Information Technology Fashions: Lifecycle Phase Analysis

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Abstract

Over the last decade, studies of management fashions have shown that the rise and fall of the fashions can be seen as a reflection of a knowledge enterprise, where knowledge of new management techniques is selectively proposed, promoted, and propagated by different stakeholders. This research on management fashions has yielded a number of insightful research questions and a set of methods for investigating them. Like management fashions, there are many IT fashions. Testing the extent to which the theory of management fashions apply to IT fashions help us better understand not only IT fashions but also what is generic to the fashion phenomenon and what is unique to particular fashions. This study contributes to this goal by building on an earlier work that tested three hypotheses that illuminate the similarities and differences between IT fashions and management fashions: the duration of its ascent period is (1) shortening over time, (2) shortening at a rate faster than that for management fashions, (3) but yet longer in absolute magnitude than that for management fashions. The earlier work provided confirmation of these hypotheses. In this paper, we go further by first providing operational definitions of the latency and growth phases that make up the ascent phase in the fashion lifecycle and using a bibliometric study to test whether the hypotheses still hold for each of the individual phases. The result does show phase-specific differences: in particular, the hypotheses hold for the growth phase but not the latency phase. We explore explanations and implications for this finding. We also underscore the usefulness of the theoretical framework by identifying areas for future research.

1. Introduction

The study of fashions began over a hundred years ago [1, 2], but the earlier research focused mostly on the rise and fall of aesthetic fashions such as hairstyle or dresses. In the last decade, however, the study of management fashions in the business domain has yielded a number of important research contributions [3-8]. This research has led to the discovery of a valuable new source of research questions that helps understand better management discourse and how trends in discourse are generated and motivated. Since these discourse trends influence resource allocation and other management strategies in the business community, this area of research may contain a number of practical implications for the business community as well.

As with management fashions, there are many IT (Information Technology) fashions. Based on Bender et al. (2001), we define an IT fashion as "the production and consumption of temporarily intensive [information technology] discourse." Examples of IT fashions include the rise and fall in discourse about: Expert Systems, Client Server Technology, Peer to Peer Systems, and Voice over IP, Enterprise Resource Planning (ERP), or Business Process Reengineering (BPR). While some of the IT fashions, such as ERP and BPR, may overlap with management fashions, others are clearly about fashions of *technology* not of management. We define IT fashion at the discourse level because publication is the unit of analysis in our study. We also believe that an explicit separation of discourse level from the other levels such as conceptual or adoption enables us to explore interesting relations between these levels. We elaborate further on the rationale for this definition elsewhere [9].

As with management fashions, we believe that the study of IT fashions can make valuable contributions to information systems research by revealing the patterns that underlie the rise and fall of the fashions and the forces shaping them, thus helping us better understand the motivation and the dynamics behind the phenomenon. Furthermore, it will be useful to leverage on the existing theory of management fashions in our study of IT fashions and explore the extent to which that theory can or cannot explain the phenomenon of IT fashions. Such a study would provide not only a better understanding of management and IT fashions but also what is specific to a particular domain and what is generic to the fashion phenomenon in general.

This study contributes to this goal by testing three hypotheses that illuminate the similarity and differences between IT fashions and management fashions. It

assumes that that IT fashions depend more heavily – relative to management fashions – on exogenous factors and that as a result, the duration of its ascent phase is (1) shortening over time, (2) shortening at a rate faster than that for management fashions, (3) but yet longer in absolute magnitude than that for management fashions. In our earlier study we provided confirmation of these hypotheses for the ascent phase, which we summarize below [9].

In this paper, we go further by first formulating operational definitions of the individual phases – in particular, the latency and growth phases – that make up the ascent phase of the fashion lifecycle and testing whether the hypotheses still hold for each of these individual phases. Then we report on a bibliometric study that yields partial confirmation of the hypotheses for the individual phases. In particular, while it overwhelmingly supports that the shortening of the duration over time holds for both the latency and the growth phases, it reveals different phase-specific results for Hypotheses 2 and 3. It shows that IT fashions have both the faster rate of decrease than management fashions (Hypothesis 2) and yet the larger absolute magnitude of the duration than management fashions (Hypothesis 3) – but only in the growth phase not in the latency phase. Based on these findings, we explore explanations and implications for future study of IT fashions.

