

2010

# Convergence And Mobility– Just Another Fad Or Fashion? A Systems-Theoretical Analysis

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## Recommended Citation

Herzhoff, Jan, "Convergence And Mobility– Just Another Fad Or Fashion? A Systems-Theoretical Analysis" (2010). *ECIS 2010 Proceedings*. 82.

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Journal:	<i>18th European Conference on Information Systems</i>
Manuscript ID:	ECIS2010-0396
Submission Type:	Research Paper
Keyword:	Systems theory, Information infrastructure, Technology trends, Mobile commerce



## CONVERGENCE AND MOBILITY– JUST ANOTHER FAD OR FASHION? A SYSTEMS-THEORETICAL ANALYSIS

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### Abstract

*The notion of convergence has gained a lot of interest in the past few years in both theory and practice. On one hand, observers see convergence as a meaningless technology fad. Other observers, on the other hand consider convergence to be an important factor for the design of new mobile information infrastructures and services. This paper investigates these contradictory discourses by applying Luhmann's Systems Theory to analyse the use of the notion of convergence in business press databases and professional social network profiles in UK mobile telecommunications. The data corpus contains 3,008 press articles from 1979-2008 on mobile convergence collected from Reuters Factiva database and 1,007 profiles from UK telecommunications professionals from LinkedIn. The analysis of 30 years of convergence articles shows that convergence cannot be regarded as a simple management fad. Convergence in the context of mobility is well established in the UK since 1987 and is part of the self-perception of many practitioners. However, the findings suggest that convergence does have characteristics of a fashion. These characteristics that make it appear to be a fashion are based on its systemic function of reducing differences. Convergence programmes aim to reduce differences and are therefore important steering mechanisms.*

*Keywords: convergence, management fashion, discourse analysis, systems theory, mobility*

## 1 INTRODUCTION

The notion of convergence has been the cornerstone of several technological discourses in different functional systems of society – from the economic and mass media to the legal and political system. It has been used to justify large investments, mergers, and acquisitions and has shaped the structure of many organizations, both private (e.g., AOL Time Warner) and public (e.g., the regulator Ofcom in the UK). The design of devices, services, and networks has begun to embed the idea of convergence (Lyytinen & Yoo 2002). However, despite – or perhaps because of – its prominent role, convergence has frequently been labelled as a technology fad and meaningless buzzword (Burols et al. 1998; Drucker 2007). A similar development has been observed in academia (Herzhoff 2009). While the notion of convergence has received much attention in management, computer science, and new media literature, it has also been under fire by some researchers who argue that convergence has become just another buzzword and management fad and hence has lost its meaning (Appelgren 2004; Lind 2004).

The IS discipline has mostly ignored the concept, applying the notion instead in non-technical contexts like strategic alignment or using it only superficially (Herzhoff 2009). However, in the past few years, a new convergence discourse emerged around next-generation wireless infrastructures and services (Lind 2004). One such manifestation in particular can be seen in discussion of the mobile Internet and in new converging services connecting mobile telephony networks to the Internet. This new discourse has also evoked interest in the conceptual qualities of the notion of convergence in IS literature. A group of IS researchers suggest that convergence is an important factor to consider in the design of new information infrastructures and services (Lyytinen & Yoo 2002; Yoo et al. 2009; Wareham et al. 2009). This poses the question: Is convergence in the context of mobility just “old wine in new wine skins”?

This paper aims to understand from an IS perspective whether the latest discourses around mobile convergence has characteristics of a fad or fashion. Furthermore, it suggests looking closer at the discourse in which the notion of convergence is embedded to understand its function. Therefore, this paper aims to address twofold research questions: Is convergence in the context of mobility just another fad or fashion? What are the characteristics of convergence that allowed it to appear as a fashion?

The paper is structured as follows: Firstly, we will provide a critical overview of the existing literature on fad and fashions in both management and technology studies, followed by a brief review of the literature on convergence. Secondly, the paper will outline a theoretical framework of fashion based on Luhmann’s Theory of Social Systems (Luhmann 1984). This is followed by a brief description of the methodology and a description of the empirical data from the business press and the LinkedIn data corpus. Next, the data will be analysed using the systems-theoretical analytical strategies of semantic form, and systems analysis (Andersen 2003) and, lastly, we will discuss the findings.

