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Implementation aspects of agile methods in large organizations

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Abstract

The aim of this article is to analyze the challenges and success factors on organizations' path to agile transformation, as frequently discussed in the literature and encountered in business practice. The research conducted proved that large-scale agile transformations require a dedicated approach with set of tools and best practices in place. The implementation challenges and barriers have been categorized into method-, organization-, culture- and technology-oriented groups. As a result of an in-depth analysis carried on for the purpose of this paper, a dedicated methodology of agile transformation has been proposed to ease the implementation process.

Keywords: agile transformation, agile scaling, agile challenges and success factors, agile transformation methodology, agile in large organizations

Definitions of agile transformations in large organizations

Research interest in agile methods has been present in the literature for 20 years now. In the beginning, agile methods concentrated on single projects in small organizations, mostly, in the IT and ICT sectors. The next step in agile methods development was directed toward the introduction of a framework for the purpose of implementation in large organizations. Research on agile transformations in large organizations focuses mainly on specific aspects of organizations' operations (Rolland et al., 2016). In the first place, this term is used to describe the use of agile methods in large organizations. Secondly, agile transformation is perceived as the application of agile methods in large projects or large teams. Thirdly, this term describes the use of agile in multi-team environments. The final example is the application of agile rules and practices in the organization as a whole (Dingsøyr & Moe, 2014). For the purpose of this paper, the definition adopted describes the large-scale application of agile methods at the organizational level in multi-team environments (Dikert et al., 2016).

The very term transformation, in this context, means transfer from some traditional method into an agile way of thinking and working (Dikert et al., 2016). A large-scale agile transformation may take the form of a one-time shift to agile methods or may have an iterative character, in which pilot agile improvements are gradually scaled over the entire organization. In such a case, the agile scaling process is a rollout of initial agile implementations onto the remaining organizational structures or is a broader implementation of existing agile methods within the organization (Paasivaara et al., 2018).

Empirical research on agile transformations in large organizations focuses on case studies which, for example, analyze methods of multi-team cooperation (Scheerer et al., 2014). Additionally, specific methods supporting agile transformation with, for example, the use of communities of practice, are also found in the literature (Paasivaara & Lassenius, 2014). One of the studies describing a process of agile transformation in a large organization, from the lessons-learned perspective, is Maria Paasivaara et al.'s (2018) study on agile transformation in Ericsson.

Besides the academic research, there are multiple studies from practitioners and consulting companies offering methodological guidelines easing agile transformations and promoting agile scaling processes. These methodologies include, among other things, Scaled Agile Framework (Scaled Agile, 2017), Large Scale Scrum (LeSS) (Vodde & Larman, 2018) and Disciplined Agile Delivery (DAD) (Ambler & Lines, 2012). Despite the fact that these methodologies offer proper ways for conducting transformation

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in an organization, they do not guarantee successful results of such a large-scale endeavor (Paasivaara et al., 2018).

For the above-mentioned reasons, a thorough study in the field of agile transformations in large organizations needs to be conducted and a research question formulated to examine the challenges and success factors of agile transformations in large organizations. Moreover, further detailed research in this respect is necessary to understand scaling processes and internal dependencies, as well as challenges linked to agile transformation especially in the context of digital disruptions. This article, based on a critical literature review, is theoretical in nature and focuses on two aspects of agile implementations. The first one is an analysis of the implementation factors of agile transformations in large organizations, and the second, a proposal of a methodology of agile transformation.

Characteristics and challenges of agile transformations

Organizations strive to apply agile practices in order to become more competitive, improve their processes and better manage change. In turn, these practices cause challenges linked with the integration of agile methods at all levels of organizations. Despite the fact that many organizations use agile methods, it is still not clear what conditions must be met for them to be successfully implemented (Lindvall et al., 2004). Furthermore, some researchers claim that agile is not the right direction of development for large, traditional organizations with complex hierarchical structures in place (Barlow et al., 2011; Boehm & Turner, 2005).

