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Collaborative IS and group work technologies

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Structure of presentation

Learning objectives

Definitions and categorizations

Special case: Group (Decision) Support Systems

Collaboration Engineering and ThinkLets

New trends

Briefing of the homework assignment at Stormboard platform

Learning objectives

- What are CIS and groupware
- Know the benefits of CIS and barriers to their utilization
- Know how to start designing efficient e-collaboration processes
- New ideas on how to motivate collaboration in knowledge work

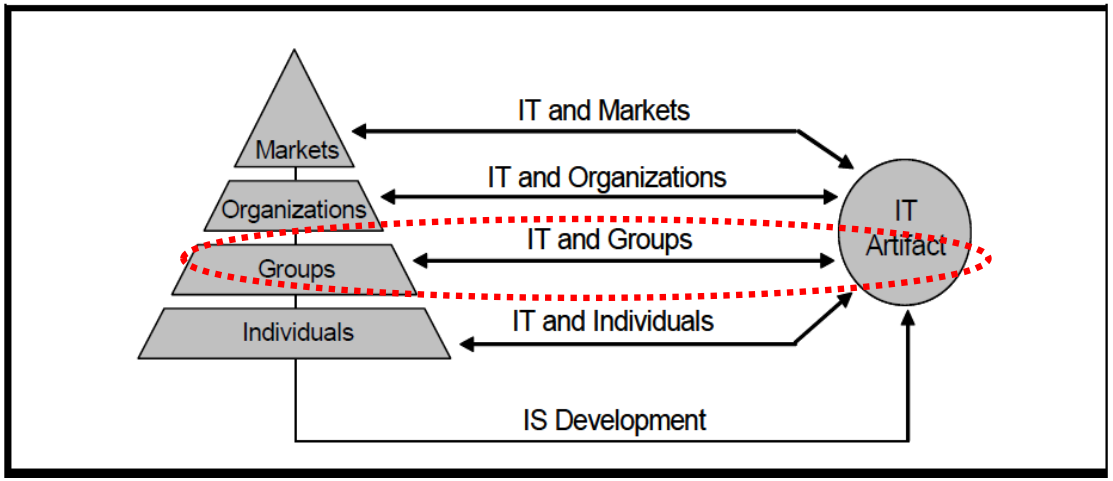
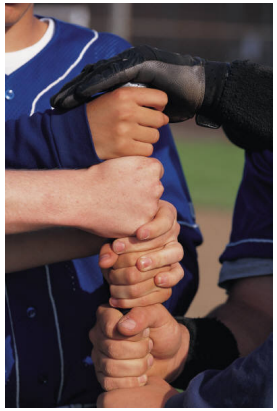


Figure source: Sidorova et al. (2008), "The Intellectual Core of the IS Discipline", *MIS Quarterly*, 32(3), 467-482.

Definitions

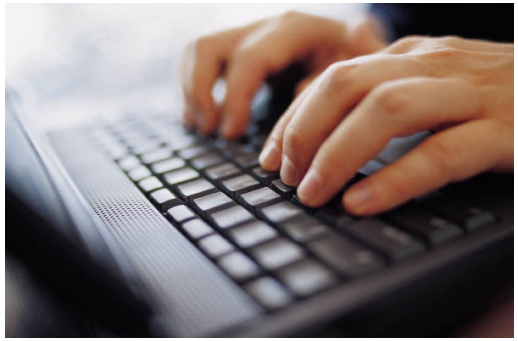


Collaboration

- deliberate efforts of 2 or more entities (individuals, groups or firms) who work together to accomplish certain tasks.
  - *Collaborate = com laborare - to work together*

Collaborative IS (CIS) and group work technologies ("groupware")

- **computer-based** systems
  that **support groups** of people
  engaged in a **common task** (or goal) and
  that provide an interface to a **shared environment**
  to empower **human interaction**
  irrespective of time and distance barriers.



Sources: Ellis et al. (1991), "Groupware: some issues and experiences. *Communications of the ACM*, 34(1), 38-58.

Cruz et al. (2012) "Towards an overarching classification model of CSCW and groupware: A socio-technical perspective", *Proceedings of CRIWG*, Springer.

Collaborative IS that support task-oriented collaboration

Example of an early categorization

- **E-mail** (e.g. MS Outlook, Gmail)
- **Teleconferencing** (e.g. Skype Conference call)
- **Videoconferencing** (e.g. Click2Meet)
- **Dataconferencing** (e.g. WebEx)
- **Web-based collaborative tools** (e.g. Listservs, Yahoo Groups)
- **Proprietary groupware tools** (e.g. MS Teams, TeamWare)
- **Group Support Systems a.k.a. Electronic Meeting Systems** (e.g. FacilitatePro, ThinkTank, WIQ)

Source: Bajwa, D. S., Lewis, L. F. and Pervan, G. (2003) ”Adoption of Collaboration Information Technologies in Australian and US Organizations: A Comparative Study”, *Proceedings of HICSS Conference.*

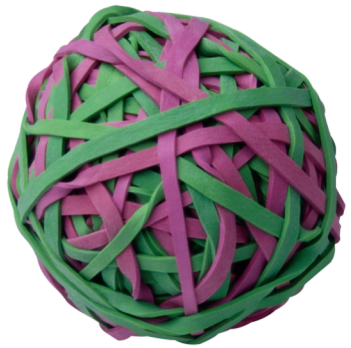
The integration of technologies

There are no commonly accepted product categories related to collaborative IS!

E.g. Skype was first a simple teleconferencing service between 2 persons - now it contains possibilities for multi-party video conferencing with data / screen sharing, instant messaging options, etc.

The "bundles of capabilities" in various collaboration suites make it very difficult for practitioners to understand:

- **what capabilities they need**
- **what capabilities a given product offers**
- **and how to select an appropriate product!**



Useful review of several tools: http://blog.lucidmeetings.com/blog/25-tools-for-online-brainstorming-and-decision-making-in-meetings, list updated constantly.

Collaborative integration factors

A collaborative technology is **integrated** if it combines support from more than one of the 3 key factors:

MODE

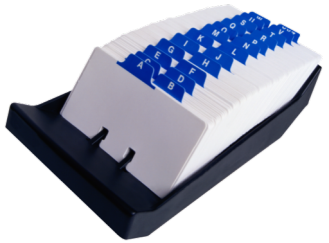
- refers to the time and space of interaction, i.e. face-to-face vs. distributed (remote, virtual), and synchronous (same-time) vs. asynchronous (different-time)

MEDIUM

- is the media that the application provides for interaction, e.g. text, graphic, audio, video or shared whiteboard

STRUCTURE

- means the support provided by the application for group development and productive outcomes, such as cognitive mapping, anonymity, and consensus building.



Source: Munkvold, B. E. and Zigurs, I. (2007), "Research challenges for integration of e-collaboration technologies", in Kock, N. Emerging e-collaboration concepts and applications.

Useful classification of CIS based on their core capability / functionality

@ **Jointly authored pages**

- conversation tools, shared editors, polling tools and group dynamics tools.

@ **Streaming technologies**

- desktop/application sharing, audio conferencing, and video conferencing

@ **Information access tools**

- shared file repositories, social tagging systems, search engines, and syndication tools

@ Aggregated systems

Source: Mittleman et al. (2008), "Toward a Taxonomy of Groupware Technologies", *Proceedings of CRIWG Conference on Collaboration and Technology*, available at http://ihop.typepad.com/docs/criwg2008.pdf with a listing of 200+ web collaboration tools in http://ihop.typepad.com/docs/webfacilitationtools.xls , Updated version in Mittleman et al. (2015), "Classification of collaboration technology", in Nunamaker et al. (Eds.) *Collaboration Systems: Concept, Value, and Use*. Routledge.

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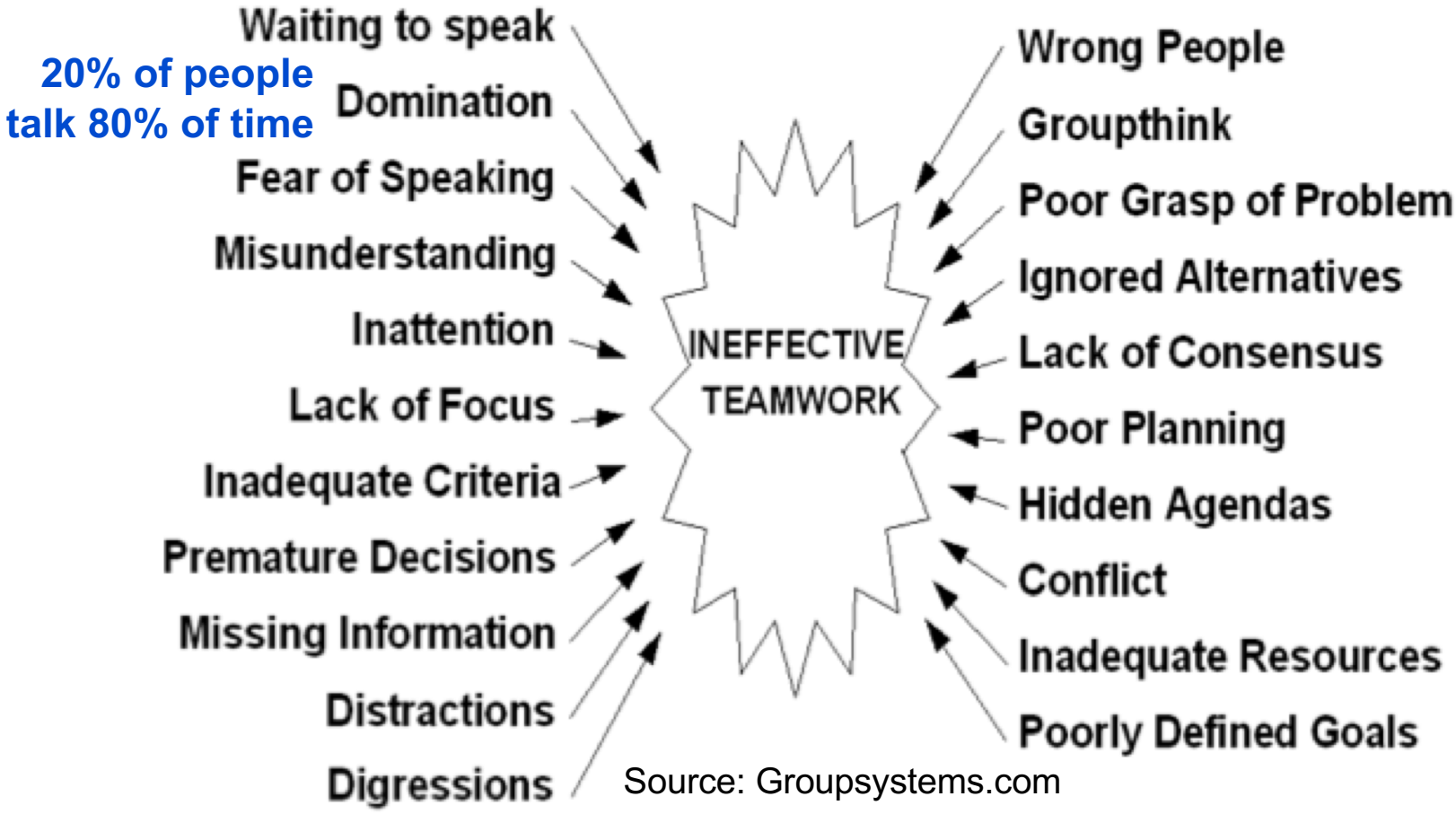
Portraying Group (Decision) Support Systems