## 2 LITERATURE REVIEW

### 2.1 Fads and Fashions in Management and Technology Studies

For more than a century, social scientists have been fascinated by fad and fashions (Simmel 1904; Sapir 1937; Meyerson & Katz 1957). However, only recently a body of literature studying fad and fashions in the management context has emerged, represented primarily by the seminal work of Abrahamson (1991, 1996), Kieser (1997), Newell (2001), and Swan (2003). These studies address the hype around management tools and concepts such as Quality Circles, Business Process Reengineering, and Knowledge Management. Four key debates have been identified relevant to this study, listed here

and further detailed below: (1) Relevance of studying fashions for academic research, (2) Distinction between fad and fashion, (3) Why fashions disappear, and (4) Fad and Fashions and Technology.

#### *Relevance of Fad and Fashions for Academic Research*

There has been a longstanding debate between those scholars who are dismissive of management fashions, referring to them as costly distractions (as example, see Cole 1999) and those who acknowledge that it is important to study fashion in its own right (Abrahamson 1996; Carson et al. 2000). Collins (2000) argues that hot topics of management should not be dismissed just as buzzwords. Instead, a critical analysis is needed that looks beneath the term to understand its function. Abrahamson (1996) argues that theorists should not be dismissive of fashion because it is hardly limited to aesthetics. He points out two main differences between fashion in aesthetics and in management: Firstly, fashion in aesthetics needs to be only beautiful and modern, whereas fashion in management needs to be both rational and progressive. Secondly, he sees socio-psychological forces alone shaping demand for aesthetic fashion, whereas in management fashion, these forces are joined by technical and economic forces.

#### *Distinction between Fad and Fashion*

Some scholars make in this context the distinction between fad and fashion; this distinction can be traced back to Sapir (1937), who distinguishes fads from fashion in terms of scale, duration, and social acceptance. For Abrahamson (1991), both fad and fashion deal with imitation. The difference between fad and fashion, according to him, is based on the scope of the imitation process. If an idea stays just within one's own group, it can be regarded as a fad; if the imitation goes *beyond* one's own group, it can be regarded as fashion. Dale et al. (2001) argue that this distinction is still unclear. They suggest a distinction between fad, fashion, and fit based on a process perspective. According to their model, *fads* are the first phase of a multi-stage model and have the purpose to bring an idea to the attention of a larger audience of people. *Fashions* are the second phase where the idea gets implemented and adopted. *Fit* is the final phase where the idea finally leads to performance improvements and is implemented in everyday work practices. In a nutshell, not every fad becomes a fashion, not every fashion becomes a fit. Wasson (1978) emphasises the temporal dimension that fads emerge quickly, accelerate to reach a peak, and fall low at the same pace. Fashions, however, stabilize for some time before they decline.

Since the phenomenon under study involves a large number of actors and has been taken place over a long period of time, this study chooses not to use this distinction and does not differentiate between fad and fashion.

#### *Ephemeral Character of Fashion*

Fashions have an ephemeral character. They disappear after some time, and there are different stances in the literature on how this happens. Abrahamson (1996) sees the main reason being when more and more organisations apply this fashion, they can no longer distinguish themselves from the other organisations and therefore have to look for new topics. Kiesler (1997) bases his management fashions view on a more rhetorical stance. He points out that fashions are reinterpreted over time and become meaningless. He explains the decline of a fashion through dysfunctional effects leading to a counter-fashion and the replacement of the fashion through the critique of other fashion designers. Benders and van Veen (2001) argue that "fashions wear out through use" (p. 44). Often, management fashions are not clearly defined and can be interpreted by different observers in different ways. This characteristic, which they call *interpretative viability* based on Ortmann (1995), is maybe the key to success for a concept but also the reason for its decline. The concept diversifies in different forms and is linked to perceived failures. Finally, in this respect, Benders and van Veen (2001) argue that the distinction between mass media and practitioners is important. The mass media might lose interest in a concept even though practitioners still use it.

### *Fad and Fashions and Technology*

In the IS literature, a couple of fad and fashion studies have been conducted. The primary focus here has been around the notion of BPR (Newell et al. 1998) and knowledge management (Swan et al. 1999). Another example is the Gartner Hype Cycle (Drobik 1999), which is based mainly on studying the hype around new technologies. Baskerville and Myers (2009) initiated a new debate in the MISQ about relevance of fashions for IS and suggested that IS academics should engage more proactively in the evaluation of IS fashions.

