HIMSS Nordic eHealth Exchange

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The Impact of Clinical Leadership on Health IT Adoption: Systematic review

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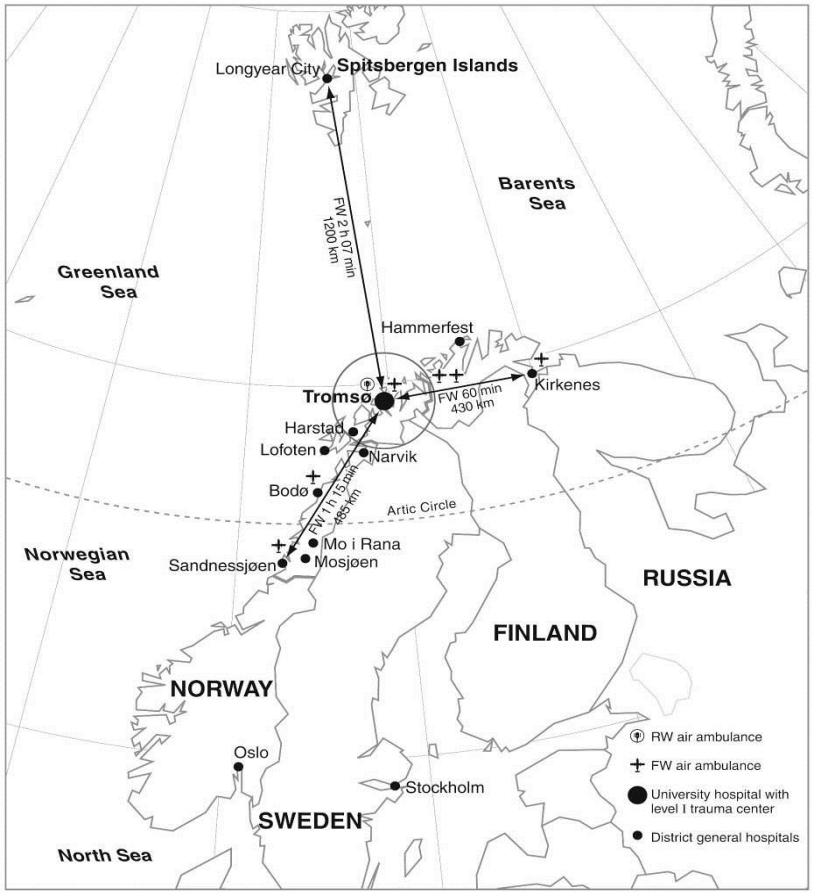


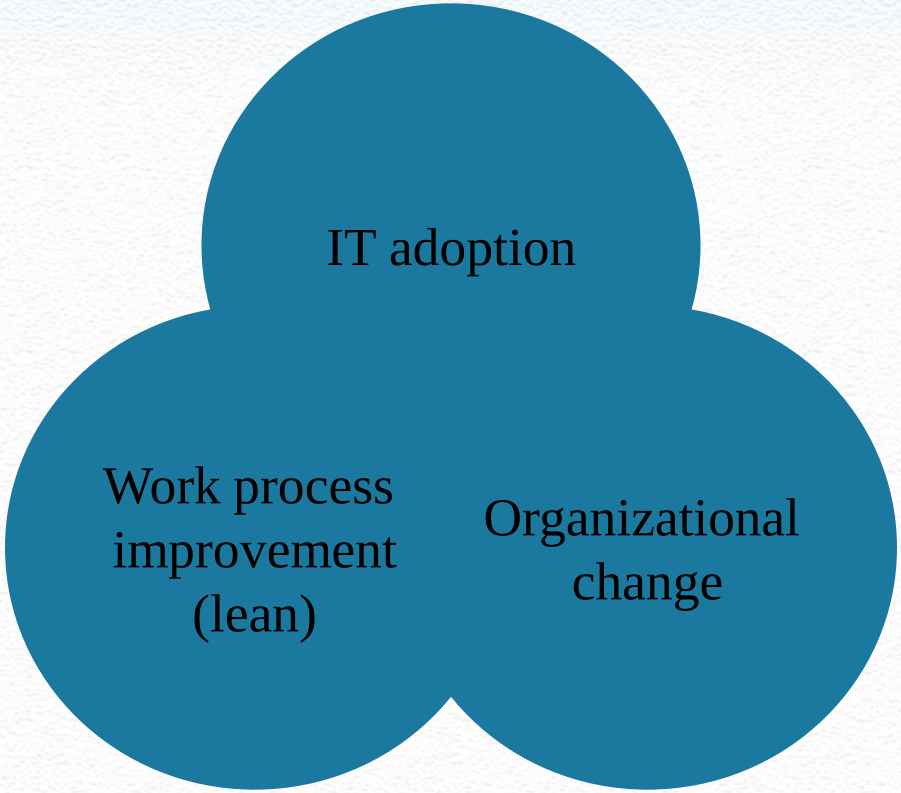
- 11 hospitals
- 16 psychiatric institutions
- 10 FW aircraft
- 2 helicopters
- 130 road ambulances
- 15 boat ambulances