Common problems that all teams face



Source: Groupsystems.com

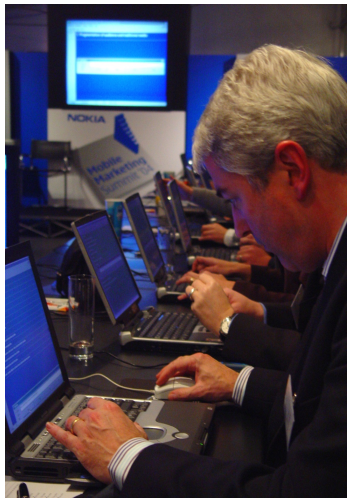
⇨ **Group Support Systems (GSS) were developed in late 1980's (by ISS scholars in US universities) to mitigate these common problems caused by group processes.**

Group Support Systems (GSS)
a.k.a. Electronic Meeting Systems

The meetings are lead by a **facilitator**.
Every participant has a computer or tablet.

Strengths of GSS:

@ **Structured process / predefined e-agenda**
@ **Anonymity (when wanted)**
@ **Simultaneous communication via computers**
@ **Voting possibilities**
@ **Group memory (automatic meeting minutes)**



The current GSS systems are fully web-based, no installation is needed to client computers like in the previous Windows-based systems with LAN.

See history of GSS at
https://en.wikipedia.org/wiki/Electronic_meeting_system

Traditional GSS setting: horse shoe shaped table with fixed computers

White screen(s) are also essential.

Executive Meeting Room of
San Diego State University

More modern GSS & innovation room setting

University of Essex iLab (Southend campus)

Tailored tables, laptops, rounded wall corners, walls act as white boards.

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Source:
https://ilabnet.essex.ac.uk/mod/data/view.php?d=2&rid=1

Screenshots from a GSS: FacilitatePro
(used at Aalto BIZ / ISM previously during 2004-2015)

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See current version at https://www.facilitate.com

Designing work processes with *Collaboration Engineering*

Collaboration Engineering (CE) is a research-based, practical approach that can be used to design & implement effective collaboration processes (Briggs et al. 2003, *Journal of MIS*)

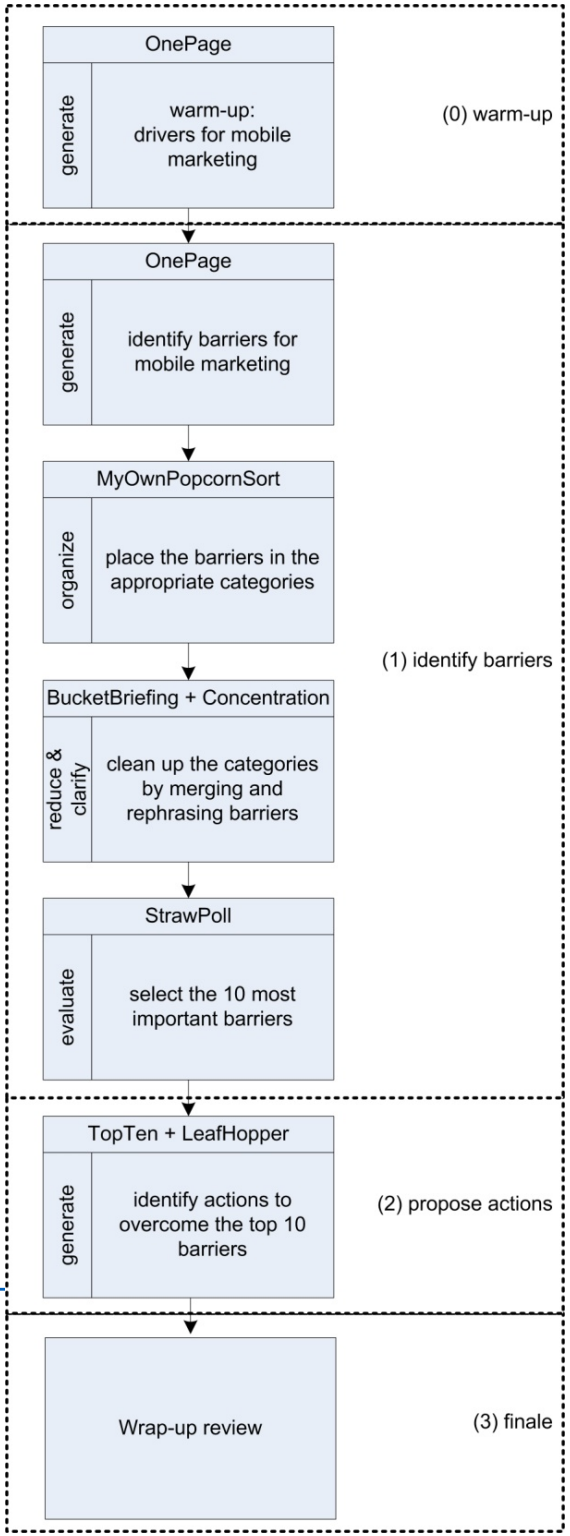
- Processes are composed of **generate, reduce, clarify, organize, evaluate** or **build consensus** collaboration patterns.

Facilitation process model figure from Nokia Mobile Marketing Summit

GSS used: *GroupSystems MeetingRoom*

Duration of collaboration process: 1,5 hrs

Participants: 25 brand / marketing managers.



Source: Bragge, J, Tuunanen, T., Virtanen, V. and Svahn, S. (2011) "Designing a Repeatable Collaboration Method for Setting Up Emerging Value Systems for New Technology Fields", *Journal of Information Technology Theory and Application*, Vol. 12, No. 3., A. 3, 27-47.

Collaboration Engineering (CE): key concepts

CE is an approach for the design and deployment of **repeatable collaborative work practices** that can be **executed by practitioners** themselves - without the ongoing support of external collaboration professionals of facilitators.

ThinkLet is a facilitation best practice – it captures all information required to create a pattern of collaboration in a predictable, transferable way.

- It describes an elementary group process from a leader's point of view by providing explicit, scripted prompts for the group, and by guiding the practitioner through the decisions that must be made based on the group's behavior (see two examples on next slide).

Winkler et al. (2019), "Towards a Technique for Modeling New Forms of Collaborative Work Practices – The Facilitation Process Model 2.0", HICSS https://scholarspace.manoa.hawaii.edu/bitstream/10125/59462/0022.pdf

ThinkLet examples – LeafHopper & FastFocus

LeafHopper

Choose this thinkLet…

… When you know in advance that the team must brainstorm on several topics at once.

… When different participants will have different levels of interest or expertise in the different topics.

… When it is not important to assure that every participant contributes to every topic.

Overview

Participants start with an electronic list of several discussion topics. Each hops among the topics to contribute as dictated by interest and expertise.

Inputs

A list of topics that must be addressed by the team.

Outputs

A set of comments organized by discussion topic

How to use LeafHopper

Setup

1. Create a list of topics for discussion in the GroupSystems Topic Commenter or one of the other list building tools (or create an outline of topics in the GroupSystems Group Outliner).

Steps

1. Explain the topics to the group and verify their understanding
2. Explain the kinds of ideas that the group must contribute
3. Say this:
   a. Start working on the topics in which you have the most interest or the most expertise. Then, if you have time, move to each of the other topics to read and comment on the contributions of others.
   b. You may not have time to work on every topic, so work first on the topics that are most important to you.

FastFocus

Choose this thinkLet…

… to quickly extract a clean list of key issues at a useful level of abstraction from a brainstorming activity.

… when it is important to assure that group members agree on the meaning of the items on the resulting list.

Overview

The team browses through the brainstorming contributions. Each team member in turn proposes aloud a key issue. The team discusses the meaning and the wording of a proposed item. The moderator posts well-framed items on the public list.

Inputs

Comments from a brainstorming activity

Outputs

A clean, non-redundant list of the key issues raised during a brainstorming activity.