Westrup (2002) argues for a critical engagement with management fashions in relation to technology and, in particular, to specific technologies such as ERP systems. He sees one key difference between technology and management techniques: Technologies are more durable and can be seen as a mechanism to provide more continuity for a fashion “besides vendors, consultants, and the trade press” (Westrup 2002: 416). He argues further that the notion of fashion is therefore not helpful since it shifts the focus away from the use of the system and relies only on the discourse. Systems that are embedded in daily practice might then be ignored in discourses but still have implications. Westrup therefore suggests drawing up instead on Latour’s notion of articulation (Latour 1999). He argues through the notion of articulation that ERP systems might be observed as declining management fashions in the literature but, in fact, are still widely used in organisational settings.

## **2.2 Convergence as Fad and Fashion**

It is interesting to note that the first convergence hype had nothing to do with technology. It happened in 1964 when the US-based puzzle company Springbok released a jigsaw puzzle based on Jackson Pollock’s famous painting titled “Convergence: No. 10”. Hundreds of thousands of Americans bought this puzzle claimed by Springbok to be the “world’s most difficult jigsaw puzzle”.

According to Herzhoff (2009), many different forms of convergence have been developed over the past 30 years from digital convergence (Yoffie 1996) to cultural and organic convergence (Jenkins 2001). The loose usage of the convergence metaphor in both practice and academia has led to the development that observers ascribe any meaning to it. In fact, scholars argue, “there seem to be as many definitions of convergence as there are authors discussing the topic” (Appelgren 2004: 246). Therefore, it does not seem to be too farfetched that observers from both practice and academia have begun to label convergence as a buzzword. Another school of thought sees convergence instead as a description of one of the driving forces for technological change (Lyytinen & Yoo 2002).

Lind (2004) conducted the only systematic analysis of convergence as a fad and fashion. He studied the use of the term *convergence* in the business press between 1990 and 2003 and analyzed the pattern of the articles with the Gartner Hype Cycle model. The most influential application had been Drobik’s (1999) analysis of the E-Business hype cycle in November 1999 that predicted the dotcom crash in the spring of 2000. Lind (2004) suggests that convergence follows the hype cycle in the 1990s. He concludes that the notion of convergence has been used as a rhetoric device to motivate strategic moves and as an alert for strategists about impending changes. However, the study covers only a limited period focusing on the US and excludes mobile convergence. Although the Gartner Hype Cycle model is an established framework in the industry, it is not based on a well-grounded theory and does not distinguish between shorter-lived fads and longer fashions. More importantly, it does not answer which characteristics of convergence make it appear as hype.

Based on the findings from this literature review, there is a clear need for a systematic analysis of the convergence discourses in the context of mobile networks and services. In particular, this analysis should address if convergence has characteristics of a fashion. Furthermore, the review of the literature suggests looking closer at the discourse in which the notion of convergence is embedded to understand its function. This analysis should be based on a theoretical grounded analytical strategy and executed with a methodology that studies not only the discourse in the business press but also takes into account the perception of practitioners on the concept.

### 3 FASHION FROM A SYSTEMS-THEORETICAL PERSPECTIVE

#### 3.1 Previous Theories Applied to Study Management Fashions

Previous studies of management and technology fashions make specific assumptions about the relationship between fashion discourse and practice. According to Westrup (2002), discourse analysis can be self-referential or relational to practice. Abrahamson (1996) suggests using neo-institutional theory to study management and technology fashions. He justifies this by seeing management fashion primarily as a cultural phenomenon that is influenced by norms of rationality and progress. Managers have to justify their decisions based on rationality and progress; therefore, they need concepts that are accepted by the community as rational and progressive. As soon as a concept loses support by the community – particularly shareholders – managers need to find new concepts. Westrup (2002) sees this view as problematic since it focuses too much on the transience of the concepts and less on their continuity. This is relevant particularly in technology discourses since, according to Westrup, they are more durable than broad management concepts.

