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Industrial Agile Transformations Lacking Business Emphasis: Results from a Nordic Survey Study

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Abstract. In agile transformations, agile principles and practices are applied across the organization – ultimately for an agile enterprise. Such company-wide changes are not straightforward and there are research needs to understand how they are successfully conducted and sustained. We have recently done an industrial agile survey in Finland (2018) and in Sweden (2019). The findings suggest that there are many goals for companies to become (more) agile. Operational goals (productivity, quality) and responsiveness to customer/market changes are the most often reported ones, but higher-level business goals (new product development, new business innovations) appear to be less common. There are many ways to conduct agile transformations. Not all companies display a clear strategy. Operational goals appear to be more in focus than the business strategic ones and the overall agility of the company. Overall, our survey results suggest that companies put more emphasis on operational and organizational agility than business and enterprise agility. We suggest that each company should declare a clear purpose and well-defined business goals for the agile transformation.

Keywords: Agile transformation, Agile software development, Business agility, Enterprise agility, Survey.

1 Introduction

Agile transformations can in general range from small-scale, local changes and transitions to full-scale enterprise transformations. In software organizations, such developments mean typically advancing from agile adoptions in software teams to R&D organization (e.g., product management) and related business functions and – ultimately – to transforming the entire company [1–2]. Agile principles and practices are then applied across the organization. Still, the terminology and conceiving of agile transformations in software-related organizations vary [3]. Current active research themes and topics include continuous operations (CI, CD, delivery) and DevOps [4]. More research has been called for large-scale agile transformations and enterprise agility [5].

In this paper, we present current results about agile transformations in industry organizations based on our recent survey study done in Finland in 2018 and in Sweden in 2019. Previously, we have published selected overall results of the survey, focusing on questions about agile transformation and SAFe adoption in Finland [6–8]. The key contribution of this continuation paper is in aggregating a combination of the distinct survey questions for answering a higher-level research question: *What types of agility do companies approach with their agile transformations?* In addition, we include new data from Sweden and previously unpublished results from the Finnish survey data.

2 Background and Method

This research effort started in Finland in 2018 from the industrial stance. Different companies may approach agile development and agility in different ways. Hence, we were interested in examining how agile companies really are nowadays and how they currently practice agile software development. Moreover, we wanted to go beyond team levels to large-scale agile and enterprise agility. We were also interested in the future. In all, we targeted to investigate not just ICT companies but industries in general.

The research method was descriptive survey with no one particular theory or maturity model as the underlying basis. The questionnaire included agile transformation elements. The questions and the predefined answer choices were compiled by referring to selected prior surveys and by deriving from own industrial experiences and prior research. Most of the questions were closed type with an open free-text choice. The final version consisted of total of 50 questions (including background items). All content questions were non-mandatory and had a N/A option. For data collection, the survey was implemented with a commercial web-based online questionnaire tool.

In 2018 in Finland, the questionnaire was distributed with one Finnish consulting company mailing list mass postings and with social media. In 2019, we repeated the survey in Sweden. The original questionnaire in Finnish / English was extended with a Swedish choice. The survey call was distributed in the same manner as in Finland.

3 Results

We received 118 finished responses in Finland (2018) and 15 in Sweden (2019). Not everyone responded to every question. Below we report based on the provided data.

Fig. 1 presents the key demographics. ICT was the most frequently reported sector (line of business). Notably, 70% of the respondents represented other industries.

Company's state of Agile. The first section of the questionnaire included the following question item: (Q0) *When has there been executed or planned agile transformation in Your company most recently?* One of the answer choices was ‘Not done / planned agile transformation’. In Finland 16 % (19/118) and in Sweden 33 % (5/15) respondents reported so, respectively. In the following result tables (Table 1–Table 5), we have included also those respondents.