A predominant research topic in the literature on agile methods (Cao et al., 2009) deals with challenges resulting from agile scaling and transformation in large organizations linked to processes, customers and organizational culture. One of the main objectives of this research is to establish organizations' motivation and rationale behind adopting agile methods (Cao et al., 2009). Early works by Sridhar Nerur et al. (2005) report on issues with initial agile implementations at the project level, such as selection of the appropriate agile method or a lack of agile competencies among the developers. Also, present studies (Hekkala et al., 2017) reveal problems with transformation from the traditional to agile ways of working. These difficulties include a lack of understanding of agile rules and practices as well as inappropriate organizational structures to accommodate the agile values necessary for proper transformation and scaling. Additionally, large-scale transformations outrank agile implementations in small environments such as a single project team. Large scales involve challenges linked to issues with prioritization dilemmas between project teams within a single portfolio as well as merging diverse work cultures between traditional and agile teams (Scheerer et al. 2014; Zheng et al., 2011).

The main challenges of agile transformations stem from problems occurring at the organizational level in large companies. Table 1 illustrates various categories of challenges in agile transformations, the first of which is connected with multi-project and multi-team working conditions.

The main challenges uncovered during the literature review (Barlow et al., 2011; Rolland et al., 2016) arise from problems with the coordination of work between several agile project teams at a large organizational scale. A predominant challenge uncovered in

Table 1

Challenges of agile adoptions in large organizations

Category	Challenges
Multi-team and multi-project environment	Implementing self-organizing teams
	Coordination of several agile teams
	Different interpretations of agile among teams
	Managing and sharing knowledge with stakeholders
Organizational transformation/ change	Change management
	Culture and leadership behavior change
	Specialized knowledge in silos
	Integrating non-development functions
	Integration of agile projects with the project environment's existing processes
Alignment of individual projects to enterprise business goals	Conflicts between agile projects and holistic enterprise architecture
	Integration of enterprise architecture frameworks and agile development
	Balancing between the agility of individual projects and the organization agility

Source: Dumitriu, F., Meşniţă, G., Oprea, D., & Radu, L.D. (2019). Challenges of scaling agile at organization level. In *Proceedings of the 18th International Conference on Informatics in Economy. Education, Research and Business Technologies* (p. 341). https://doi.org/10.12948/ie2019.05.06

the literature research was bringing agility beyond a single team level and translation of the agile work style onto the organizational level, which may turn out not to be responsive enough toward agile changes (Paasivaara & Lassenius, 2016). Last but not least is the challenge with self-organizing teams, which is a fundamental cornerstone functionality of Agile methodologies (Barlow et al., 2011; Hobbs & Petit, 2017; Rolland et al., 2016).

Project work in large organizations entails combining heterogeneous project team cultures. In such cases, there might be discrepancies with respect to interpretation of agile rules and their application between the project teams involved (Dingsøyr et al., 2019). Another important difficulty with a multi-team environment is the knowledge-management and knowledge-sharing practices between the project stakeholders. These difficulties may touch on different points of view on the knowledge-sharing practices between the project teams. Some teams may share agile-specific knowledge only within the team, minimizing knowledge transfer outside the project team (Uludag et al., 2018). As a countermeasure, it is advised to emphasize the importance of retrospective practices in agile project management (Schwaber & Beedle, 2004) or introduce dedicated knowledge management systems in organizations (Duffield & Whitty, 2016).

Another category of challenges depicted in Table 1 encompasses the set of problems resulting from the transformation process itself. M. Paasivaara and Casper Lassenius (2016) underlined three major agile implementation barriers and challenges at the organization level. The first barrier is linked to cultural changes within the organization's management and deals in particular with middle level managers, whose role is not clearly stated in agile methodologies. The second barrier is related to internal employee relocation problems inside the organization caused by traditional silo structures and knowledge specialization. The last barrier is caused by difficulties with the integration of agile functions with the traditional, non-developer ones within the organization. Moreover, integration of agile projects' way of working with existing processes also constitutes a serious problem for organizations (Lindvall et al., 2004). Another set of empirical research on large-scale agile implementations points out the lack of strategic directions for agile transformations within organizations and the incorrect way of introducing changes to the organizational culture and leadership (Karvonen et al., 2018).