This study takes a different perspective on discourses and fashion in particular. Discourses are seen as social systems of communication. These systems are operationally closed but structurally open. Therefore, they are both self-referential and relational to other systems (Luhmann 1984). This systems-theoretical approach towards management and technology fashion will be presented in the following section. It has been applied in many areas, including management and organizational science, and in particular to the study of discourses (Andersen 2003).

#### 3.2 A Systems-Theoretical Perspective on Fashion

Luhmann's Systems Theory (1984, 1997) is a special case of his Theory of Distinction, which is based on the work by George Spencer-Brown (1969). It relies on the distinction between system and environment. In Luhmann's Systems Theory, social systems do not consist of human beings or actions but solely of communication. Communication is highly contingent and therefore operates through selection. This selection is based on meaning, which depends, according to Luhmann (1984), on three different dimensions: the factual, the social, and the temporal. Furthermore, according to Luhmann, systems are neither closed nor open. They are operationally closed but structurally open; that is, they operate solely based on their internal operations but can be stimulated from outside. Finally, Luhmann gives a specific role to the observer of the system: The observer draws distinctions and indicates one of the two sides of a distinction. He therefore also produces asymmetries.

The primary interest of Luhmann was to develop a theory of society. According to Luhmann (1997), modern society is characterized by functional differentiation. *Functional differentiation* means that specific systems take over a specific role in society such as the economic, political, legal, academic, and mass media systems. Each functional system communicates based on a certain code to indicate whether it is inside or outside the boundaries of the system. These codes are essential for the operation of the system. The economic system, for example, communicates based on the code *profit/loss* whereas the mass media system communicates based on the code *information/no information*.

Observing fashion from a systems-theoretical perspective has some compelling characteristics compared to other previous approaches studying management fashions. Firstly, a study on fashion from a systems-theoretical perspective implies shifting the analysis away from the phenomenon and towards the observer. It does not directly deal with the phenomenon but rather how the phenomenon is dealt with. Furthermore, fashion is in itself reflexive since it is based on observations of other observations. A study on fashion, therefore, leads to at least a second-order observation (Esposito 2004). A second-order observation is interested in how the discourse on the phenomenon is taking place, its dynamics, and its function. Andersen (2003) evaluates different analytical strategies for

second-order observation and suggests Luhmann's Systems Theory (1984) as a viable form for second-order and, in particular, discourse analysis.

Furthermore, the systems-theoretical perspective questions some of the underlying assumptions of previous approaches towards management fashions. As mentioned above, one of the assumptions of Abrahamson's (1996) management fashion theory is that fashions are driven by manager's need to justify their decisions based on rationality and progress and hence, need concepts that are widely accepted by the community. However, Esposito (2004) argues instead that when it becomes visible that a decision is dominated by fashion, that the decision will most likely be rejected. The code of the relevant functional system, in this case the economic system, provides the rationality for the decision and for the communication to continue, not the fashion.

According to Luhmann's Systems Theory, fashion works subtler. It does not increase the likelihood that a communication, or in this particular case, a decision is accepted (Luhmann 1997). However, in itself, fashion does play an important function in society. In fact, fashion has become diffused in all functional systems of society. Esposito (2004) proposes that fashion functions as a pre-code for other functional systems such as the economic or academic systems. The codes of the economic system (*profit/loss*) or academic system (*truth/no truth*) still decide what is economic or academic; however, fashion initiates the selection process. Fashion, therefore, according to Esposito (2004), is the operationalisation of contingency; that is, the starting point of a selection. Therefore, fashion is a social mechanism that provides the motivation for the system to operate. Furthermore, fashion is not short living; its unstoppable quest for something new produces continuity.

Finally, a systems-theoretical perspective has implications for the methodology and data analysis. The observation of mass media discourses has both advantages and disadvantages when studying fashion. Esposito (2004) argues that fashion, similar to the mass media system, has a contingent relationship to the factual dimension. Mass media constructs reality based on temporal and social dimensions. A topic needs to be interesting in order to make a difference and be observed by mass media. Therefore, the disappearance of a topic in the press does not mean that it disappeared in practice. Hence, we argue that an additional analysis needs to go beyond the mass media system.