How To FastFocus

Setup

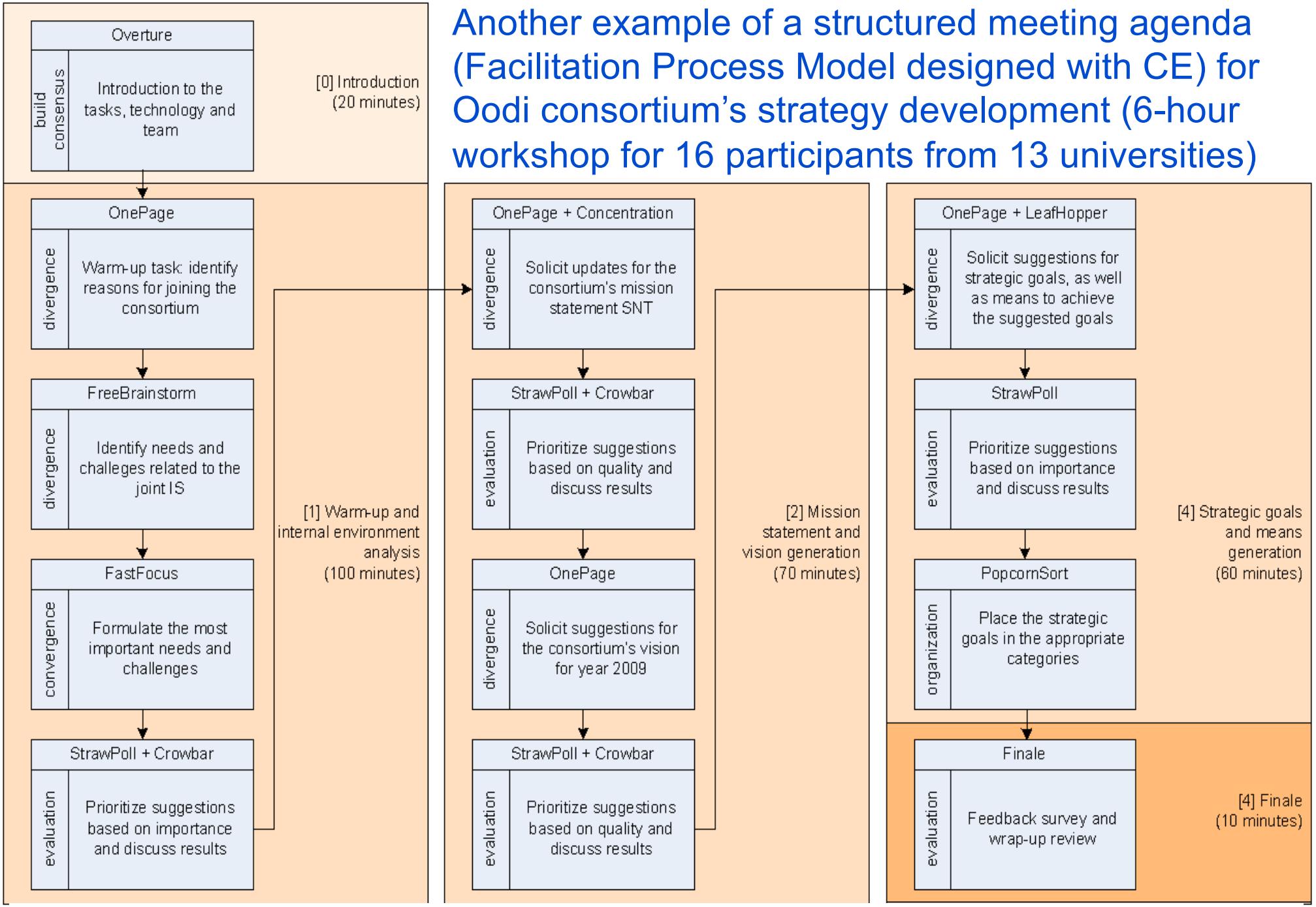
1. Participants view their comments in the Electronic Brainstorming tool
2. Moderator displays an empty public list.

Steps

1. Explain clearly the kind of items that belong on the public list. If you want problem statements, give examples of problem statements. If you want solutions, give examples of solutions.
2. **Say This:**
   a. Each of you is on a different electronic page. Each of you has a different part of our brainstorming conversation on the screen in front of you.
   b. Please read the screen in front of you, and tell me the single most important issue represented in the discussion on your screen that should be included on this public list.

CE/ThinkLet manual: http://www.lulu.com/shop/robert-briggs-and-gert-jan-de-vreede/thinklets-building-blocks-for-concerted-collaboration/paperback/product-5119917.html

Another example of a structured meeting agenda (Facilitation Process Model designed with CE) for Oodi consortium's strategy development (6-hour workshop for 16 participants from 13 universities)



Source: Bragge et al. (2007), "A Repeatable E-Collaboration Process Based on ThinkLets for Multi-Organization Strategy Development", *Group Decision and Negotiation* journal

“Companies are increasingly using enterprise collaboration tools to brainstorm ideas in a secure, recordable fashion, internally and beyond the perimeter of a company's four walls. ”

Collaboration as global knowledge sharing

The real promises of collaboration are supposed to be crowdsourcing and knowledge management, where companies can get or hone ideas through a community and codify knowledge in a shared virtual space. But these uses of collaboration can be slow to take shape.

"We see pockets of adoption -- which is encouraging, but pockets nonetheless," Koplowitz said.

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Source: Horwich and Aberle (2014), “Enterprise collaboration tools encourage communication, inside and out” , *Techtarget*, Sept 16,http://searchcontentmanagement.techtarget.com/feature/Enterprise-collaboration-tools-encourage-communication-inside-and-out

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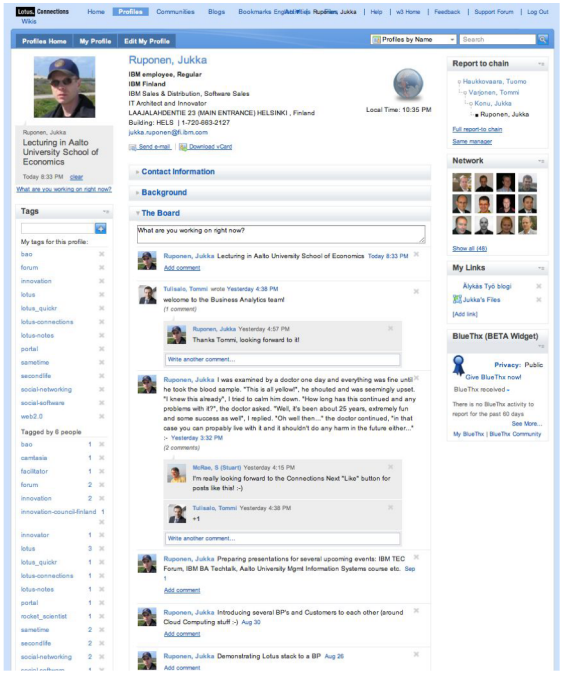
Newest trends in enterprise collaboration

The promise of social tools to improve collaboration in tasks

- Various enterprise social ("Enterprise 2.0") technologies offer valuable support for collaborative work:
  - *Wikis, (micro)blogs, tagging, ideation jams etc.*



- **Advanced company intranets** include capabilities that replicate directly the features of popular social tools such as Facebook and Twitter.

However,… "*We're in the very early stages of these collaborative suites transforming the nature of work*", claims Don Tapscott.

(in Kirkland, 2013)

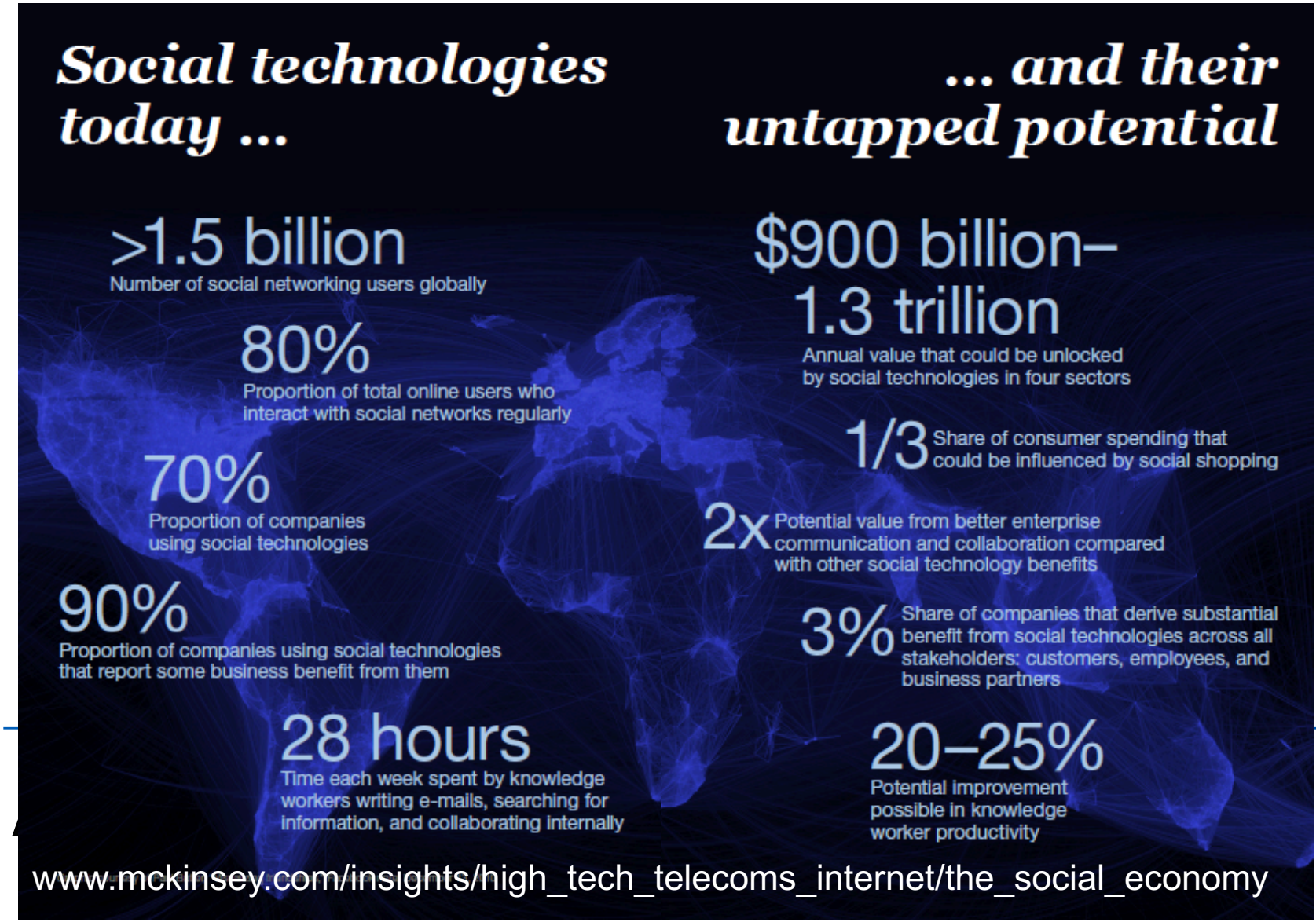
Jarrahi, H M. and Sawyer, S. (2013), "Social Technologies, Informal Knowledge Practices, and the Enterprise", *Journal of Organizational Computing and Electronic Commerce*, 23(1).