The last category of challenges is linked to the alignment of individual projects' objectives to the organizations' business goals. Large organizations operate in line with structured processes and need to build a holistic enterprise architecture. Literature studies (Duijs et al., 2018) emphasize that the above-mentioned challenges may cause accumulation of technical debt, unnecessarily repeated project work and incoherent communication (Barlow et al., 2011). These situations introduce barriers in the integration of the organization's architecture with agile methods and disturb the equilibrium between the projects' and organization's agilities (Duijs et al., 2018; Gill, 2015; Persson et al., 2016).

Literature reviews (Hekkala et al., 2017) and empirical observations (Dikert et al., 2016; Gregory et al., 2015) in the area of challenges arising from the large-scale application of agile methods were also conducted by Christoph Fuchs and Thomas Hess (2018), who categorized the analysis findings as presented in Table 2.

Table 2

Proposed categorization of challenges of a large-scale agile transformation

Category	Explanation: challenges regarding…	Examples of challenges
Method-related	… the appropriate application of agile methods and the respective employment areas within organizations.	• Misunderstanding of agile methods • Poor customization of agile methods • Inappropriate application area of agile methods
Technology-related	… the infrastructural features of firms and the supporting structures of technological tools within firms.	• Inappropriate technological equipment • Inappropriate IT infrastructure
Organization-related	… the organizational structures, occurring coordination issues and organizations' overall management.	• Problematic coordination with other business units • Inappropriate organizational structures • Lack of top management engagement
Culture-related	… the social and overall cultural aspects of organizations.	• Inappropriate leaderships dynamics • Incompatible social structures
Ability-related	… the abilities of organizational members involved in the agile transformation.	• Lack of hard skills • Lack of knowledge transfer
Motivation-related	… the attitudes about and opinions on the transformation of organizational members involved in the agile transformation.	• Missing agile mindset • Fear of consequences

Source: "Becoming agile in the digital transformation: The process of a large-scale agile transformation", C. Fuchs & T. Hess, 2018. In Z. Wilimowska, L. Borzemski, & J. Świątek (Eds.), *Information Systems Architecture and Technology: Proceedings of the 39th International Conference on Information Systems Architecture and Technology. ISAT 2018* (p. 2360). Springer.

The first group of barriers and enablers was categorized as method-related and based on large-scale agile transformation practices (Dikert et al., 2016; Paasivaara et al., 2018; Rolland et al., 2016). As the next step, general hindrances in the application of agile methods were analyzed (Boehm & Turner, 2005; Gregory et al., 2015; Hekkala et al., 2017; Nerur et al., 2005), as well as challenges related to human resource management (Conboy et al., 2011). Most of the identified barriers to the application of agile methods dealt with a lack of understanding of agile rules and principles as well as inadequate application areas of agile methods in an organization – in the author's opinion not in line with the Cynefin model. Technological issues are linked with inappropriate IT equipment and infrastructure, the role of which is to support the transformation process. Organization-related problems stem from problematic coordination of work with other business units and inadequate hierarchical structures of the organizations. One of the most important aspects of successful agile transformation is management support, but as presented in Table 2, research findings (Fuchs & Hess, 2018) show a lack of top management engagement. The aforementioned difficulties result in culture-related challenges such as inappropriate leaderships dynamics and incompatible social structures which negatively influence agile scaling processes in large organizations. The last set of issues deals with ability and motivation considerations which include a lack of hard skills and knowledge-sharing practices. Not having an agile mindset and a common fear of the consequences of change constitute serious obstacles to any transformation efforts in the researched organizations.