## 4 METHODOLOGY

### 4.1 Methodologies used to Study Fashion

In the past, fashions have been studied following primarily the bibliometric technique of searching published articles in academic journals or newspaper databases for specific keywords (Abrahamson 1991, 1996; Abrahamson & Fairchild 1999). Abrahamson (1996) recommends this approach for management fashion analysis since management fashions are mostly disseminated using the business press, and this data covers long time periods, is well indexed, and is available electronically. Finally, an annual count of these articles can provide underlying data for time-series analysis to better understand the development of a concept. Carson et al. (2000) point out that business press articles can be regarded only as an imperfect proxy for degree of adoption of a concept but seem to be the most reliable proxy available and one accepted by the research community studying management fashion. Besides the bibliometric approach, Abrahamson (1996) also points out that management fashion studies can also use adoption data or data from qualitative organizational or inter-organisational data. However, this data is less accessible and would require a survey or a case-study approach.

### 4.2 Methodology Applied in this Study

This paper uses data from professional social networking websites as a complement to the traditional mass media approach to bridge the gap between business press and the use of a concept in practice. Therefore, the data analysis is based on two data corpora: The first data corpus has been selected



based on an approach suggested by Lind (2004), which, to this point, is the most extensive fashion analysis on convergence. The data source is the Dow Jones Factiva Database. Factiva is one of the largest news aggregators with more than 25,000 authoritative sources and an historical archive.

A preliminary search on convergence related to technology has been conducted, and initial findings suggest that the first articles using convergence emerged around 1978. Therefore, we selected the period between 1978 and 2008 for our analysis on convergence and mobility in the UK. A full-text search was conducted and 3,008 articles were saved in a text file, analysed based on a bibliometric approach, and finally coded. The query data were collected on 28th July 2009. Since the number of articles on technology increased substantially over the past 30 years, this study follows Lind's (2004) suggestion to control for the general increase in other ICT publications through setting it in relation to the overall number of ICT articles (see figure 1).

The second data corpus is based on data from LinkedIn. According to the *Annual Business Inquiry* (conducted by the Office of National Statistics) and the *Digital Britain Report*, of the 217,000 people currently working in the UK telecommunications sector, 94,000 of them – or roughly 40% – are registered on LinkedIn. A full search on convergence has been conducted based on job profiles of 94,000 users in UK telecommunications, looking at the use of convergence in the profiles as proxy for its use in practice.

## 5 FINDINGS FROM EMPIRICAL DATA COLLECTION

The following traditional bibliographic analysis provides an initial overview about the landscape of the usage of convergence in the business press and in the professional network LinkedIn.

### 5.1 Convergence in the Business Press

An initial analysis of our data corpus shows that the notion of convergence related to technology has been used the first time in the UK business press in 1981. Figure 1 shows the number of convergence articles and their share of the total number of ICT-related articles. The data shows a very low usage of the notion in the 1980s. Only in the early 1990s do we observe a substantial increase. Lind (2004) who focused on the use of convergence in the US media observed a similar increase in 1993 and explained this increase with a report produced by the investment bank Goldman Sachs (1992), which put the promise of technological convergence on the agenda of many organisations. The articles in the data corpus do not reference this report, however, many of the articles in 1993 reference the CEOs of Apple and AT&T and their “convergence visions”. The first peak of convergence was reached in 2000 with 660 convergence articles in the UK. The reason for the sudden decline in 2001 and 2002 is most likely related to the burst of the dotcom bubble. Several articles from this time period referred to convergence as a buzzword.

According to the management fashion literature we would expect a further decline since more and more negative connotations and failure stories became associated with the notion of convergence. However, the data shows another steep increase, which reached its peak in 2006 with more than 1,200 articles and hence nearly doubled compared to the first peak in 2000.