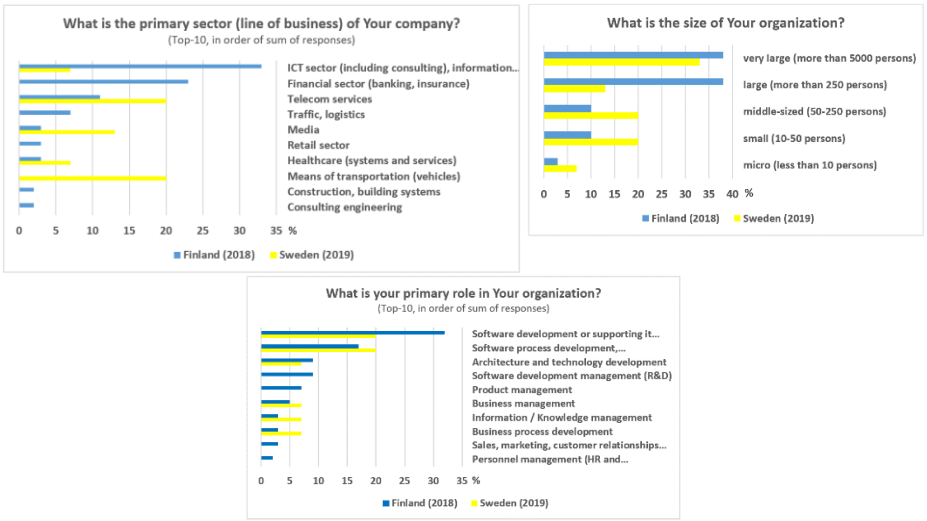

Fig. 1. Demographical information of the organizations and respondents.

Agile company transformation. The questionnaire section of agile transformations comprised the following questions:

- Q1: *Why does Your company want to become more agile?*
- Q2: *How is Your company / has Your company been executing agile transformation?*
- Q3: *What results and experiences does the company have of agile development?*
- Q4: *Where is the current overall focus of agility in Your company?*

There are different needs and goals for companies to become (more) agile as shown in Table 1. Operational goals (productivity, quality) and responsiveness to customer/market changes are typical reasons for companies to improve their performances. However, higher-level business goals (new product development, new business innovations) appear to be less common.

Table 1. (Q1) Why does Your company want to become more agile?

ANSWER CHOICES (multi choice allowed) In order of sum of responses, N: # of responses including N/A answers	*Finland* (2018) % out of N (N=86, N/A=2)	*Sweden* (2019) % out of N (N=8, N/A=0)
Productivity and quality (operative)	72	50
Responsiveness to customer/market changes (new features)	65	75
Job satisfaction	53	38
Fast/continuous organizational learning in rapidly changing operating environments	51	50

Competitive and desirable products (new product development)	48	50
Project manageability	48	38
Strategic and organizational flexibility	44	63
Customer experience	44	50
Customer satisfaction	43	50
New business (product and service innovation)	33	25
User experience (UX)	31	25
Employer brand	29	13
Continuous budgeting, resourcing	21	25
Company image	21	0
Customers require / wish (agile development)	15	13
Other	3	29

There are many ways of conducting agile transformations, as indicated in Table 2. Not all display a clear strategy. This could possibly mean that companies do not address agility fully strategically from a company-level business perspective. When the changes are not decisively initiated top-down, the transformations may lack established leadership supported by the top management. External consultants may then not be able support the changes most effectively.

Table 2. (Q2) How is Your company / has Your company been executing agile transformation?

ANSWER CHOICES (multi choice allowed) In order of sum of responses, N: # of responses including N/A answers	*Finland* (2018) % out of N (N=85, N/A=2)	*Sweden* (2019) % out of N (N=8, N/A=0)
The company has had external consultants (subcontracting) to assist in the change	61	38
There is a dedicated agile support team in the company	45	38
The company has initiated the change bottom-up (from teams) in the organization	40	25
The company has initiated the change top-down in the organization	29	25
The company has a strategy for adopting agile ways of working and practices	27	38
Self-made transformation in the company	15	50
In other ways	6	13

Agile development can bring various, even company-wide effects and outcomes. Three biggest benefits / advantages / improvements reported for the question Q3 (open comment) were transparency and visibility, speed, and manageability and controllability. Business benefits were not highlighted, indicating an operational emphasis.