Determinants of agile implementations in large organizations

Agile transformation is defined in the literature as a socio-technical process encompassing significant cultural and technical changes in various aspects of organizations' operations (Fuchs & Hess, 2018). Process of agile transformation is more about being agile than doing agility. This is why the application of agility in an organization does not simply mean implementing every agile practice from different methodologies. The main challenge in implementing agility in an organization is directly linked to the human factor (Gandomani et al., 2013a). This situation is caused by the fact that agile methods are by their nature oriented toward human behavior and changes in people's attitudes and organizational culture, and employees' mindsets. Human resource challenges constitute a major problem for project managers and middle management in software development companies (Nerur et al., 2005). Besides, there are not only human-related challenges, but tools and technology are also a subject of literature research, though these are not that essential for large-scale agile transformations (Conboy et al., 2011).

One of the critical success factors of an agile transformations is pilot project selection for an agile implementation (Gandomani et al., 2013b). The pilot project, to begin an agile transformation in an organization, is an important element of introducing agile from the point of view of future rollouts across the entire organization (Gandomani et al., 2013c). Similarly, it is crucial for an organization to select an agile method and define the true reasons for the introduction of agility, which aids choosing an optimal methodology adjusted to the organization's strengths and weaknesses. Optimal selection of an agile method translates to seamless achievement of the goals assumed at the beginning of the transformation process.

Prerequisites of agile implementations in large organizations must be met before the implementation encompasses areas such as winning employees' engagement, agile trainings and establishing organizational readiness for the transformation. Initial agile training sessions allow for leveling of knowledge among all participants of an agile transformation in an organization (Gandomani et al., 2013c). Another facilitating factor for agile transformations which can be found in the literature (Gandomani et al., 2013c) is the introduction of coaching and mentoring meetings accompanying the agile implementation attempt. Such sessions and meetings need to take place prior to the transformation process, during the process and after the successful implementation, and need to concentrate, in the first place, on the socio-technical aspects of the agile approach.

The transformation process requires application of explanatory procedures outlining step-by-step how to introduce agile changes in an iterative way in accordance with agile methodologies. The initial pilot transformations are adjusted to the specific needs and expectations of a given organization (Gandomani et al., 2014). Assessment of transformation readiness must precede the agile implementation in order to guarantee an adequate level of organizational maturity. It is also advised to establish and understand the rationale behind the implementation of an agile transformation process. An organization needs to identify the strategy objectives and business needs that the agile transformation is to support.

Another set of requirements linked to agile transformations deals with the specific tools and technologies which are to support the implementation of new agile processes in organizations, such as automated testing, continuous integration and daily scrums. The final group of prerequisites for a successful agile transformation is also the buy-in of the project stakeholders. Prior to any agile endeavor, it is advised to assure a positive attitude and support for the project from the stakeholders and sponsors by means of through communication about project scope and its influence on daily organizational routines.

All of the aforementioned prerequisites and essentials address agile transformation process requirements, hence organizations approaching agile

transformation shall consider them all. Analysis of the presented prerequisites proves that the transformation process is not an easy endeavor and requires careful considerations.

Methodological considerations of agile transformations

According to Pawel Paterek (2017), large organizations shall adapt both project methodologies and agile transformation processes to their needs and abilities. The methodology selection, organizational structure design, knowledge management practices and organizational culture changes may require a contingency theory approach (Paterek, 2017). The theory in question originates from organizational research on leadership, effective team motivation and organizational structure studies. The main basis of this theory is an assumption about the lack of universally applicable management practices and a uniform set of tools and methods. Contingency theory comes from the observation that some solutions that are effective in one situation are not necessarily applicable in other situations (Nita, 2013). This theory assumes that there is no single set of universal methods and the ones available at the present time are applicable only in the specific business environment (Otley, 1980). Hence, the application of the agile methodology is conditioned by the organization's surroundings, its volatility and dynamics. In such conditions and environment, project teams adopt an agile mindset to deliver business value to the end user. Members of the team take responsibility for end product delivery and are open to continuous self-development and quality improvements. Such an approach by agile teams is backed by the organizational culture, clients' engagement and management support.