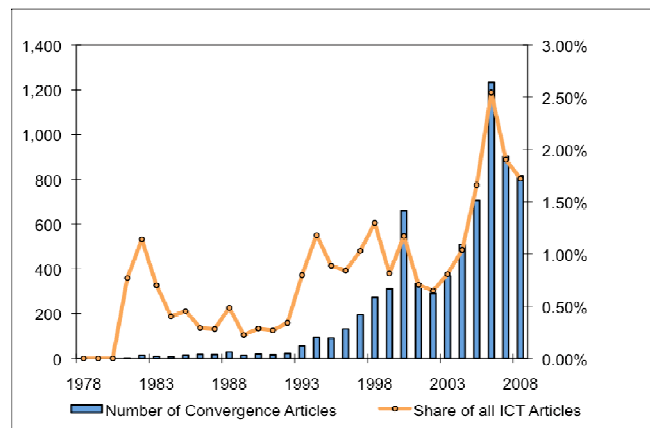


Figure 1 Convergence in the UK Business Press

Figure 2 shades some more light on these findings. It shows that the increase in convergence articles in the UK business press from 2003-2006 resulted primarily through the usage of the term in the context of mobile telecommunications. There is evidence in the data corpus that convergence has been used in the context of mobility since 1987. The share of convergence not related to mobility decreased over the years although the absolute number of articles has increased. The years from 2000 onwards till 2004 show an overall decline. However, the number of articles using convergence in non-mobile contexts increased again. This trend changed sharply in 2004. Convergence in the context of mobility has since 2006 become the prominent context for the notion of convergence in the media and contributes nearly 50% to the overall convergence communication. The years after 2006 show another decline, however, it is still above the first peak in 2000.

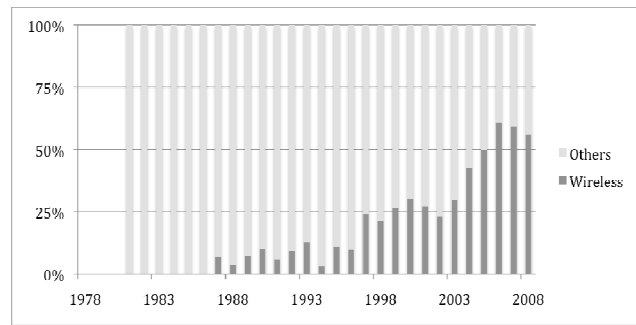


Figure 2 Distribution between Convergence Articles in Mobile and Non-Mobile Contexts

Summarized, the initial bibliometric analysis shows that mobile convergence is since 2004 with a share of >50% the most prominent technological convergence discourse in the UK. Furthermore, the data indicates that convergence existed for over 20 years in the context of mobility. Finally, it is surprising that convergence is, despite being labelled a fad or fashion for so many years, more prevailing than ever before. This challenges in particular the ephemeral character of fashion articulated in the literature. The following section will provide a perspective beyond the mass media and its code of information/no information to observe how industry experts perceive the notion of convergence as part of their self-description.

## 5.2 Convergence in Professional Social Networks

The following table (table 1) shows the use of convergence in the profiles compared to six other management fashions. The selection of these fashions is to exemplify how the convergence discourse can be compared to two fashions studied in the literature (Knowledge Management and Business-Process-Reengineering), two typical telecommunication fashions (Web 2.0 and Next-generation networks) and two recent fashions (Benchmarking, Sustainability).

The first finding is that the usage of the selected buzzwords seems to be relatively small. However, what is of interest here is that practitioners indeed use convergence in their self-description and furthermore, that the concept has a relatively high adoption rate in the UK telecommunications workforce compared to other management concepts. 2.5% of the UK employees working in the telecommunications sector have used convergence as a descriptor in their job profile and nearly a fifth of these use it in their job title. While it does not reach the diffusion of sustainability in the profiles it has the highest diffusion in job titles compared to any of the other six management fashions. 60 of the 181 profiles (33%) with a convergence job title and 665 of the 1007 total profiles (66%) mentioning convergence were related to mobility.

UK Profiles from LinkedIn (07/2009)	Profile Total (Job Titles)	LinkedIn Share In Percent	Industry Share Estimate in Percent
<b>Convergence</b>	<b>1007 (181)</b>	<b>1.07%</b>	<b>2.46%</b>
Knowledge Management	144 (24)	0.15%	0.35%
Web 2.0	179 (0)	0.19%	0.44%
Next-generation networks	741 (64)	0.79%	1.81%
BPR	48 (3)	0.05%	0.12%
Benchmarking	229 (13)	0.24%	0.56%
Sustainability	2910 (118)	3.09%	7.12%

Table 1 Profiles of Telecommunications Professionals mentioning Convergence in LinkedIn

The initial findings from this data corpus suggest that convergence is not only limited to mass media but is also grounded in practice, in this case institutionalised through job titles. Convergence seems to play in a different league compared to the traditional management fads of Knowledge Management and BPR but also to new ones like Web 2.0. Furthermore, it is interesting to note that convergence was used across hierarchic levels (from support staff to director) and crossing different functions (from operations to sales). It is also interesting to note that compared to the findings in the Factiva data corpus, convergence is used here in most cases without any qualifier or detailed explanation with what convergence the individual practitioner is dealing with. Summarized, the data shows that convergence is not just a concept used in the trade press but also embedded in practitioner's self-perception. However, it has to be made clear that LinkedIn profiles are used by many practitioners for job search or raising attention to head hunters. Hence, the use of potentially fashionable terms like convergence or sustainability provides a signalling effect.