We proceed as follows. In the next section, we present the related work on business fashions research and set up a theoretical framework for the current study. We then develop hypotheses and present their rationales. Since these hypotheses are based on our earlier work, we summarize the rationales used to develop them and the findings from this earlier work. And since these hypotheses are being tested with respect to the latency and the growth phases, which were undifferentiated in the earlier work, we present the rationales for posting these phases and their operational definitions. We then describe the methods used for the study: how the fashions were identified and selected for the study, how the different phases of the fashion lifecycle were defined operationally, and how each of the hypotheses was tested. We then present the results, offer explanations, and explore implications. We conclude by summarizing our contributions and identifying areas of future research.

2. Related Work

There has been over a decade of research on management fashions that has led to the formulation of a theory of management fashion. It builds on earlier theories of aesthetic fashion, as well as other theories such as neo-institution theory [10, 11] and the production of culture theory literature [12-16]. Characteristics of management fashions, such as its practical functions, influence on techno-economic factors, etc., is what differentiates the theory of management fashion from earlier theories [4].

Prior research in this area have provided interesting insight as to what fashions can tell us about the rise and fall of ideas, techniques, etc. For instance, explaining why technically inefficient innovations diffuse while technically efficient innovations get rejected – a phenomena that the traditional, rational, theory of innovation diffusion fail to explain adequately. They also have identified distinct knowledge communities within the field of management, called knowledge entrepreneurs, that produces discourse (either directly or indirectly) from a certain perspective. These communities include technical, consulting, academic, and journalistic. These communities interact with each other in terms of who originates new idea (early adopters) versus those that produce discourse after some time has elapsed (late adopters). Which community leads and lags during the lifecycle of discourse can vary as well – all of which has been related back to the theory of management fashion. Recently, they have extended their research to examine more specific characteristics of management fashion phenomena, such as the shape of management fashion lifecycle curve, exogenous or endogenous forces influencing this lifecycle, and the type of collective learning it fosters. In addition to proposing some formal models to account for this phenomenon [17], this research have also produced a number of propositions, some of which are discussed and tested in this study in the context of IT fashions.

There have been studies that confirm, extend, or dispute the claims made by Abrahamson and his colleagues. Benders et al. (2001) buttressed Abrahamson's claims by the importance of "interpretive viability," which argued that the term that depicts a management fashion must be simple but ambiguous, thus allowing flexible interpretations. Carson (2000) extended the theory further by collecting data representing sixteen management fashions over five decades. The lifecycles depicted specific characteristics depending on the type of exogenous or endogenous influences that contributed to the shape of the curve. Carson linked the management fashion lifecycle to the fashions' characteristics such as difficulty of implementation and degree of "radicalness," as well as external macroeconomic factors. Researchers have taken this one step further by examining and extending the theory from different perspectives [8]. We are extending the fashion to a new domain. This idea has already been recommended; the usefulness of extending the research framework to other domains like academic fashion would provide even more insight into explaining what fashion theory can tell us [18].

Recently, Wang (2001) combined the theory of 'organizing vision' [19, 20], and Abrahamson's theory of management fashion to develop the concept of Information Systems "idea waves." "Organizing visions" are mental images or ideas produced and sustained through discourse within an inter-organizational community. An information wave is mapped by the flow and ebb of an organizing vision's discourse. Within that framework, it proposes three drivers: business problematic, early market of innovation, and core technologies. Preliminary studies have confirmed the effects of these drivers. To our knowledge, this work is valuable from the perspective that it is the first to examine the waves of information technologies using discourse data.