Kirkland, R. (2013), "Making internal collaboration work: An interview with Don Tapscott", *McKinsey Quarterly*, January.

Intranet screenshot example: IBM, © Jukka Ruponen, MIS lectures slides 2010

McKinsey's report on social technologies

*"Value can be reaped especially in **making meetings, document management and internal communications** more efficient and effective with proper social tool usage."*



Key challenges in CIS and social tool deployment

Despite their benefits, the **adoption and continued use** of collaborative and social technologies **is often challenged**:

① **Individuals are unwilling to give up their existing tools** and practices - even if they would be clearly inferior to the new ones (McAfee 2009).

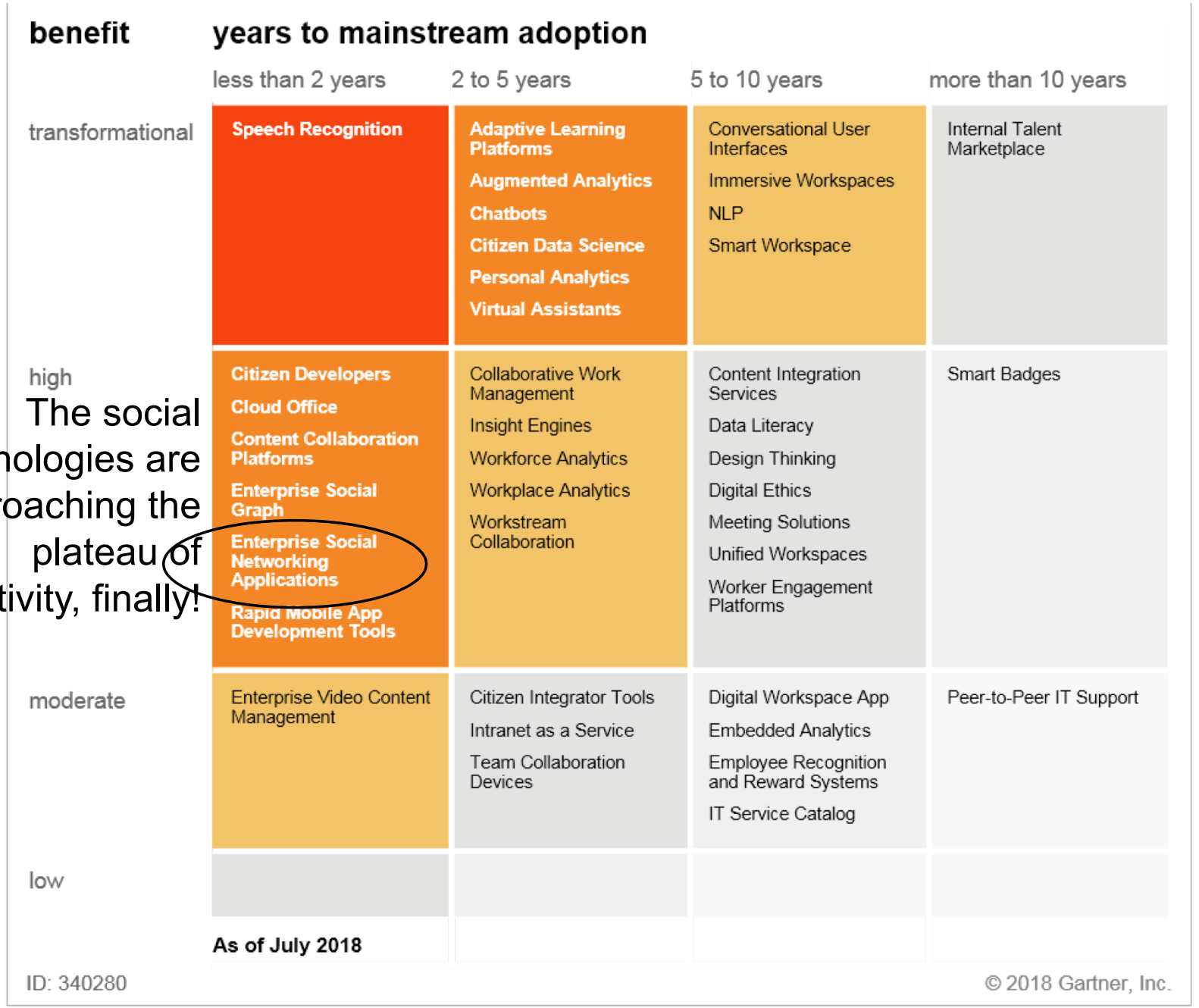
Especially e-mail is a stubbornly persisting tool in group work, although it is originally designed for one-to-one communication.

② **Collaborative tools are not integrated into day-to-day work activities, projects and processes** (Cortada et al. 2012; Briggs et al. 2003).

- Briggs, R.O., de Vreede, G.J., & Nunamaker, J.F. (2003). "Collaboration Engineering with ThinkLets to Pursue Sustained Success with Group Support Systems". *Journal of Management Information Systems*, 19(4), 31-64
- Cortada, J. W, Lesser, E. and Korsten, P. J. (2012), The business of social business. What works and how it's done. *IBM Global Business Services Executive Report*, IBM Institute for Business Value, November, 18 pp.
- McAfee, A. (2009), *Enterprise 2.0. New Collaborative Tools for Your Organization's Toughest Challenges*, Harvard Business Press, 231 pp.

Gartner's latest priority matrix for Digital workplace 2018

The social technologies are approaching the plateau of productivity, finally!



Example: tools currently used by a knowledge worker in a large ICT company

1-to-1: Skype for business, Email, Signal (mobile), WhatsApp (mobile)

1-to-10: MS Teams, Skype for business, Email, Signal (mobile), WhatsApp

1-to-50: Yammer, Email, Pidgin

1-to >100: Yammer, Email (it is encrypted, unlike instant messaging solutions)

Teleconferencing with shared screen: Skype for business

Shared documents/interface: MS Teams, OneDrive, SharePoint, + other document management systems

Collaboration, wiki: Atlassian Confluence, SharePoint

MIT Tech Review 2016

10 Breakthrough Technologies 2016

Which of today's emerging technologies have a chance at solving a big problem and opening up new opportunities? Here are our picks. The 10 on this list all had an impressive milestone in the past year or are on the verge of one. These are technologies you need to know about right now.

- Immune Engineering
- Precise Gene Editing in Plants
- Conversational Interfaces
- Reusable Rockets
- Robots That Teach Each Other
- DNA App Store
- SolarCity's Gigafactory
- Slack
- Tesla Autopilot
- Power from the Air

Slack

A service built for the era of mobile phones and short text messages is changing the workplace.