The mission

- More value to patients by increasing quality and patient safety, and reducing costs

$$\text{Value} = \frac{\text{Health gain}}{\text{Resource deployment}}$$

Performance improvement



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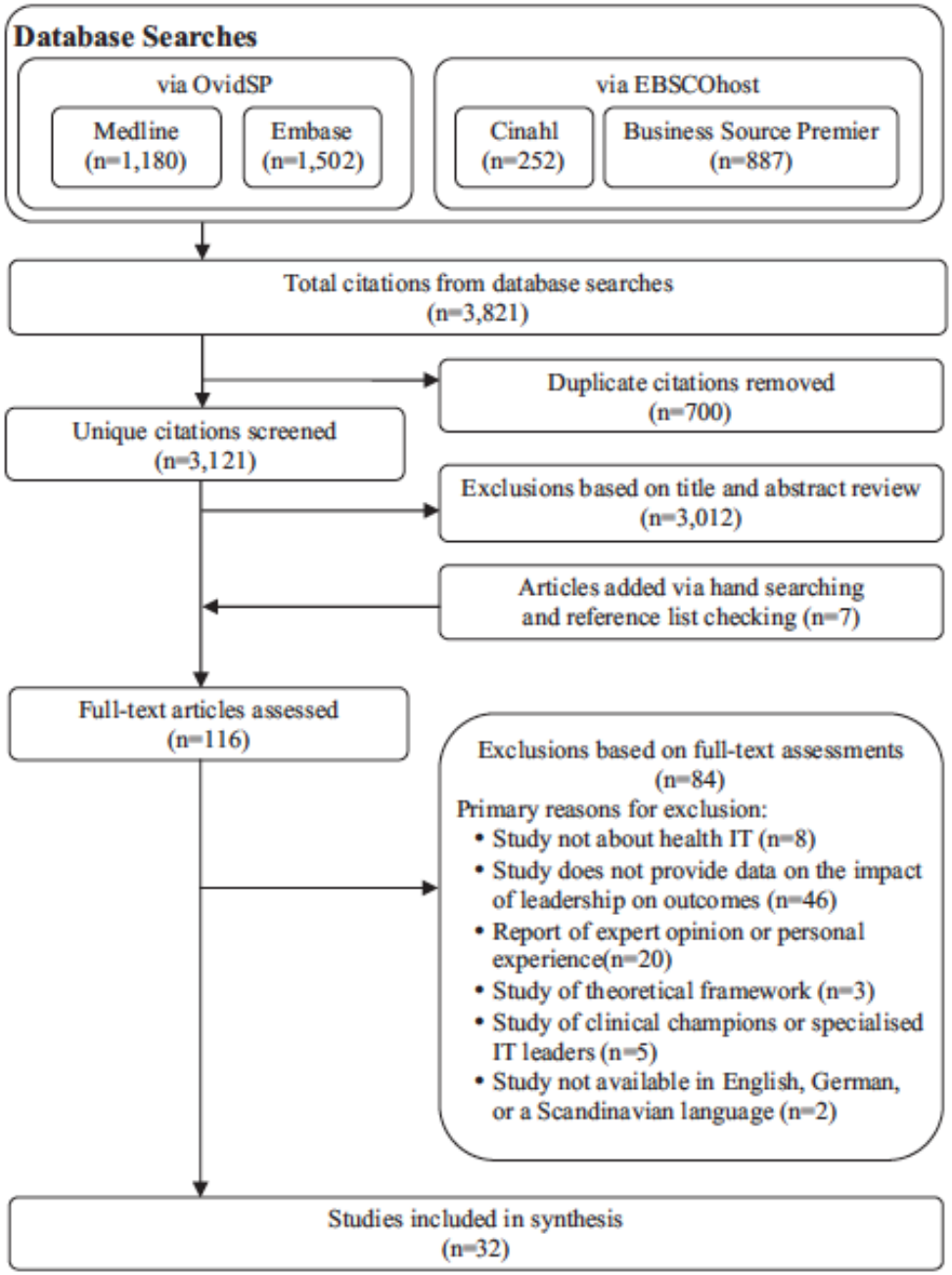
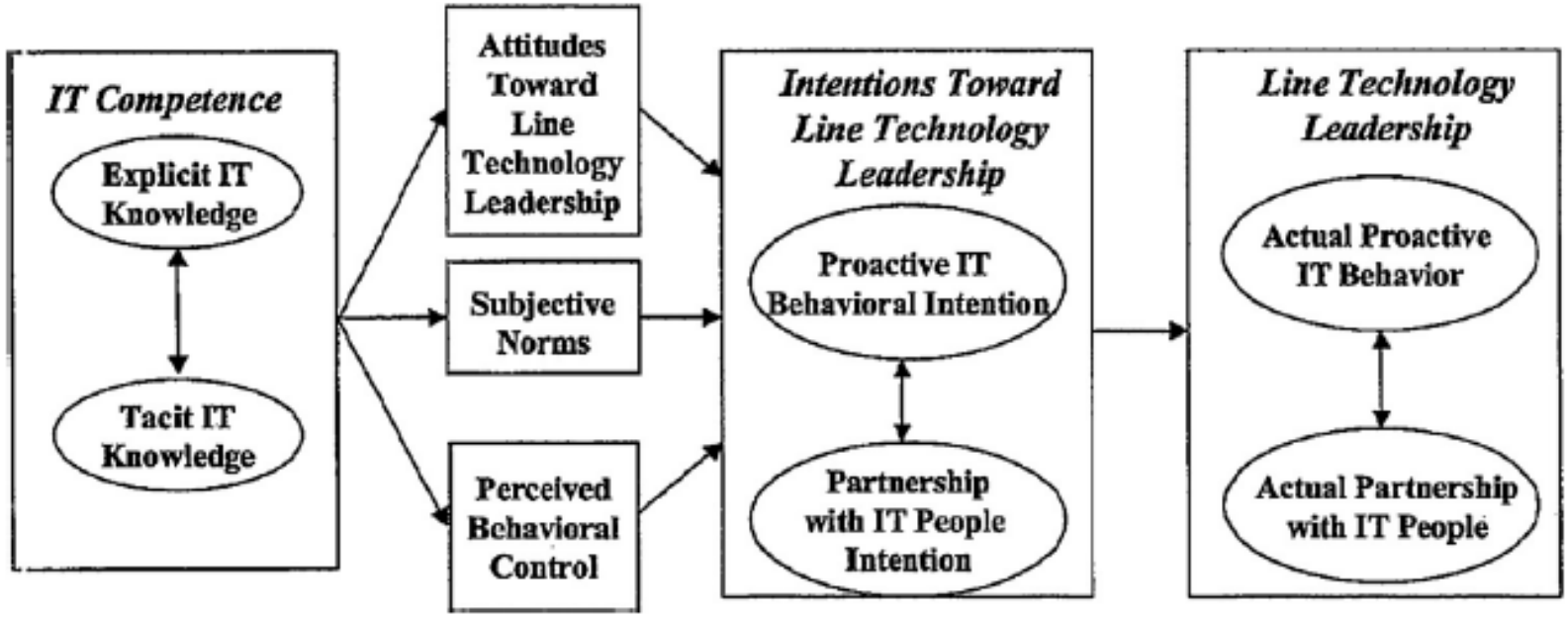
Aim of the study

- To examine evidence of associations between clinical attributes and behaviors of clinical leaders, and successful IT adoption (organizational and patient outcomes)
  - Clinical leaders
    - Those responsible at any organizational level that delivers care, e.g. leaders in frontline clinical units, department and division directors and CEOs