A change from traditional project management practices to agile ones is an example of large-scale transformation dependent on external and internal conditions. According to the contingency theory, an agile transformation process itself eases acceptance of challenges resulting from the changes being introduced (Paterek, 2017). The first challenge is volatility, understood as the change dynamics in the organization. Research literature (Bogdanienko, 2005) argues that learning organizations undergo agile implementations faster due to their inherent ability to adapt to the changing environmental conditions. In turn, volatility causes uncertainty, understood as frequent requirements changes in the environment in which agile projects are run. Hence, an increase in uncertainty is a decision-making factor for the adoption of an agile method. The next variable is the opportunities defined as the situations surrounding the organization. The higher the dynamics and influence of this variable on the organization, the higher the probability of the agile methodology application being successful (Trzcieliński, 2011).

Selection of agile methods is also influenced by analysis of the popularity and effectiveness of this ap-

proach in designated market segments. For example, in IT/ICT (23% of popularity (VersionOne inc., 2017), agile methods are more popular due to the internal characteristics of this sector and frequent empirical confirmations of successful IT implementations (VersionOne inc., 2017). Incremental delivery of value by the project team is correlated with the engagement and positive attitude of the end user (customer).

The above-mentioned observations from the literature are confirmed by recommendations from McKinsey (Brosseau et al., 2019), according to whom, the transformation process shall include the following four elements of an organization: structure, people, technology and processes (Figure 1).

According to the recommendations depicted in Figure 1, it is advised to simplify and delayer the reporting structures and limit the headquarters to the minimum necessary to run the business in order to streamline decision making. From the perspective of the employees, McKinsey proposes to train managers on how to provide vision, inspire, model and coach rather than direct, in order to attract and retain the best talents. It is also advised to introduce changes in the existing organizational culture and mindset in order to stimulate knowledge-sharing among employees, especially the tacit knowledge, with the use of informal platforms of communication. The remaining recommendations concern the application of changes in IT and infrastructure for the purpose of introducing the right tools to support an agile way of working and to ensure appropriate infrastructure and operations to support rapid changes. According to McKinsey, the planning and decision processes in place allow for the planning design and decision-making to rapidly test and learn in the new agile performance management environment based on outcomes.
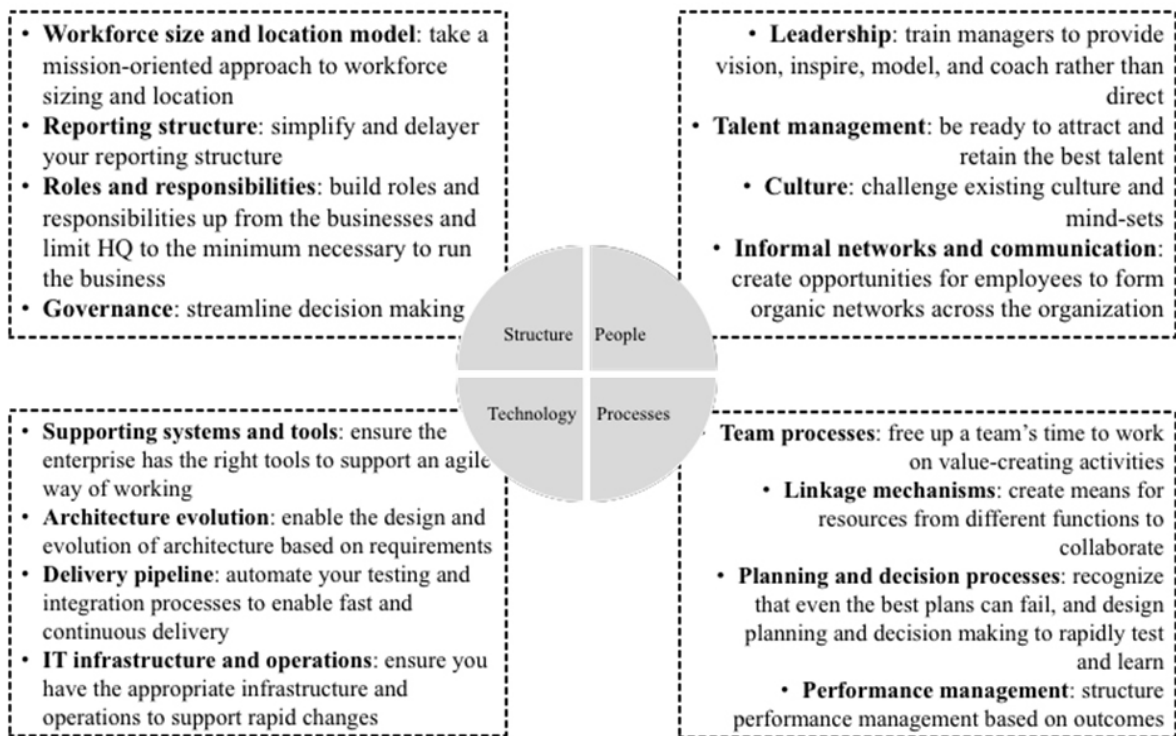
Prior to making a decision concerning a large-scale agile transformation, the organization's management needs to assure proper and accurate agile trainings as well as mentoring and coaching sessions at all levels of the organization. In ideal conditions, this shall be done with help of change agents, agile trainers and communities of practice (Paterek, 2017). Assessment of the organization's potential shall be conducted before an attempt to introduce agile methods in order to evaluate the organization's readiness and level of maturity. It is advised to establish the real reasons for attempting to introduce agile methods in the organization and start preparation for the development of new agile competences inside the company (first step in Figure 2).