Availability: now

by Lee Gomes

https://www.technologyreview.com/s/600771/10-breakthrough-technologies-2016-slack/
http://www.zdnet.com/article/the-enterprise-technologies-to-watch-in-2016/
See also Codento's blog: http://codento.fi/2016/01/slackin-vaikutus-codento-kulttuuriin/

MIT Tech Review's 10 Breakthrough technologies 2019 as revealed yesterday on February 27 by Bill Gates

1. Robot dexterity—robot hands that can learn to manipulate unfamiliar objects on their own.
2. New-wave nuclear power—both fission and fusion reactor designs that could help bring down carbon emissions.
3. Predicting preemies—a simple blood test to warn of a preterm birth, potentially saving many children's lives.
4. Gut probe in a pill—a swallowable device that can image the digestive tract and even perform biopsies.
5. Custom cancer vaccines—a treatment that uses the body's own immune system to target only tumor cells.
6. The cow-free burger—both plant-based and lab-grown meat alternatives that could drastically cut emissions from the food industry.
7. Carbon dioxide catcher—techniques for absorbing CO_2 from the air and locking it away that may finally become economic.
8. An ECG on your wrist—the ability for people with heart conditions to continuously monitor their health and get early warnings of problems.
9. Sanitation without sewers—a self-contained toilet that could tackle disease and unpleasant living conditions in much of the developing world.
10. Smooth-talking AI assistants—new advances in natural language processing that make digital assistants capable of greater autonomy.

https://www.forbes.com/sites/bernardmarr/2019/02/27/bill-gates-reveals-the-10-breakthrough-technologies-that-will-change-the-world-in-2019

Research streams in collaboration

Table 1 Subfields in research about supporting collaboration

CSCW	CE	Social Computing
Small groups	Medium sized and large work groups	(Very large) (non-work) groups and communities
Collaborative work processes should emerge on the fly	Collaborative work processes can be designed to optimize desired outcomes	Work processes on this scale are not yet well understood
Learn about how people use available technology to support their collaborative work processes	Develop patterns, theories, and methodologies for designing technology-supported collaborative work practices	Learn about social processes that emerge in Social Computing, and how they are similar to or different from processes in other media
Focus on openness of work process – one must overcome structure by using/designing collaborative technologies	Focus on structure of work process – one can work with practitioners to design effective, efficient, satisfying collaborative work processes and to design technology to support them	Focus on community – people find benefit in associations with friends, family, and affinity groups

CSCW = Computer-Supported Collaborative Work (from CHI or HCI area, Computer-Human Interaction)
CE= Collaboration Engineering (from ISS area)

Koch, Schwabe and Briggs (2015), "CSCW and Social Computing. The Past and the Future", *Business & Information Systems Engineering,* 57(3), Editorial. http://www.kooperationssysteme.de/wp-content/cache/mendeley-file-cache/a1ed7b06-855d-362b-a9a1-2b8b40210681.pdf

Potential research issues in adopting collaboration 2.0 tools

1. Technical
   - Integrating social software with existing platforms
   - Identifying different tools to support different phases of group decision
   - Reengineering group processes to allow easy use of 2.0 tools
   - Developing friendly user interface for ease of use
   - Assuring the quality of inputs, decision process, and decision outcome
2. Organizational
   - Reducing employee resistance to change
   - Assessing organizational impacts
   - Fostering collaboration 2.0 culture
   - Developing change management plans
   - Implementing group decisions made by virtual teams
   - Evaluating the role of leadership and senior management support
3. Managerial
   - Identifying critical success factors for using Collaboration 2.0 tools
   - Selecting useful tools for different activities in group decision making
   - Allocating resources for implementation
   - Providing incentives and building trusts in collaborative decision making
   - Developing policies for security and privacy protection
   - Assessing employee readiness for such a new technology
   - Managing the misuse of time and computing resources in virtual teams
4. Economical
   - Evaluating the cost/benefit of the technology and risk management
   - Assessing the value of using collaboration 2.0 tools in group decisions
   - Measuring the quality of decision outcomes

Turban, Liang and Wu (2011), "A Framework for Adopting Collaboration 2.0 Tools for Virtual Group Decision Making" *Group Decision and Negotiation,* Vol. 20, 137-154.

“Leaky pipe” of tacit knowledge

“Social media may be useful for knowledge sharing because they are leaky pipes for communication” (Leonardi, 2017)

”Keskustelujen laajentuminen organisaation sisäiseen sosiaaliseen mediaan avaa viestien sisällön suuremmalle joukolle organisaatiossa. Tiedon leviämisen yhteydessä organisaation sisäistä sosiaalista mediaa on verrattu vuotavaan putkeen (Leonardi ym., 2013; Leonardi, 2017). ***Vuotavan putken keskeinen ajatus on, että viestien sisältö on näkyvää myös niille, jotka ainoastaan seuraavat muiden keskusteluja ja voivat oppia näistä keskusteluista****. Siten tieto siis vuotaa, ja on väitetty, että tieto on vuotavampaa kuin koskaan (Kane, 2015) ja epävirallisen tiedon merkitys kasvaa.*

Organisaation sisäinen sosiaalinen media on tullut jäädäkseen, ja sen on väitetty olevan organisaatioiden toiminnan keskiössä (Leonardi & Vaast, 2017). Organisaation ***sisäisen sosiaalisen median kehittymisellä on ollut lyhyen olemassaolonsa aikana monia vaiheita****; tiedonjakaminen siirtyi ensin pilvipalveluihin, sieltä mobiiliapplikaatioihin ja on ehdotettu, että seuraavassa vaiheessa organisaatiot alkavat analysoida käyttäjien luomaa sisältöä, jonka avulla voidaan optimoida yhteistyötä (Kane, 2017).”*

Leonardi, P. M. (2017). The social media revolution: Sharing and learning in the age of leaky knowledge. *Information and Organization*, 27(1), 47-59

Kupiainen & Leppälä (2017), Organisaation sisäinen sosiaalinen media – ammatillista Instagram-poseerausta vai aitoa yhteistyötä, *Työn tuuli*, https://www.henry.fi/media/ajankohtaista/tyon-tuuli/tyontuuli_022017-002.pdf#page=17

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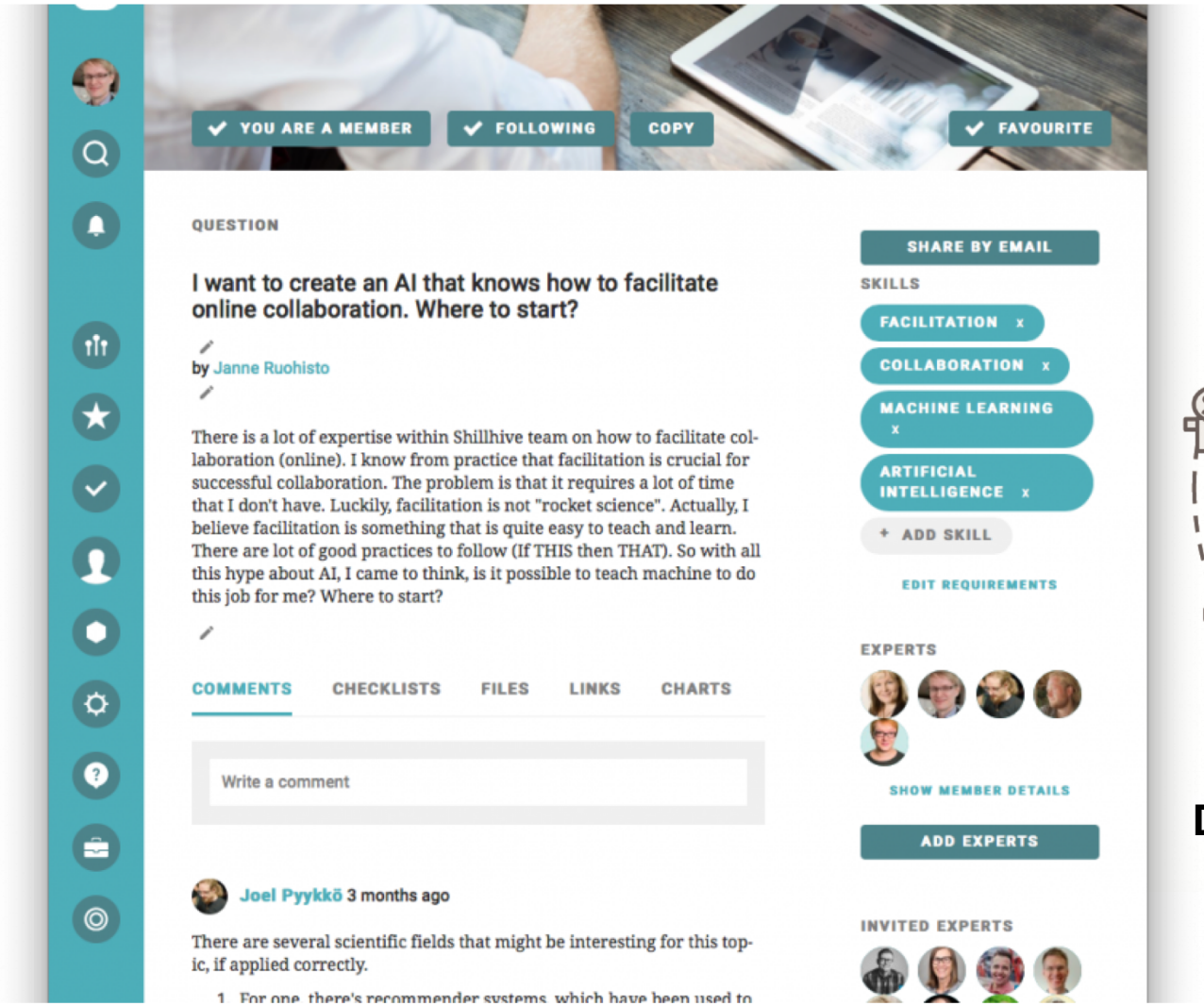
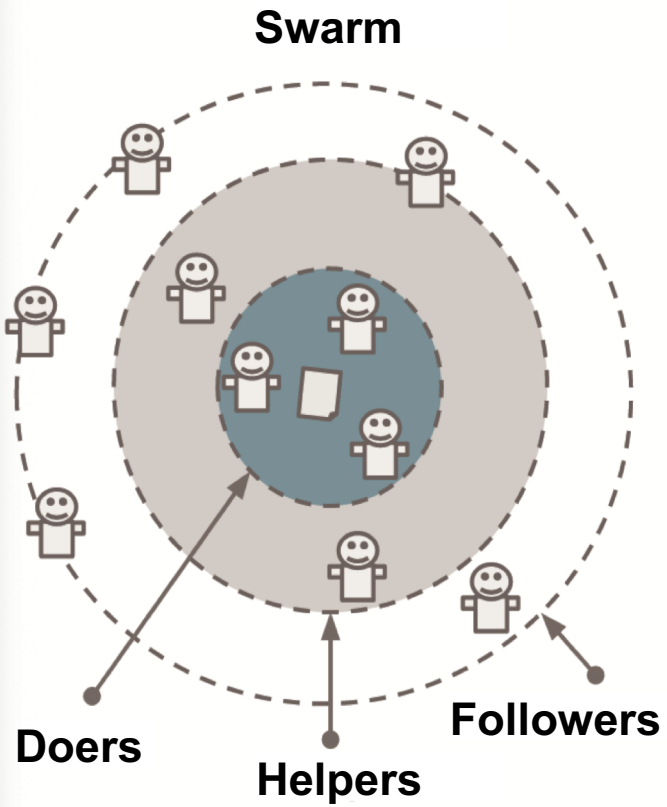
Three Finnish collaboration platforms to check