Database Searches
via OvidSP
Medline (n=1,180)
Embase (n=1,502)
via EBSCOhost
Cinahl (n=252)
Business Source Premier (n=887)
Total citations from database searches (n=3,821)
Duplicate citations removed (n=700)
Unique citations screened (n=3,121)
Exclusions based on title and abstract review (n=3,012)
Articles added via hand searching and reference list checking (n=7)
Full-text articles assessed (n=116)
Exclusions based on full-text assessments (n=84)
Primary reasons for exclusion:
• Study not about health IT (n=8)
• Study does not provide data on the impact of leadership on outcomes (n=46)
• Report of expert opinion or personal experience(n=20)
• Study of theoretical framework (n=3)
• Study of clinical champions or specialised IT leaders (n=5)
• Study not available in English, German, or a Scandinavian language (n=2)
Studies included in synthesis (n=32)

IT Competence Framework



ellier et al.'s [24] IT competence framework.
ith permission from Bassellier et al., Information Technology Competence of Business Managers:
h Model, pp.175. Copyright 2001.

Health IT adoption framework

	Investment	Implementation	Use
Strategic Level	§ Alignment with organiz-ation's strategic vision	§ Alignment with organiz-ational model for care delivery	§ Learning strategy for the use of knowledge and information made available § Cultural reform to provide "psychological safety"
Operational Level	§ Expectations regarding the organization's capacity for change § Expectations regarding managerial instrumentality over organizational/work-flow changes	§ Employee involvement §Devolution of authority §Organizational learning ca-pacity	§ Creation and maintenance of an innovative, "mutual gains" employment contract § Managerial practices that in-centivize and promote broad health IT use and ongoing learn-ing
Frontline Level	§ Skills and abilities to use the technology § Staffing adequacy § Existence of appropriate work structures	§ Perceived preparedness for technological change § Perceived employment and wage security	§ Maintenance of skill levels § Continued trust in employee in-volvement mechanisms § Promoting point-of-contact learning and feedback

Fig. 2 – Avgar et al.'s [25] Health IT adoption framework
Reprinted with permission from Avgar et al., Drivers and Barriers in Health IT Adoption: A Proposed Framework, pp.498. Copyright 2012.