In principle, agile transformations involve all areas and elements of the organizations. Companies may be focusing on changing different aspects at different times as shown in Table 3. Operational goals appear to be more emphasized than the business strategic ones and the overall agility of the company.

Table 3. (Q4) Where is the current overall focus of agility in Your company?

ANSWER CHOICES (multi choice allowed) In order of sum of responses, N: # of responses including N/A answers	*Finland* (2018) % out of N (N=86, N/A=2)	*Sweden* (2019) % out of N (N=8, N/A=0)
Operative goals (e.g., internal efficiency)	51	50
Organizational means (e.g., self-organizing teams)	48	50
Scaling agile development	41	38
Technological means (e.g., improved work methods)	40	25
Overall agility of the company	31	13
Strategic goals (e.g., speed advantage in the business sector)	23	50
No particular focusing	5	0
Other	2	13

Agile future of the company. In this section of the questionnaire, the respondents were asked to view the future (until 2020) with four questions including the following ones:

- Q5: *What changes does Your company plan about the use of agile methods, practices or models in the future?*
- Q6: *What factors are important when Your company recruits software development talents?*

Continuous adaptation is inherent in agile journeys. Changes in use of agile methods (adopting new methods, practices or models / abandoning or replacing methods, practices or models in use) are planned in some cases, but companies also report no planned changes. Table 4 presents, what particular changes the respondents described in open comments considering new methods, practices or models. The companies may possibly have be many different reasons for adopting the SAFe framework and the Spotify model apart from distinct business improvements.

Table 4. (Q5) What changes does Your company plan about the use of agile methods, practices or models in the future? – Our company plans to take into use new methods, practices or models.

ANSWERS (open comment) In order of sum of occurrences, N: # of responses	*Finland* (2018) % out of N (N=35)	*Sweden* (2019) % out of N (N=2)
SAFe	20	0
in-house model, suitable practices	14	0
Spotify (model)	9	50
tribes	9	0
automation (test, release)	9	0
customers, business development, other units	9	0
portfolio management	6	0
MISC. (several nominations, other than the ones above)	29	50

There are many potential considerations for hiring software people in agile organizations as presented in Table 5. Software technical competence is the most important factor in recruitment. Suitability for an agile organization also weighs strongly. The value judgements appear to be less important, which may possibly indicate that business-orientation is not so emphasized for software operations.

Table 5. (Q6) What factors are important when Your company recruits software development talents? – Appraise the 3 most important ones.

ANSWER CHOICES (multi choice allowed) In order of sum of responses, N: # of responses including N/A answers	*Finland* (2018) % out of N (N=111, N/A=12)	*Sweden* (2019) % out of N (N=11, N/A=1)
Software technical competence	78	64
Suitability of the recruited person's character for agile organization (e.g., self-directing)	48	45
Practical competence of agile methods	41	27
Value judgements of the recruited person are in alignment with the values of our company	39	36
Domain competence	16	0
Value judgements of the recruited person are in alignment with the agile values	14	27
Agile methods certificates	4	0
Other	1	9

4 Discussion

Having presented the direct results in Section 3, we are in a position to analyze them further in order to gain deeper reflective insights and suggestions. Our survey questionnaire offers many possibilities for that. One obvious elaboration is to refine the summarized results in Table 1–Table 5 according to the demographical variables in Fig. 1.

One potentially insightful filter is to compare management and developer perspectives on agility. Fig. 2 presents the summary results in Table 1 according to those roles. For contrasting, there are also software process / organization developers (agile coaches). Interestingly enough, managers put more weight on external business aims (New business (product and service innovation), Competitive and desirable products (new product development)) than the developers. This may indicate that the business emphasis is inherent for the managers, but it is not necessarily well-established organization-wide. Note, however, that since our data does not distinguish organizations, the respondents in Fig. 2 may be in different organizations.

In a similar vein, Fig. 3 refines the results in Table 3 according to the industry sectors. Interestingly, the overall agility of the company was reported as the primary focus area by the financial sector respondents. Strategic goals were stressed most in the ICT sector while scaling agile appeared to be most important in the telecom sector. These could possibly be explained by the current business trends in those sectors.