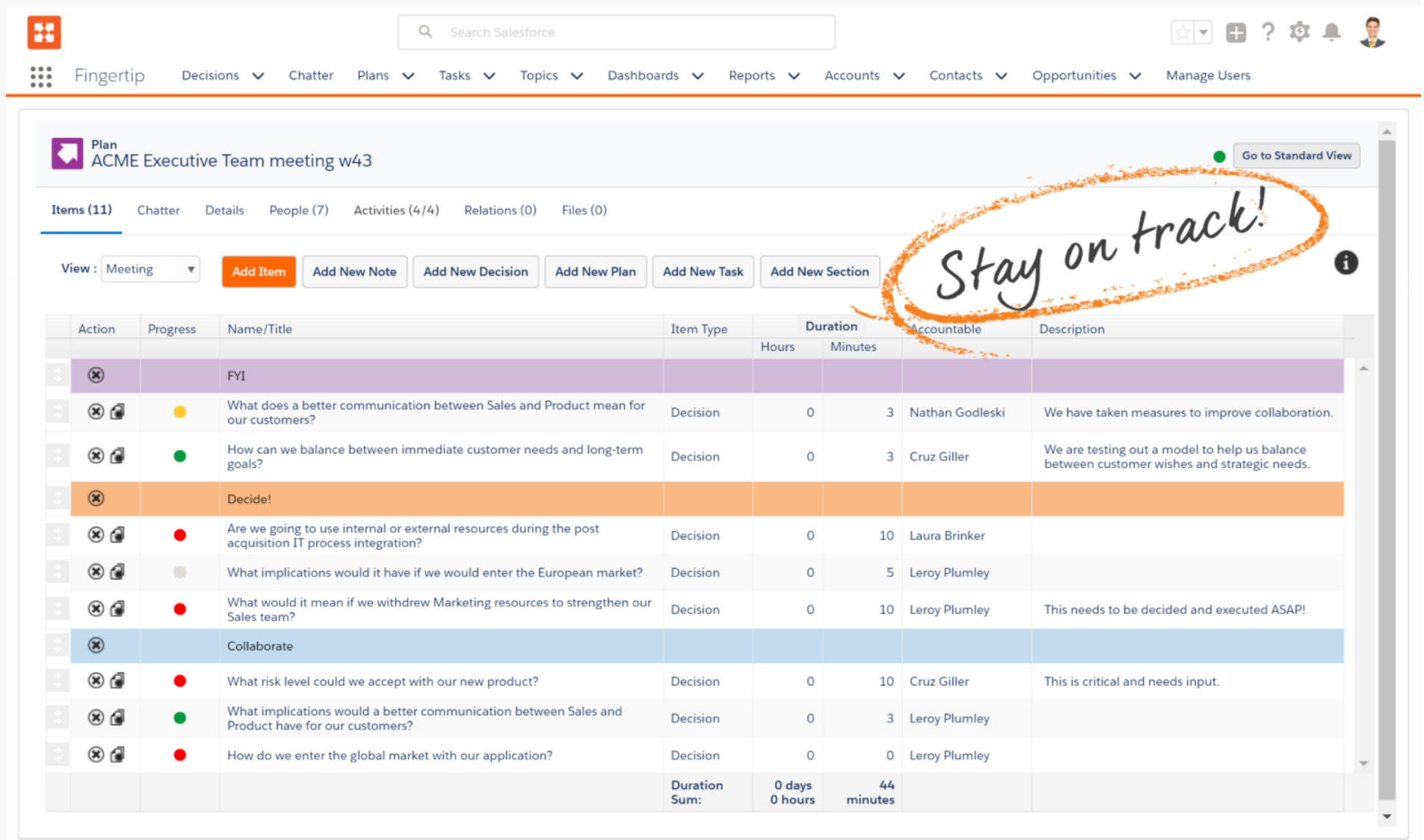
Skillhive for swarm intelligence





https://www.skillhive.com, Finalist in SITRA's Ratkaisu 100 competition 2017
See also Kosonen & Ruohisto 2017 https://www.henry.fi/media/ajankohtaista/tyontuuli/tyontuuli_022017-002.pdf#page=26

Fingertip for social decision making



Action	Progress	Name/Title	Item Type	Duration Hours	Duration Minutes	Accountable	Description
		FYI					
		What does a better communication between Sales and Product mean for our customers?	Decision	0	3	Nathan Godleski	We have taken measures to improve collaboration.
		How can we balance between immediate customer needs and long-term goals?	Decision	0	3	Cruz Giller	We are testing out a model to help us balance between customer wishes and strategic needs.
		Decide!					
		Are we going to use internal or external resources during the post acquisition IT process integration?	Decision	0	10	Laura Brinker	
		What implications would it have if we would enter the European market?	Decision	0	5	Leroy Plumley	
		What would it mean if we withdrew Marketing resources to strengthen our Sales team?	Decision	0	10	Leroy Plumley	This needs to be decided and executed ASAP!
		Collaborate					
		What risk level could we accept with our new product?	Decision	0	10	Cruz Giller	This is critical and needs input.
		What implications would a better communication between Sales and Product have for our customers?	Decision	0	3	Leroy Plumley	
		How do we enter the global market with our application?	Decision	0	0	Leroy Plumley	
			Duration Sum:	0 days 0 hours	44 minutes		

http://www.fingertip.org/fingertip/use_cases/#execmeetings
https://www.itewiki.fi/blog/2019/01/ovatko-tassa-suomen-parhaat-startupit-esittelyssa-26-lupaavaa-kasvuyritysta/ Picked as one of a promising startup at Slush 2018 by Itewiki
https://youtu.be/7NAsFwM5-Sc

Altogame: anonymous and gamified simulation

Lateral Gallery

Agile Avenue

Aalto University

Novel way for people to innovate and collaborate:
https://www.youtube.com/watch?v=M002I0Ey4P4
Lateral gallery tutorial: https://www.youtube.com/watch?v=-wLD3n6gZHQ
Agile avenue tutorial: https://www.youtube.com/watch?v=gw8jUr0mC18

Aalto University

Will gamification spur collaboration at work?

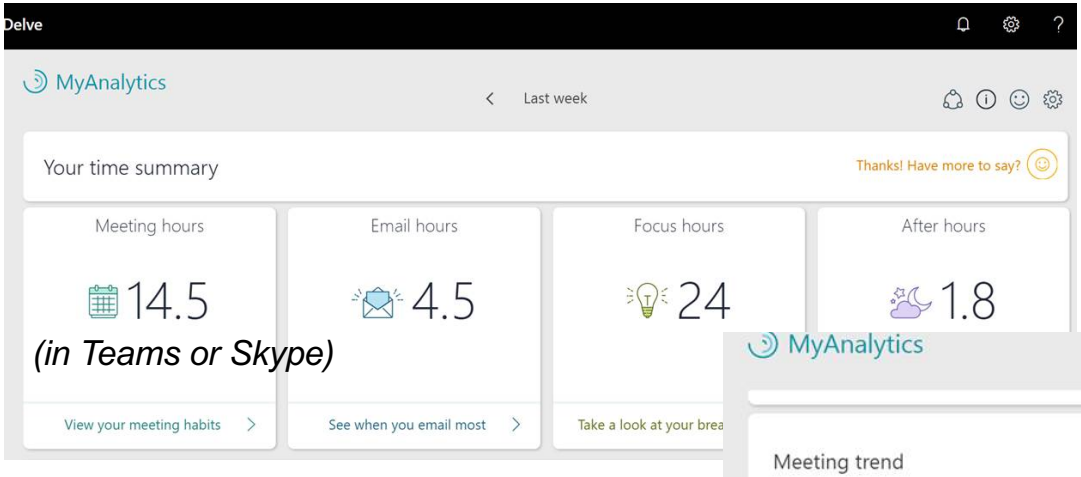
Gamification in collaborative work:
Applying game-like features to increase employee motivation and spur collaboration