In the course of the agile transformation process, large organizations need to continuously develop their own agile competencies, such as the ability to rapidly react to changing requirements as well as proactive responses to unexpected amendments from end users along with the ability to simultaneously manage and control risk. These actions allow for fast responses to the competition and delivery of high-quality products and services (Paterek, 2017). Another key success factor for an agile transformation process is

Figure 1

Areas of changes resulting from agile transformations in organizations

- **Workforce size and location model**: take a mission-oriented approach to workforce sizing and location
- **Reporting structure**: simplify and delayer your reporting structure
- **Roles and responsibilities**: build roles and responsibilities up from the businesses and limit HQ to the minimum necessary to run the business
- **Governance**: streamline decision making

- **Leadership**: train managers to provide vision, inspire, model, and coach rather than direct
- **Talent management**: be ready to attract and retain the best talent
- **Culture**: challenge existing culture and mind-sets
- **Informal networks and communication**: create opportunities for employees to form organic networks across the organization

- **Supporting systems and tools**: ensure the enterprise has the right tools to support an agile way of working
- **Architecture evolution**: enable the design and evolution of architecture based on requirements
- **Delivery pipeline**: automate your testing and integration processes to enable fast and continuous delivery
- **IT infrastructure and operations**: ensure you have the appropriate infrastructure and operations to support rapid changes

- **Team processes**: free up a team's time to work on value-creating activities
- **Linkage mechanisms**: create means for resources from different functions to collaborate
- **Planning and decision processes**: recognize that even the best plans can fail, and design planning and decision making to rapidly test and learn
- **Performance management**: structure performance management based on outcomes