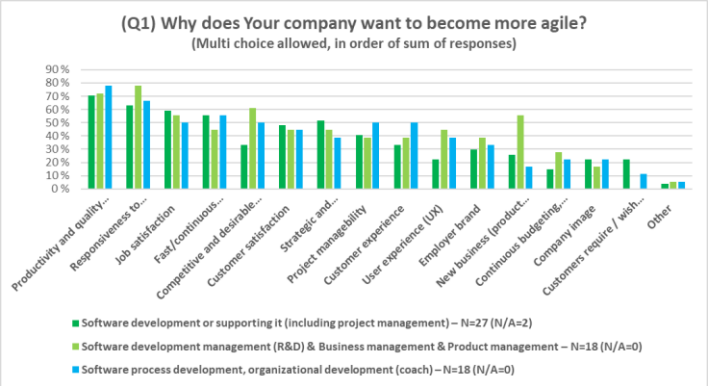

Fig. 2. (Q1) Why does Your company want to become more agile? (By roles).

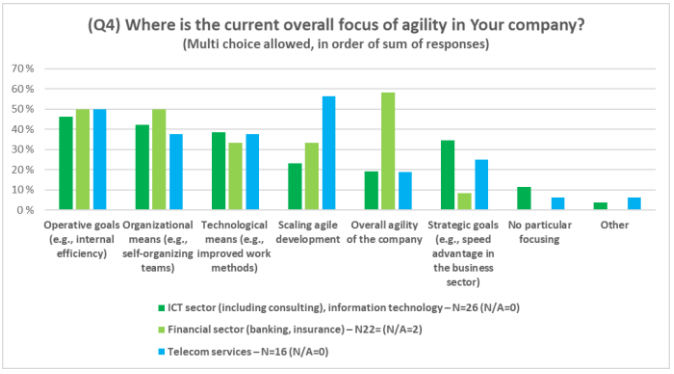

Fig. 3. (Q4) Where is the current overall focus of agility in Your company? (By sectors).

Agile transformation is currently a relevant and growing research field, and there are many possible reasoned viewpoints of agile transformations [3]. Conceptually, there are different types of agility: operational, organizational, strategic and business, and enterprise agility. Our survey results suggest that companies – at the time of responding – put more emphasis on operational and organizational agility than business and enterprise agility. However, achieving a well-functioning agile global software organization requires the inclusion of agility on the strategic business level and an organization-wide perspective. Agility is required beyond the software development functions and should cover product and service development and the inclusion of partner organizations and customers. There should be a clear purpose and well-defined rationale for the transformation (Q1). The strategy should fit for the purpose taking into account the particular organizational contingencies (Q2). The transformation should be continuously monitored and aligned with the strategic intent (Q3, Q4; Q2). Sustainable agility requires continuous adjustments and proactive preparation for the futures (Q5, Q6; Q3, Q4).

Finally, we have rationalized our industry-oriented questionnaire and the constraints and limitations of the survey research design earlier [7]. Most notably, we cannot tell the number of different organizations in our respondent population, and we refrain from

judging how representative our sample is. Due to such statistical validity limitations, we make no attempt at generalizing the findings.

5 Conclusions

In this paper, we have presented industrial agile transformation findings based on Nordic agile survey data collected in Finland (2018) and in Sweden (2019) for answering a higher-level research question: *What types of agility do companies approach with their agile transformations?* Overall, the responses suggest that companies tend to put more emphasis on improving operational agility than on attaining higher-level business goals with strategic and business agility as agile enterprises.

Because of the significant disparity of the number of respondents in Finland and in Sweden, it was not feasible to compare the two countries here. The differences between the Finnish and Swedish industries and business environments could be taken into account for further reasoning about our results with respect to business goals [9–10].

In the future, we plan to continue our survey research by collecting more data by repeating the survey possibly annually in Nordic countries. That would support longitudinal analysis with respect to our results so far in 2018-2019.

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