http://sometek.fi/pelillistaminen-ja-tyo-voiko-ihminen-muuttua/

Example: improving the finding of documents

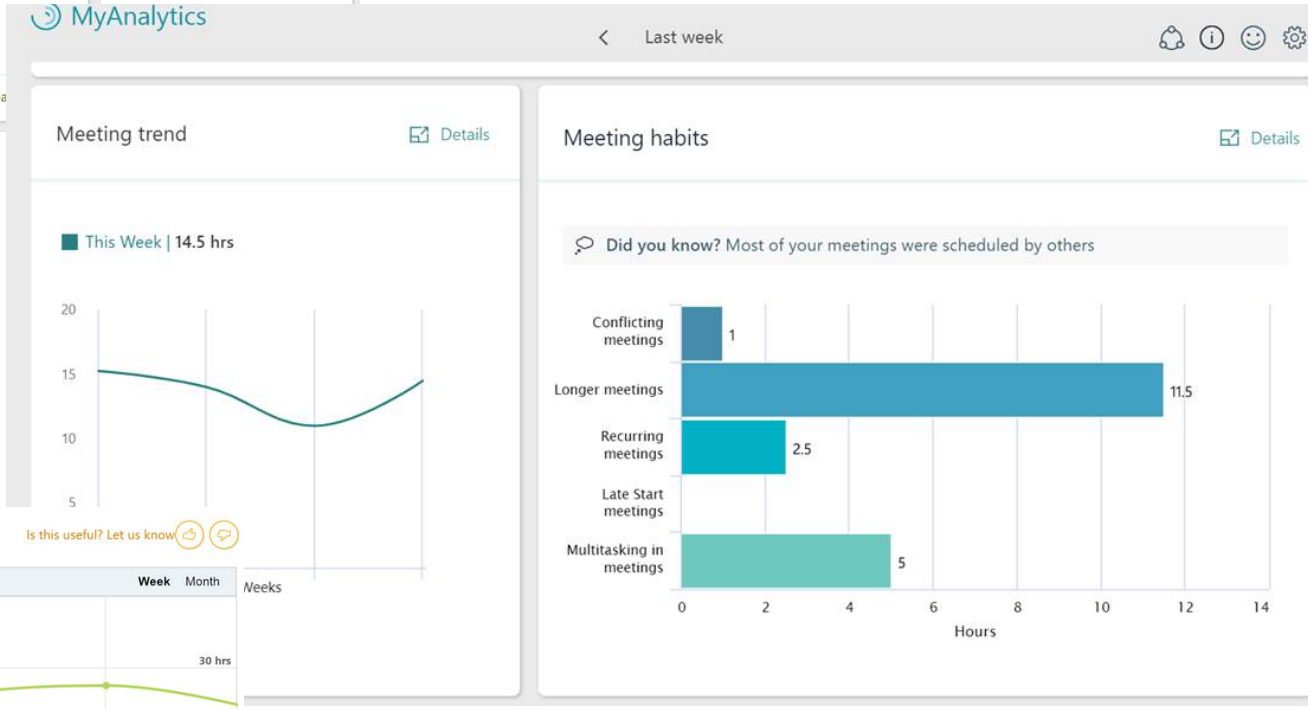
http://www.sulava.com/palvelut/tietotyon-tuottavuuden-mittaaminen/tyon-pelillistamisen-pilotti/

Gamification example from an ICT consultant/project manager



(in Teams or Skype)

With MS Office Delve's *MyAnalytics* the consultant can find out more and develop her own working habits. E.g. with whom she works the most or for which client she uses the most hours, etc.



In MS Office Delve, employees could also use the **praise** feature to recognize their co-workers for good work.
https://searchcontentmanagement.techtarget.com/definition/Microsoft-Delve

Examples of game mechanics

Game Technique	Description	Use When ...
Points	A visible metric that associates value with an action	Rewarding an action that supports a business goal; providing immediate feedback; measuring progress
Levels and achievements	A cohesive series of positions, milestones or point thresholds; badges	Encouraging participation and continued mastery/learning; creating process visibility
Challenges and competitions	Events or tasks one must complete to reach individual or group goals	Driving participants to achieve a specific outcome while improving efficiency/ effectiveness
Leaderboards	List how participants rank against each other	Promoting continuous improvement opportunities; sharing best practices

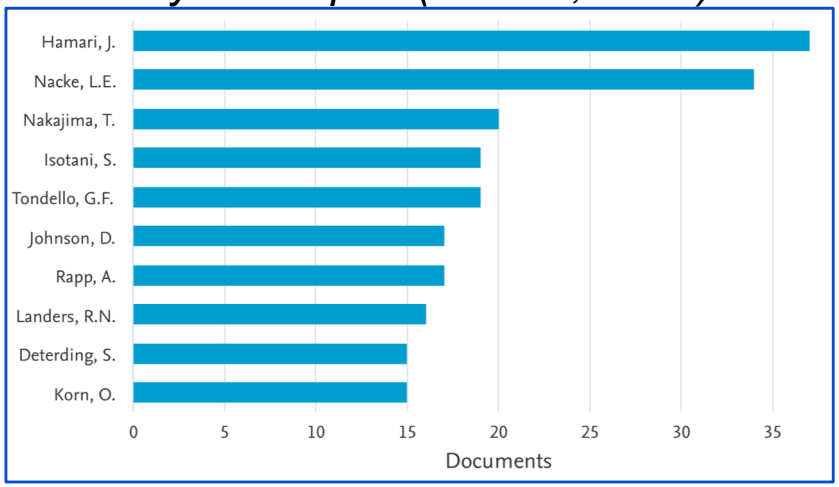
Source: Gartner (August 2012)

Searle, S. et al. (2015), “Use Gamification to Improve Sales Performance by Motivating Middle Performers”, Gartner Research Report, September 30, 2015.

Academic articles on gamification

http://juhohamari.com

*Juho Hamari holds a PhD from Information Systems Science at Aalto BIZ, and is **Nr. 1** researcher on gamification currently in Scopus (Feb 28, 2019)*



Recommended MOOC at Coursera

By Wharton professor Kevin Werbach

https://www.coursera.org/learn/gamification

http://werbach.com

HAMARI, J.

RESEARCHER & DOCTORAL (ECON.) CANDIDATE

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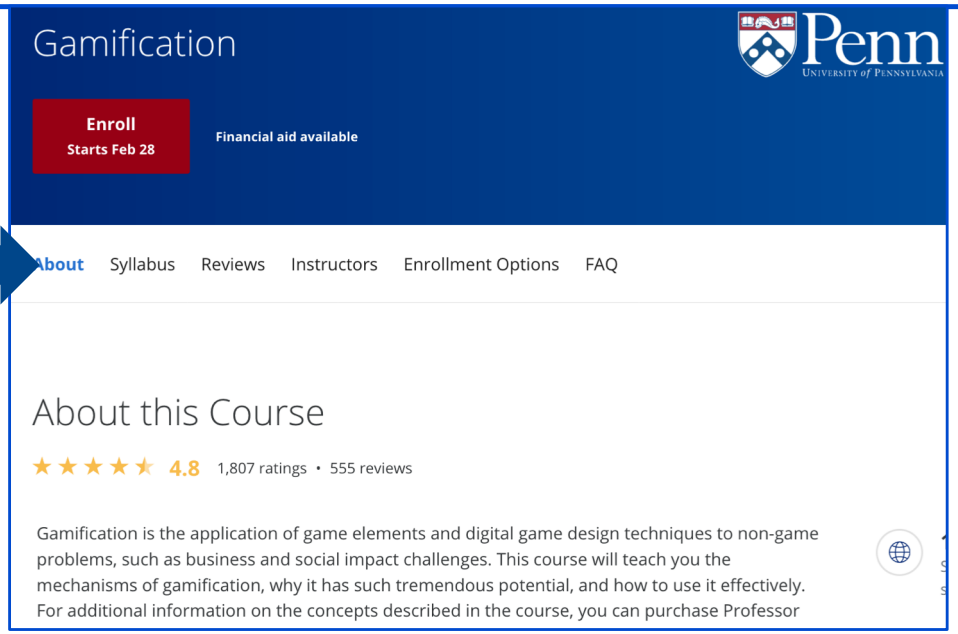
16TH SEP 2013 | 4 NOTES

DOES GAMIFICATION WORK? - A LOOK INTO RESEARCH

Understanding gamification and its effectiveness beyond anecdotal evidence and hype is evidently a pertinent practical issue as well as, increasingly, a scholarly pursuit. Regardless of the increasing amount of both industry chatter and scholarly articles, there still is a dearth of coherent understanding whether gamification works and under which circumstances.