Source: *The journey to an agile organization*, D. Brosseau, S. Ebrahim, C. Handscomb, & S. Thaker, 2019. (https://www.mckinsey.com/business-functions/organization/our-insights/the-journey-to-an-agile-organization)

a proper set of tools supporting the implementation process and the latter business as usual work in the new agile environment. The aforementioned tools allow for monitoring, assessment and control over the implementation process not only by the teams but also by project stakeholders. Continuous integration practices in an agile transformation is a fundamental way of working in large projects (Larman & Vodde, 2017). The ability to continuously learn and use tools and methods supporting integration allows for faster implementation of new solutions and shortening of products' time to market for end users. Additionally,
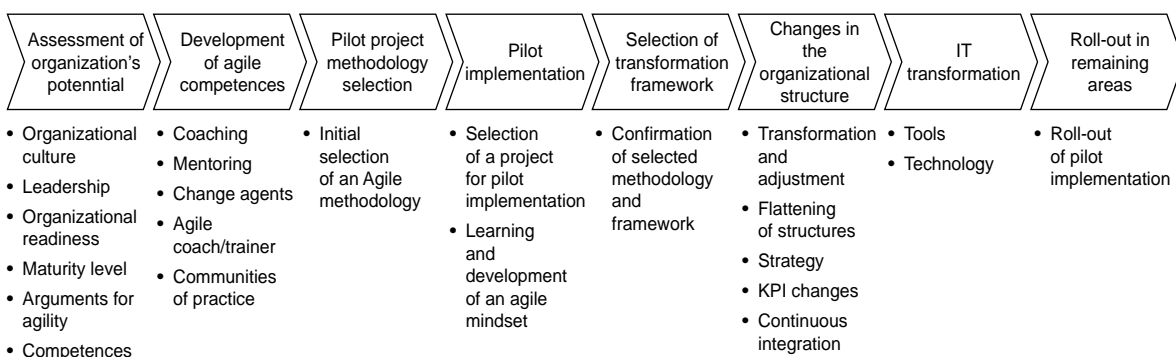
the availability of high-tech solutions stimulates creativity and innovation in new product development. Generally, the dynamics of changes in this respect favors the adoption of agile methods.

The above presented recommendations for large-scale agile transformations may serve as the basis for a proposition of the agile transformation model for organizations presented graphically in Figure 2.

The process presented in Figure 2 may be treated as a proposition of a methodology of agile transformation. In the model, the most important aspects of the organization concern an agile mindset, adjustment

Figure 2

Model of agile transformation in large organizations

Assessment of organization's potenntial	Development of agile competences	Pilot project methodology selection	Pilot implementation	Selection of transformation framework	Changes in the organizational structure	IT transformation	Roll-out in remaining areas
• Organizational culture • Leadership • Organizational readiness • Maturity level • Arguments for agility • Competences	• Coaching • Mentoring • Change agents • Agile coach/trainer • Communities of practice	• Initial selection of an Agile methodology	• Selection of a project for pilot implementation • Learning and development of an agile mindset	• Confirmation of selected methodology and framework	• Transformation and adjustment • Flattening of structures • Strategy • KPI changes • Continuous integration	• Tools • Technology	• Roll-out of pilot implementation

Source: author's own work.

of the organizational culture and the development of agile competences, as discussed in the research literature. In accordance with the presented model, it is crucial for a successful agile transformation delivery to choose the right pilot project for "try and buy" agile adoption, which, in turn, determines the latter transformation framework selection. The selected agile transformation framework will serve as the basis for the global roll-out and implementation across the entire organization. As depicted in Figure 2, organizations undergoing an agile transformation need to not only flatten their organizational structures but also adapt the organization's strategy to agile values, refresh their KPIs and implement continuous organizational learning and self-development. The agile mindset in question concerns not only the employees but the organization as a whole and is one of the most important criteria for proper agile values incorporation into the organization's daily routines and practices. The traditional mindset, as opposed to an agile one, can be characterized as too much based on superiors' decision-making and lacking in delegation of the authority crucial for taking responsibility for the work performed. For the above-mentioned reasons, openness to change, readiness to group work and accountability for actions taken are crucial requirements for the agile way of thinking.

