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Business School
HANDELSHØJSKOLEN

IFIP TC8
WG 8.6

Information Technology Diffusion Research: An Interim Balance

*Karlheinz Kautz, Helle Zinner Henriksen,
Toke Breer-Mortensen, Helle Helweg Poulsen*

*Copenhagen Business School
Department of Informatics*



Two Questions

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Does the group work with the diffusion, transfer, and implementation of both mature and immature information technologies and systems in organizations and among organizations, sectors, and countries?

Does the group work with the development of frameworks, models, and terminology for information technology transfer and diffusion?



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The Answers

Based on a literature study of 113 contributions to the first 7 working conferences of the group analyzing:

- Used terminology
- Types of technology
- Unit of analysis
- Nature of exploration
- Research approach
- Research methods



Question 1

Yes,

IFIP TC8 the group works with diffusion, transfer and implementation.
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The terms are used in 62% (diffusion), 31% (transfer) and 58%
(implementation) of all articles

They focus on implications of diffusion, transfer, implementation of IT

The group works with a broad spectrum of information technologies:
36% deal with general information and IS technologies
25% with software development technologies

The dominant unit of analysis:
the organization as the theme of 65% of all contributions
between organizations (7%), sectors (6%), countries (6%)



In this Context

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The term adoption, though not mentioned in the aim and scope, is in the title of 3 conferences

It is the most used term in the group's work, appearing in 70% of all publications

The term introduction can be found in 33% of all articles, it is more used than the term transfer, which though part of all 10 aim and scope statements, is hardly used in the last four conferences

→ The group might want to change its aim and scope statement including adoption and introduction and excluding the term transfer



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But there is more ...

Having 10% of all articles not dealing with IT, but with technology independent concepts like diffusion, might enrich the group's work, but might also be a sign of a lack of focus

→ The group might consider no longer accepting work not dealing with IT as it falls outside the group's aim and scope

This implies that there is no room for self-reflection (such as this presentation) or theory development independent of particular technological innovations

Interestingly, Rogers, by far the most cited author, does not build his diffusion of innovations theory on IT-innovations



And more ...

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With respect to the unit of analysis the group goes beyond its declaration:

The individual, the region, diffusion from academia to practice, and f. ex. from suppliers to customers make up for 15% of the contributions

These units might therefore also be explicitly mentioned in an augmented aim and scope statement or excluded from future conferences

Restrictions in unit of analysis could however result in, at that important issues related to diffusion and implementation are missed.



Question 2

30 different terms related are used and 38 different definitions are provided

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A little over 20% of the articles define the terms. For the concept adoption, at least 3 definitions are provided by different authors

→ the group works with the development of terminology, but it is a limited and largely individual, fragmented, and rather uncoordinated endeavor

The methodological approach of the researchers might explain this fragmentation, but is no excuse that the work is performed without a definition of central terms

A joint development of terminology on group level is desirable



In this Context

IFIP TC8 The development of frameworks and models is assessed
WG 8.6 by looking at the nature of exploration of the work ...

55% of the articles are investigating a specific research question

They deal with the development of frameworks/models for a specific aspect of IT diffusion and contribute to a larger body of knowledge

But a comparative analysis of the 49 contributions leading to more general, broader frameworks/models/theories has not taken place yet.

Theory development and evaluation including hypothesis testing is subject of 42% of the 89 research-based publications

But Rogers' framework does not serve as a joint starting point or theoretical basis, more than 50% of all articles do not refer to his work

One reason be that his theory is not directly related to IT-innovations



But there is more ...

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Frameworks and models and theory development might not be all group members' objective or not all group members' primary ambition:

Out of the 89 scientific articles just 52% are classified as belonging to the normative discourse with its pursuit of causal logic based theories

36% subscribe to an interpretive tradition aiming primarily at understanding complex phenomena

In the normative approach theory and model development (42%) and the investigation of a specific research question (44%) are nearly equally strong represented



And more ...

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Lack of theory can be a weakness of the group, but can also be explained with the relative youth of the field where the investigation of single questions precedes more general methodologies

The group members' interest is mirrored in the interpretive approach (32 articles), where the investigation of a specific research question dominates (72%) over theory development (18%)

Case studies – usually more associated with understanding than with law like logic – is the research method of nearly a 3. of all articles

48% of all interpretive contributions are based on case studies, also 12% of the normative articles have a case study background and thus might have an interpretive element



Conclusions and Challenges

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Limiting the group's work to what is described in the aim and scope is one possibility

Another is to broaden the scope by including theory development

→ a need for what is meant by theory
with regard to the different discourses which the group wishes to lead

→ a need to perform more conceptual and theoretical work
within the interpretive, critical and dialogical discourse
beyond empirical work and the 22 articles in the normative approach
based on non-empirical methods



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Conclusions and Challenges

The group works towards and within its own aim and scope declaration

The group has no joint terminology and no shared theoretical basis

An expansion of aims of IFIP WG 8.6 could therefore explicitly focus on diffusion terminologies and theory development within the realm of IT/IS research

However as a system of loosely coupled individuals a too exclusive aim and scope statement might hinder the group in extending the body of knowledge

Still beyond researching new technologies system and management fashions the group should stay with its roots and work to explicitly contribute to IT diffusion theory and terminology



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Future research and work

To investigate the existence of a shared and common (back)ground of the group:

a clarification of who constitutes the group is needed,
given that only few registered members publish regularly at the group's conference

the degree of internal references within the group

the extent of common literature references

the affiliation of authors

To further explore how deeply the group is rooted in the normative discourse:

a more detailed investigation of the authors of normative contributions
is necessary



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Future research and work

The consistency of the data has to be improved!!!

Two more conferences have to be evaluated!!!

Any volunteers ...