Gamification

Penn
University of Pennsylvania

Enroll
Starts Feb 28

Financial aid available

About Syllabus Reviews Instructors Enrollment Options FAQ

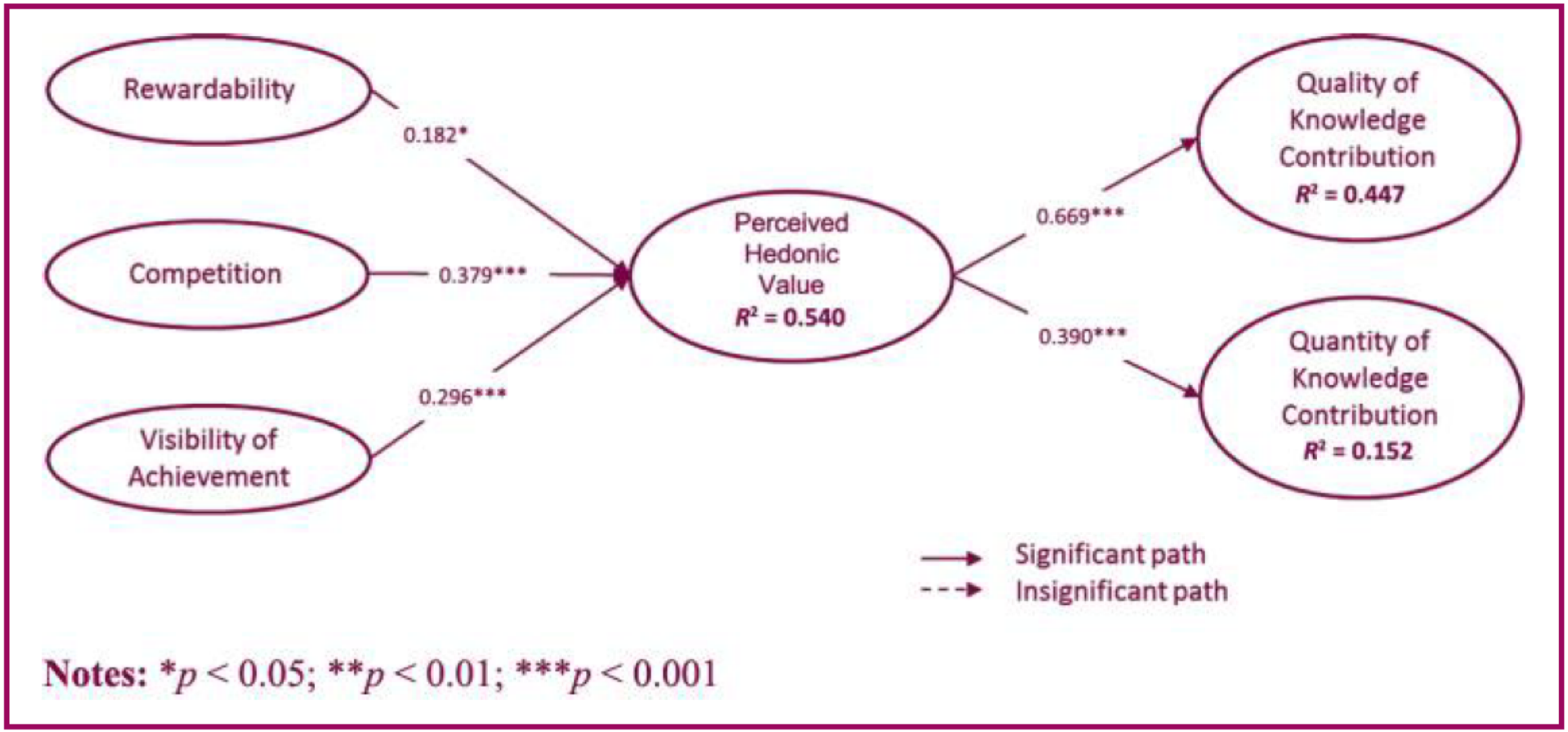
About this Course

4.8 1,807 ratings • 555 reviews

Gamification is the application of game elements and digital game design techniques to non-game problems, such as business and social impact challenges. This course will teach you the mechanisms of gamification, why it has such tremendous potential, and how to use it effectively. For additional information on the concepts described in the course, you can purchase Professor

Recent research on gamification in enterprise collaboration

Figure 4 The structural model



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Suh, A. and Wagner, C. (2017) "How gamification of an enterprise collaboration system increases knowledge contribution: an affordance approach", *Journal of Knowledge Management*, Vol. 21 Issue: 2, pp.416-431.

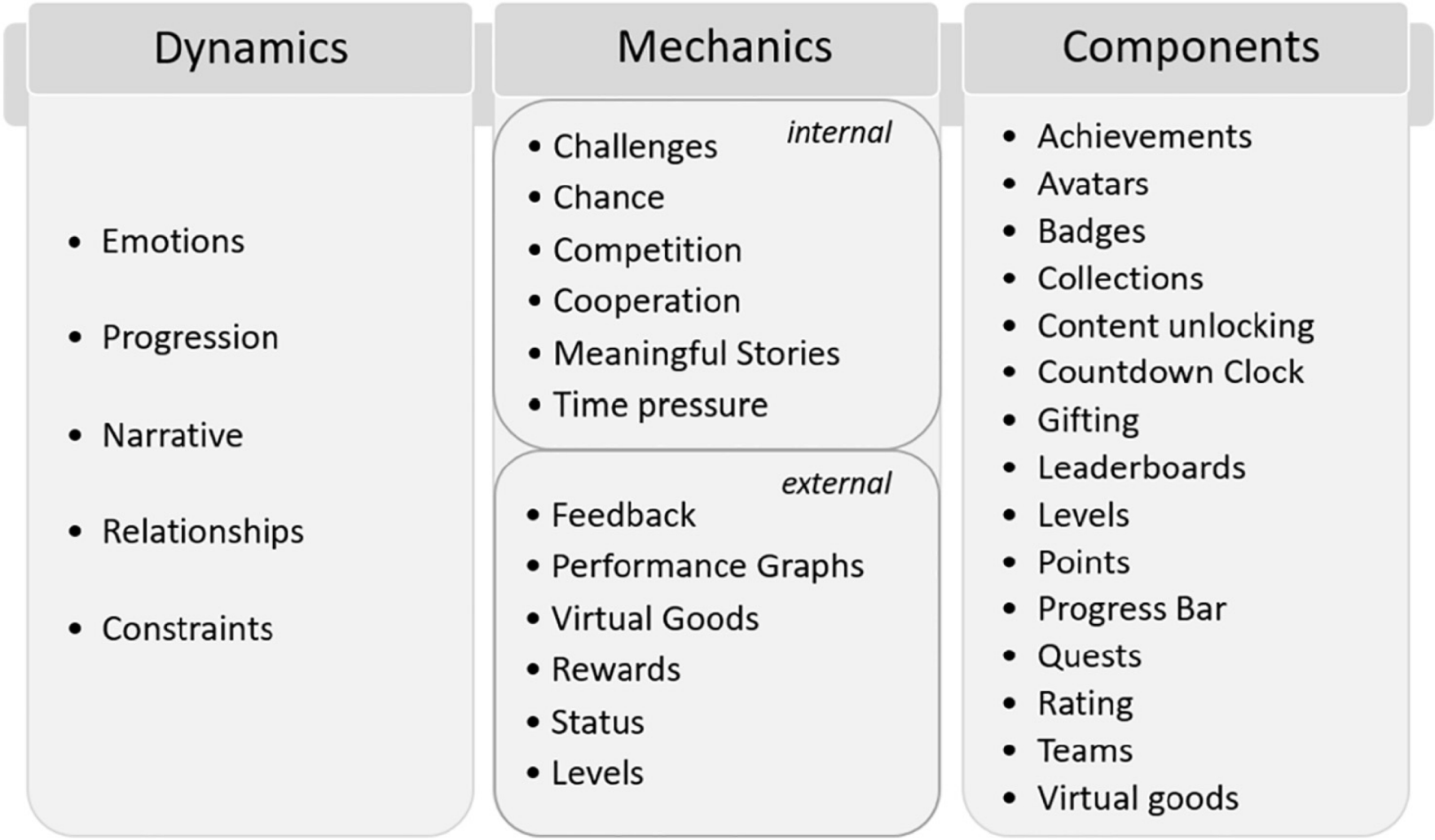
Table II Survey items

Construct	*Measurement items*
Rewardability	The ECS[a] offers me the possibility to:
	make my knowledge contribution rewarded
	get rewards for my knowledge contribution
	get more rewards if I try harder
Competition	The ECS offers me the possibility to:
	compete with others
	compare my performance with that of others
	threaten the status of others by my active participation
Visibility of achievement	The ECS offers me the possibility to:
	show my achievement to other colleagues
	make visible my performance in contributing knowledge
	make it visible to what extent I have contributed my knowledge
Hedonic value	I have fun interacting with the ECS
	Using the ECS provides me with a lot of enjoyment
	I enjoy using the ECS
Quality of contribution	The knowledge that I post is reliable
	The knowledge that I post is relevant to the topics
	I contribute to the development of my team
Quantity of contribution	On average, how many writings and commentaries do you post through the ECS per week?
	On average, how many replies do you post through the ECS?

Note: [a]The name of the ECS was specified in the questionnaire. The respondents were asked to keep the system in mind when they fill out the questionnaire

Suh, A. and Wagner, C. (2017) "How gamification of an enterprise collaboration system increases knowledge contribution: an affordance approach", *Journal of Knowledge Management*, Vol. 21 Issue: 2, pp.416-431.

Aspects of gamification



Friedrich et al. (2019), "Incentive design and gamification for knowledge management", *Journal of Business Research*, online first Feb 20, 2019.

Gamification mechanics addressing knowledge sharing motivation

Motivation for KS	Gamification mechanism
Altruism/helping others	Feedback
Contribute to the company success	Feedback, performance graphs
Fun/enjoyment of KS	Challenge, feedback, competition
Self-efficacy/visibility of achievements	Feedback, performance graphs
Reciprocity	Feedback, rewards
Fellowship/participation	Feedback, status
Reputation	Feedback, status, rewards
Signaling competence	Performance graphs, status
Recognition	Feedback, rewards, status
Conformity/following norms and orders	/
External rewards	Rewards

Friedrich et al. (2019), "Incentive design and gamification for knowledge management", *Journal of Business Research*, online first Feb 20, 2019.

Game components realizing gamification mechanics

Game mechanics	Incentive implementation in KMS
Challenge	Badge collection, team quests
Competition	Contributor ranking, knowledge quiz, team quests
Feedback	Content rating, contributor ranking, qualitative badges, peer-to-peer rewards, team chat
Performance graphs	Badge collection, contributor ranking, points for contribution, quantitative badges
Rewards	Qualitative badges, quantitative badges, peer-to-peer rewards, points for contribution
Status	Contributor ranking, content responsibilities, content unlocking, knowledge status

Friedrich et al. (2019), “Incentive design and gamification for knowledge management”, *Journal of Business Research*, online first Feb 20, 2019.

Homework assignment 7 (4 pts)

Enter one of the three identical Stormboards that have been set up for the assignment for online brainstorming & voting (ideation phase: February 28 – March 6, voting March 7-10). See details from the instructions.

As there are 130 students, there are 3 Stormboards in order to reduce information overload (with ca. 40 participants in each).

Topic: Improving students' learning

What measures could be taken to improve the students' learning?

The measures may originate from the students themselves, teachers, the university, or from some other party.

The reports from these brainstorming sessions will be forwarded to BIZ management, Aalto's Success of Students workgroup and Dynamic Feedback System researchers.

Stormboard canvas for the assignment

(see the WEB LINK in instructions based on your family name, the template for the three Stormboards is identical in both, colours may vary)