One other important aspect of a successful agile transformation is the organizational culture (Figure 2). This culture is determined by the environment surrounding the organization, type of organization and stakeholder characteristics (Koźmiński & Piotrowski, 2000). There are various elements that influence the organizational culture, such as external ones, which are the sector of operations, market conditions, and technology, and also internal ones such as vision, values and most importantly the people who constitute the organizations. An agile organizational culture has high tolerance for frequent changes and is open to self-development and continuous learning. Flexibility is a key characteristic required in the culture of volatility understood as a chance for self-development and creativity. This kind of culture allows for undisturbed cooperation between management and employees, which is crucial from the point of view of agile processes. The last fundamental condition that must be met for a successful agile transformation is competence development (step two in Figure 2). Both hard and soft competences are necessary for agile project team development in order to assure a good understanding of agile practices and stimulate agile ways of working in the end users. Competence development might be supported by coaching and mentoring sessions, communities of practice and agile agents. The best practice for organizations in the process of agile transformation is to organize workshops and meetings with agile practitioners in order to fully utilize the potential of agile methodologies.

The rationale behind the sequence of the remaining steps in the provided agile transformation model were described in the first part of this paper. Their importance and significance are stressed in the literature review carried out for the purpose of existing knowledge synthesis and model formulation. The proposed methodology of agile transformation is a summary the of discussions and literature findings on large-scale agile implementations.

Conclusions

Agile transformations seem to be the next step in the development of methodologies and organizations. This is not only an inevitable step but also a necessity for undisturbed operations in the fast-paced business environment of the organization. An understanding of agile implementation barriers and challenges and the preparation of a list of prerequisites may ease a successful agile transformation. This paper showed that the biggest challenges experienced by organizations so far dealt with human factors in agile project management. Changes in employees' mindsets and adaptation to agility require time and will most probably cause delays in an agile transformation process. Early recognition of warning signs and development of remedies is another consideration for successful agile transformations in large organizations.

Bearing in mind the limitation that this paper is purely theoretical, it is advised for future research to analyze the potential application of the proposed methodological model (by means of action research) in order to evaluate its usability in practical environments.

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WE RECOMMEND

Planning for a Blended Future. A Research-Driven Guide for Educators
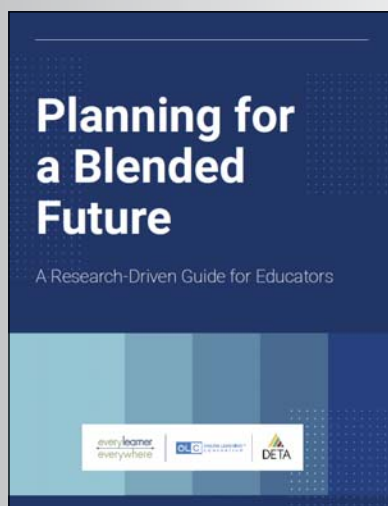
Educators persevered through a global pandemic, a collective trauma of our lives, learning more than ever the weaknesses of technology, the strengths of togetherness, and the need for thoughtful and inclusive strategic planning. While the challenge, disappointment, and devastation is not without note, the possibilities for the strategic transformation of the future of higher education through blended learning are abundant. By thoughtfully and strategically considering design and technologies to create meaningful connectedness across distance through active learning pedagogies, real learning can be achieved. Therefore, conceptualizing what blended learning (hybrid learning) looks like on your campus is an important step in ensuring quality learning for your students.

Planning for a Blended Future: A Research-Driven Guide for Educators identifies factors and techniques to be considered for responsive planning and redesigning of courses and programs for post-inoculation education in institutions of higher education.

This guide moves beyond getting started with blended learning to help educators realize the best of online and onsite instruction and implement research-driven techniques to positively influence student outcomes.

The pdf version of the guide is available for free on *Every Learner Everywhere* website: **https://www.everylearnereverywhere.org/es/blog/resources/planning-for-a-blended-future/**