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FISMA NEWSLETTER

DEVELOPMENT

Development methods and measurement

- Agile development benefits of measurements to keep up the flow – but there are often some pitfalls (P.2).
- FiSMA participates in an EU project proposal on how to select an appropriate information system development method (P.3).
- Highlights of a survey on agile developments and agility in organizations are presented (P.4) and the research continues.

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HEADACHE OF A HYBRID MODEL

How to measure and how to balance

Quite a few organizations are in a middle of a paradigm shift from linear SW development model to agile or lean development. This brings extra challenges for measuring SW development and for assessing and knowing actual status of a situation.

Agile and Lean measures flow. If the development team can provide a steady and reliable flow of features, all is fine. Central measurement is calendar time from idea to provisioning of outcome. Linear state-gate driven development measures accrued and earned hours against estimated workload. When the gap between accrued hours and earned hours split, the project is in trouble.

Both models have good rationale in them and of course, pitfalls too. When managing a program, the hybrid model brings a multitude of status related problems. Too often the teams are not disciplined enough to estimate their work properly. If they are matured enough to give reliable estimations in story points, they typically forget a whole bunch of work. There is also plenty of non-visible work like support to other teams, that has not been recorded. Thus, the estimated velocity is not accurate enough, it is less than the team thinks.

The tradition of recording accrued work has been forgotten, as the flow is the king. When the teams slip from delivering their stories and features in reserved time, the flow gets broken. The team must start estimating how much the slippage eats velocity from following sprint.

The development team concerns only about the next sprint of cycle. Features rule. This leads to a false assumption that the team can deliver when it has finished off the feature development. The DevOps movement is trying to solve this issue. The commissioning phase tasks should be taken into Feature DoR -statements: the feature should not be done until it is fully releasable.

One reason why agile development struggle is that there is not enough analysis and planning resources. The analysis becomes a bottleneck and the teams fail to understand what is being expected from it. One reason to this is that the amount of the analysis work has not been measured nor estimated.

In transition phase between the paradigms, the organizations need to be extra careful to enforce disciplines. Even though some of them feel like 90's, they are still proving their strength. Start collecting accruals and measuring the size of the project. Manage by data not by hunch.

Mitro Kivinen, FiSMA Executive Director

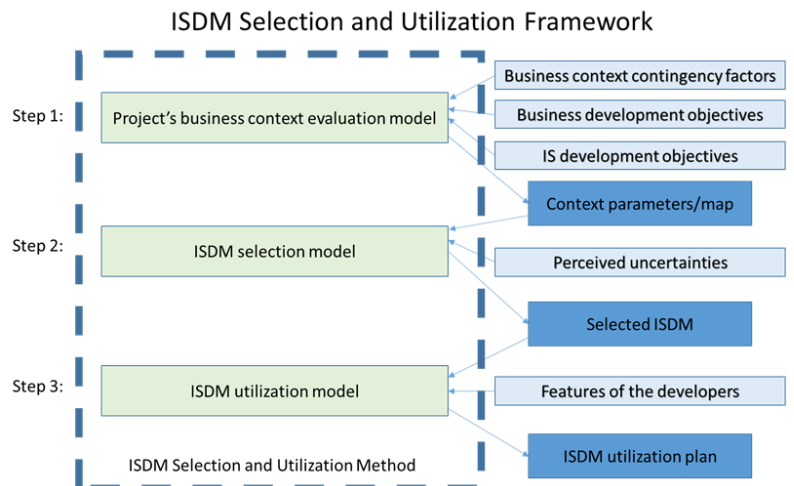
FISMA INVOLVED IN COAWARE PLAN

Together with six European universities and university of applied sciences FiSMA has applied Horizon 2020 funding for a COAWARE project. The COAWARE project will develop, demonstrate and validate a method for information system development method (ISDM) selection and utilization in process digitalization projects related, e.g., to artificial intelligence or cybersecurity. The developed ISDM selection and utilization method will link together the knowledge areas of information systems (IS) clients and developers.

Currently IS clients do not know the possibilities of different ISDMs, and IS developers do not understand how business development context affects IS development. ISDMs are not selected based on the business development situation; the same method (or no method at all) is used in all cases. In addition, it is not self-evident that all ISD developers master all relevant standards, models and practices to be able to develop reliable, trustworthy and secure software for the business needs in question.

To get secure, trustworthy and useful systems, there is no room for obscurities, ad hoc or ill-fitting development methods. It is therefore necessary to build a link between the knowledge areas of IS clients and IS developers and find new ways for project-specific ISDM selection and utilization so that all relevant standards, models and practices are verifiably taken into account.

Since the research aim is to build a practical artifact (ISDM selection and utilization method) supporting industrial partners with IS development, the COAWARE project will be made in close collaboration with industrial partners. The main target group of the developed method is small and medium size enterprises (SMEs) undergoing digital transformation and digitalizing their business processes. Normally, they have no regular IT-related change experience and are too small (or have no sufficient business cases) to build up their own methodological expertise.