Most of the findings so far are not unexpected. However, the most striking result to emerge from the data is that convergence, despite being labelled a fashion, has kept itself alive for more than 20 years not only in the mass media but also in practice. Even more surprising is the observation that it seems to be more prevailing in technological discourses than ever before. The following systems-theoretical analysis delves deeper into the data to shed more light on this contradiction.

## 6 SYSTEMS-THEORETICAL ANALYSIS OF CONVERGENCE

Andersen (2003) suggests different analytical strategies based on Luhmann's Systems Theory to analyse discourses. A systems-theoretical analysis usually begins with a historical-semantic analysis to understand how the concept under study has developed over time, in particular to identify conceptual shifts. This analysis is based on the Factiva data corpus since it offers the necessary temporal dimension. This is followed by a form analysis of the LinkedIn data corpus, aiming to understand the core distinctions that the concept is based upon. A systems analysis then will be used to understand the dynamics of the convergence discourse as fashion.

### 6.1 Semantic Analysis

The first mention of the notion of convergence in the context of mobility was found in the data corpus in 1987 referring to a report issued by Logica:

*"There are also prospects for greater convergence between mobile radio communications and fixed, wired services. The rapid growth of cellular telephony services, which provide interconnection with the fixed telephone network, has already started this process."*

This quote uses the distinction between fixed and mobile. Convergence in this context means basic interoperability between calls from mobile phones to fixed lines and vice versa. Another very early form of convergence was between mobile standards. This distinction was based primarily on different standards in handsets and different frequencies. It already was envisioned in 1990 that UMTS could fulfil this vision of convergence as mentioned in an article in the *Times*:

*"But integration and convergence between different mobile types, and between mobile and wireline networks, will take place in the next few years. This is expected to result in a universal mobile service (UMTS) early next century."*

Fixed-mobile convergence (FMC) became a dominant discourse from 1995 onwards when the UK fixed-line operator BT attempted to take over a 40% share of mobile operator Cellnet from Securicor. Most of the articles in the corpus were concerned with the distinction between fixed and mobile until 1998 (see Table 2). In 1998, the form of convergence differentiated into other forms based on different distinctions. One was based on the mobile/Internet distinction. It was driven primarily by the release of the Wireless Application Protocol (WAP) specifications. In the same year, the mobile/computing

convergence form gained momentum through the introduction of the Symbian mobile operating system in mobile phones. Another emerging form was based on the voice/data distinction, which gained momentum through the development of 3G networks.

The mobile/Internet distinction reached its peak in 2000, when 40% of the articles were concerned with this distinction. FMC reached only 11%, similar to the mobile/computing distinction and 9% for voice/data. However, this changed very quickly in the following years. In 2004, BT co-founded the Fixed-Mobile Convergence Alliance. Furthermore, BT launched a new product in 2004 called Bluephone that was based on the idea of opening up broadband routers for mobile phone access. Vendors and mobile operators started to work on so-called FMC products. In 2005, 66% of all articles were concerned with fixed/mobile, 12% on the distinction between different media, and only 3% on mobile/Internet and 2% for mobile/computing, respectively.

This distribution has changed only marginally over the past three years; however, the focus shifted in the context of FMC away from the fixed-line operators such as BT to mobile operators and VoIP service providers. In 2008, 64% of the articles were concerned with FMC, 8% with mobile/Internet, 3% with mobile/media, 2% with mobile/computing and voice/data.

