements in a non-pressuring way by providing rationales and options where possible. By providing autonomy support we can appeal to intrinsic motivation. If we are aware of our own communication and motivation style during campaigning and make sure that this provides room for other perspectives, then we can embody learning-oriented values as an example for others.

VIII. CONCLUSION

Despite all the knowledge we might have on how to preserve digital objects in the long term, failing to get the message across within our own organization has been the metaphorical elephant in the room. Hierarchical organizations have a focus on rules and procedures that is partially matched by preservation requirements aimed at providing stability and trustworthiness. By focusing too much on stability,

however, explorative aspects of preservation might suffer, endangering the other important preservation goal of adapting to new developments. Part of the reason for the stability focus is the fact that formal organizations are not tailored to holistic, bottom-up, informal learning processes. Centralized decision making is an important barrier in this respect. Lessons from theories of organizational learning can help us understand what can be done to stimulate innovation, creativity and learning within our own organization. This can be difficult as it means also changing the ingrained ways of communicating and problem solving that we have come to associate with being an expert. Focusing on methods for organizational learning might benefit those aspects of preservation that are focused on learning and improvement, like the concept of the Designated Community. This might also help the field of preservation itself to adapt and improve its methods through the infusion of new ideas.

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