Altti Lagstedt, Haaga-Helia

NORDIC AGILE SURVEY

Agile Now in the Era of Digitalization

Since the publication of the Agile Manifesto in 2001 a lot of evolution and developments have taken place both in industrial software practice and academic research. One of the current factors is the ongoing digitalization, which has affected almost every industry sector even radically. Thus, we have been intrigued to investigate the actual current state of agile software development in industrial organizations first in Finland and later also in other Nordic countries. We are especially interested in different industrial sectors beyond ICT since agile methods are increasingly applied also in non-ICT companies (e.g., finance sector) when they become more software-intensive – possibly even like “software houses”. Furthermore, we want to comprehend Agile more broadly and deeply considering even enterprise level and business agility.

With that heading we have been collaborating with **Nitor** (c.f., <https://www.nitor.com/fi/uutiset-ja-blogi/nitor-ja-helsingin-yliopisto-selvittivat-suomalaisyritykset-ketteryyden-edellakavijoita>) in conducting an industrial survey in Finland in 2018 and in Sweden in 2019. The first results were presented at XP 2019 7th International Workshop on Large-Scale Agile Development (LargeScaleAgile) with the following papers:

- Finnish Enterprise Agile Transformations: A Survey Study (https://doi.org/10.1007/978-3-030-30126-2_12)
- SAFe Adoptions in Finland: A Survey Research (https://doi.org/10.1007/978-3-030-30126-2_10)

Following that, we published more results in the PROFES 2019 conference:

- Agile in the Era of Digitalization: A Finnish Survey Study (https://doi.org/10.1007/978-3-030-35333-9_28)

Those results were also presented in the FiSMA Seminar in December, 2019 (<https://www.fisma.fi/fisma-syyskokous-ja-seminaari-11-12-2019/>).

The survey questionnaire included three main sections: Company's state of Agile, Agile company transformation and Agile future of the company. The questionnaire comprised some 50 questions addressing those aspects of agile developments and agility in organizations. There were both multiple choice questions as well as open comment fields, so the survey have produced a lot of both quantitative and qualitative data.

The following are selected highlights of the results and findings in the abovementioned publications:

- The majority of the respondents indicated that their organizations have conducted agile transformations or are currently doing so. Most reported that their company has had external consultants to assist in the change.
- Scrum, Kanban and DevOps are widely used. Operative productivity and quality were reported most often to be the reason for becoming (more) agile. Operational measurements appear to be the most typical ones, but strikingly a large share indicated follow-up of no particular metrics. The respondents considered both the impacts of digitalization and the correspondence of agile developments in their companies substantial.
- The biggest benefits reported with Scaled Agile Framework (SAFe) were transparency, co-operation, and cadence. Mixing old and new ways of working and implementing only a subset of the SAFe practices caused trouble.

Continuing the research, we have now collected more survey data in Sweden in 2019. We are currently working on the analysis to publish more research results.

Our future plan is to repeat the survey in Finland in 2020 – taking into account the current extraordinary business conditions which many companies are now facing. We encourage all FiSMA members to participate!

Petri Kettunen, Tommi Mikkonen, Tomi Männistö (University of Helsinki, Department of Computer Science)

Fabian Fagerholm (Aalto University)

Maarit Laanti (Nitor Delta)



ENLIGHTENMENTS

27th EuroSPI Conference in Düsseldorf, Sep 9-11

EuroAsiaSPI² 2020 (9.-11.9.2020) will have 10 international thematic workshop streams supported by thematic topic communities. Each thematic stream integrates both research sessions and industry / applied science sessions. The thematic streams will be a mix of pitch talks provoking discussions, full presentations and panel discussions which will focus on specific topics of interest. In addition, there will be a workshop about new ideas for European funding proposals.

Research or Industry Paper deadline is 10.04.2020. Papers should comprise 8 - 12 pages and follow the SPRINGER CCIS series formatting guidelines.

More information can be found at <http://2020.eurospi.net>.

9. - 11. September 2020, Hochschule Düsseldorf, University of Applied Sciences, Germany

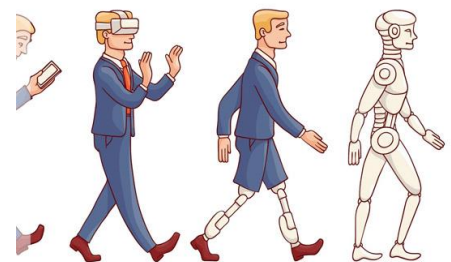
Maturity book published

Maturity is still a lively source of inspiration for many thinkers and authors. Risto Nevalainen, Senior Advisor in FiSMA, has found more than 300 maturity models during his recent effort to write a book about this topic. Maturity models can be classified as one-dimensional, two-dimensional and many-dimensional types. The most well-known CMMI and SPICE models are two-dimensional. Risto predicts that maturity is moving towards the 3-dimensional architecture. Maturity will be applied in more and more complex domains; examples are Agile&DevOps and digital services for citizens.

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CxO Academy
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Risto Nevalainen



Kypsyys

Tapa ajatella ja kehittää toimintaa

Ketterät Kirjat Oy