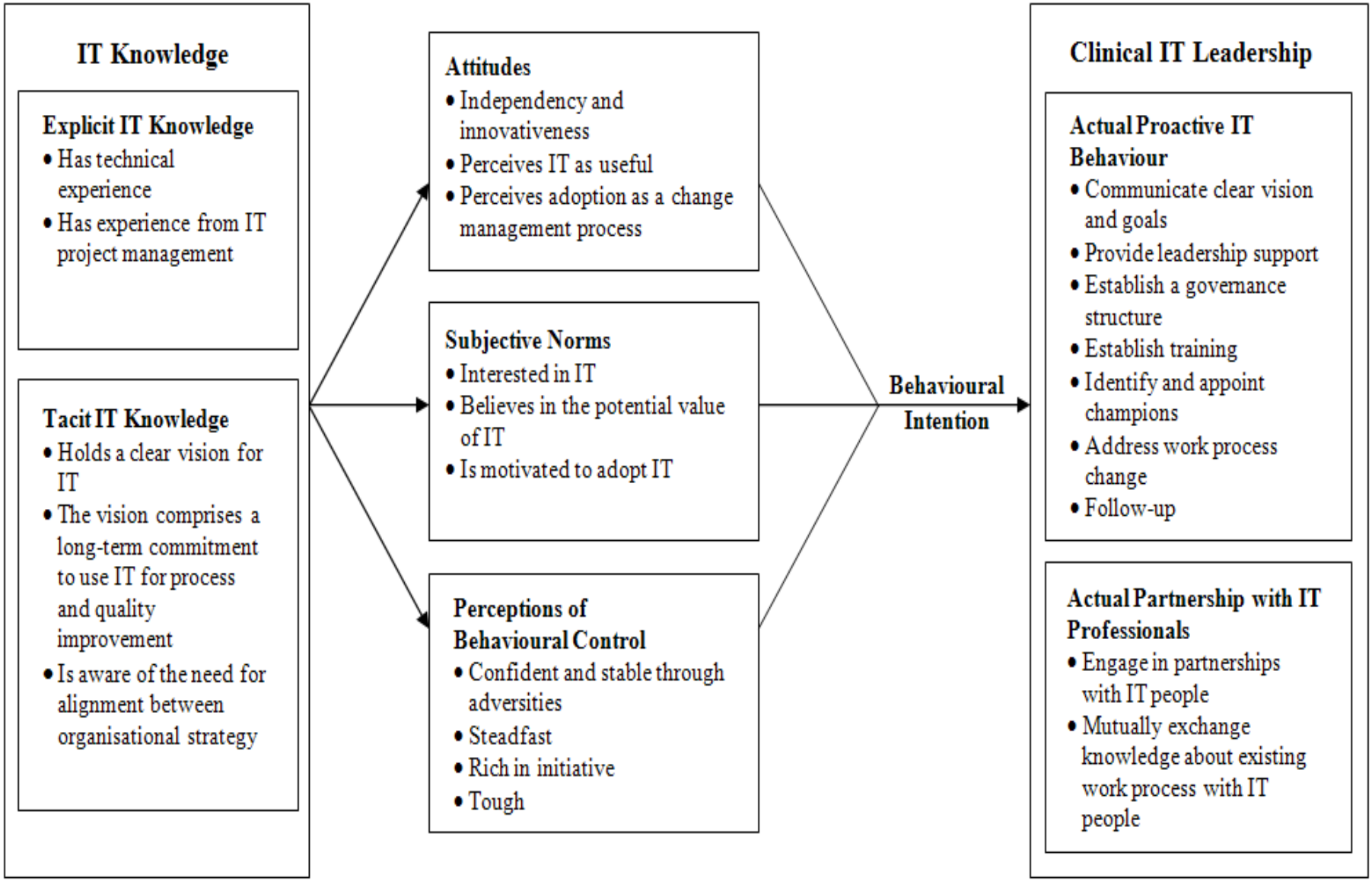

IT Knowledge
Explicit IT Knowledge
• Has technical experience
• Has experience from IT project management
Tacit IT Knowledge
• Holds a clear vision for IT
• The vision comprises a long-term commitment to use IT for process and quality improvement
• Is aware of the need for alignment between organisational strategy
Attitudes
• Independency and innovativeness
• Perceives IT as useful
• Perceives adoption as a change management process
Subjective Norms
• Interested in IT
• Believes in the potential value of IT
• Is motivated to adopt IT
Perceptions of Behavioural Control
• Confident and stable through adversities
• Steadfast
• Rich in initiative
• Tough
Behavioural Intention
Clinical IT Leadership
Actual Proactive IT Behaviour
• Communicate clear vision and goals
• Provide leadership support
• Establish a governance structure
• Establish training
• Identify and appoint champions
• Address work process change
• Follow-up
Actual Partnership with IT Professionals
• Engage in partnerships with IT people
• Mutually exchange knowledge about existing work process with IT people

Table 2 – The association of successful outcomes with different organisational levels of IT leadership behaviours.

Organisational leadership level	Adoption phase		
	Investment phase	Implementation phase	Use phase
Strategic level	• Align the IT design with the organisational configuration [38] • Communicate a clear vision about a long-term commitment to process and quality improvement [53]	• Provide strong leadership support by giving the adoption clear priority [45] • Make the top management team jointly responsible [53] • Communicate realistic expectations [53] • Confirm commitment and focus stakeholder cooperation to re-establish trust if a crisis develops [49]	
Operational level	• Communicate a clear vision [47,63]	• Engage in training [37]	• Continue engagement in training [37] • Engage in system evolution [63]
Frontline level	• Communicate a clear vision [46,47,50] • Communicate externally initiated adoptions as aligned with a local vision about benefits for patients and quality [59]	• Provide leadership support [50,59] • Focus on individual users cognitive absorption of the change [38] • Encourage learning [50] • Spend time with the implementation team, and attend team meetings [50]	• Continue engaged leadership support [39,46,50] • Provide feedback on team and practitioner level through performance data [46,50]

Conclusions

- Clinical leaders who have IT skills and experience with IT project management are likely to develop a vision that comprises a long term commitment to use IT for process and quality improvement
- Such leaders believe in the value of IT, become motivated to adopt it, and develop perceptions of behavioral control that make them confident and steadfast through the adversities that IT adoption often entail
- This leads to the proactive behaviors and partnerships associated with successful outcomes

Implications

- IT adoption and implementation cannot be left to vendors or IT departments
- Recruitment of new leaders
  - IT competence should be emphasized, probably at all organizational levels
- Leadership training programmes
  - Must include development of IT competence

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Review

The impact of clinical leadership on health information technology adoption: Systematic review☆

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Thank you!

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