In Percent	1995	2000	2005	2008
Fixed/Mobile	60	11	66	64
Mobile/Internet	0	40	3	8
Mobile/Computing	10	11	2	2
Voice/Data	10	9	1	2
Mobile/Media	10	10	12	3
Others	10	19	16	21

*Table 2 Distributions of Key Convergence Distinctions*

## 6.2 Form Analysis

The findings from the semantic analysis suggest that convergence forms are created on top of distinctions. A detailed analysis shows that convergence in the context of mobility has been used to describe technological change based on five distinctions: fixed/mobile, mobile/Internet, mobile/computing, data/voice, and mobile/media. However, the distinctions not only are based on these meta concepts but also include another distinction related to the converging elements: networks, services, devices, organisations, industries, and functions—anything can converge.

The dominant distinction in the mobile context is fixed/mobile. As pointed out above, this difference can change over time but is also depending on the observer. While mobile operators use this idea to initiate a vision of reducing the difference between mobile and fixed to indicate a future based on wireless technology, fixed-line operators such as BT have a completely different understanding of FMC. For them, it is the convergence of mobile into fixed. A consumer might not see it as convergence at all but rather as divergence since she only sees multiple networks, devices, services, and bills. Another interesting finding is that the counter-concept of convergence, divergence, has been used in only 10 articles over the whole time period between 1979 and 2008, and no practitioner carried divergence in a job title. Convergence, therefore, shows a clear asymmetric structure in both data sets.

## 6.3 Systems Analysis

Convergence indicates the reduction of a difference. It is asymmetric since it puts emphasis on one side of a distinction. Based on the observer who introduces this asymmetry, the meaning of convergence can differ in the factual, temporal, and social dimensions. Convergence can mean different things and can indicate, for example, a difference reduction between networks, services, industries, or anything where a difference can be reduced. Many organisations have used the notion of convergence for several decades in their visions and strategies. However, the analysis of the social dimension of convergence shows that it is not plain imitation. Instead, convergence provides enough interpretive flexibility so organisations can use it as orientation to initiate their own difference-reduction programme. Convergence acts here as a pre-code for the functional system.

Convergence discourses are both social and technical and focus on the reduction of a social or technical difference. The function of convergence as difference reduction also allows it to appear as a fashion. Its open form provides enough space for new difference-reduction programmes to emerge as well as a clear starting point for a functional system to start with its own operations. Another property that convergence shares with fashion is that its open form provides continuity. Summarised, while a fashion's function in society is solely the operationalisation of contingency (i.e. to start a selection), convergence has a function in reducing differences. It is, therefore, an important steering mechanism (Luhmann 1997) that cannot be reduced to a mere fashion.

## 7 CONCLUSION

This study started from a twofold research question: Is convergence in the context of mobility just another fad or fashion? What are the characteristics of convergence that allow it to appear as fashion? The analysis of 30 years of convergence articles shows clearly that convergence cannot be regarded as a short-lived management fad based on the criteria put forward in the literature. Even in the context of mobility, the notion has been, despite its hype in the last three years, well established since 1987 and still is used by practitioners in job descriptions and job titles.

However, a closer look reveals that the convergence discourse does have some characteristics that make it appear to be a fashion. In particular, it shows similar developments such as differentiation of the concept, and it seems to work as a pre-code for functional systems. It has differentiated in many different forms, which also have changed over time, in some cases substantially. However, the findings from the systems-theoretical analysis show that the notion of convergence offers more than just fashion. It implies the reduction of a difference. The reduction of a difference is not just a pre-code for functional systems. It is an important steering mechanism (Luhmann 1997). This might be also one of the reasons why convergence does not show the typical ephemeral character of a management fashion.

This study provides the following contributions to the IS literature on convergence and the broader management fashion literature. Firstly, it is the first empirical study that uses systems-theoretical concepts to analyse fads and fashions. Secondly, this study is, to our knowledge, the first one using data from professional social networks to study management and technology fashions. Thirdly, it is the first study looking in particular at convergence as a fashion in the wireless context.

This study has the following limitations. First, due to the underlying data, it can only provide a helicopter view of the landscape. More detailed empirical data and analysis in form of a case study is necessary, particularly related to the detailed use of the concept of convergence in the telecommunications industry itself. The LinkedIn data set provides an interesting angle, however, it has only limited usefulness in regards to time-series analysis. Furthermore, the role of technology in this discourse needs to be explored further. Finally, the identified structural asymmetry between convergence and divergence needs to be studied further.

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