3. Hypotheses

In our previous study (Lee and Collar 2002), we have formulated and tested three hypotheses comparing IT fashion lifecycle to management fashion lifecycles. These hypotheses were based on the assumption that the effect of the Internet and the advanced network technologies in recent years should have the effect of shortening the length of the ascent period. We expected that the advance in communication technologies should make potential fashion seeds (ideas or prototypes) more easily noticed and communicated faster. Thus, the overall pace in the generation and diffusion of information technologies, as well as information about them, would be faster the more these technologies advance. Hence, our first hypothesis stated that ***for IT fashions, there will be a correlation between the year in which a fashion emerged and the ascent period of its life cycle: fashions introduced later will have shorter ascent period for IT fashions.***

We also assumed that the rise of *IT fashions* typically depends on exogenous factors more heavily than *management fashions*, such as enabling technologies, their cost, and critical mass of their users. Many broadly enabling technologies and standards have become more readily available than ever before, and have become cheaper, faster, and more reliable. Faster computer chips, larger and cheaper storage systems, faster and cheaper networks, faster and easier programming languages, wireless technologies and their associated open standards are some obvious major examples. Even though these developments also influence management fashions to some extent as well, we postulated that these factors would affect IT fashions and shorten its ascent period more directly than management fashions. Therefore, our second hypothesis stated that ***the rate at which the ascent period of IT fashions gets shorter over the years is higher than that for management fashions. That is, the ascent period of IT fashions get shorter even faster compared to management fashions.***

The dependence on these exogenous factors also makes it more difficult to predict the success of a new information technology. When people are presented with a potential IT, they would be less confident of its success because they would not know whether the enabling technologies would be there in time and at reasonable cost or whether it would be accepted by enough other users [21]. Because of these uncertainties introduced by the exogenous factors, our third hypothesis stated that ***the ascent period for IT fashion lifecycles would also be longer in absolute magnitude than that for management fashion lifecycles***.

The previous study confirmed that IT fashions introduced later will have shorter ascent periods (Hypothesis 1) with the average duration for the ascent period being reduced from 18.00 years and 14.8 years in 1970's to 12.44 and 7.5 in 1990's for IT fashions and management fashions respectively (1990s data are even much shorter but the small sample size for management fashions for 1990s prevented us from making any generalization). We tested the second hypothesis by running regression on the ascent phase duration data for IT fashions and management fashions over the three decades and testing for the difference. The Chow test yielded 8.35, supporting the hypothesis at the significance level of 0.01. The confirmation of the third hypothesis was less clear-cut. The t-test for these differences was significant at .05 level for the 1970 period but not for the 1980 period.

We interpreted this finding originating from the interaction between the forces postulated in Hypothesis 2 and that in Hypothesis 3. That is, during the 1970s the dependence of IT fashions on the exogenous factors such as the availability and the cost of enabling technologies and the mass adoption might have, in fact, made the ascent period of IT fashions longer compared to management fashions. However, the explosion of enabling technologies and rapid diffusion due to advances in communication factors would counter-balance technologies, thus shortening the ascent duration for IT fashions over time, as hypothesized and confirmed in Hypothesis 2. The effect then would be a reduction in the difference in the duration between IT fashions and management fashions' ascent period in the 1980s. In the 1990s, the finding reveals a shorter duration for IT fashions than management fashions (if we speculate based on the limited management fashion data). However, the small sample size in 1980s and 1990s and non-significant t-test results point to the need for additional sampling and further analyses.

While the findings from the previous study yielded intriguing results that provide insights into the forces shaping the fashion lifecycle, they do not allow us to make any claim about the individual phases as they are based on the aggregate data for the ascent phase. It is

possible that all the patterns hypothesized hold for the fashion lifecycle at the aggregate level, but does not hold for any particular phase of the lifecycle. For example, the ascent period of the IT fashion lifecycle as a whole might have been shortening over the time, but its latency phase might have remained constant while it is the growth phase where all the shortening has taken place.

Therefore, this study examines any potential phase-specific differences in the patterns hypothesized. The fashion lifecycle is in general assumed to consist of three phases: latency, growth, and decline [4, 5]. The latency phase is said to be a period during which a seed for a potential IT fashion appears but lies dormant. The growth phase is where it begins to gather attention and makes a relatively abrupt ascent to the peak. The decline phase is where the frequency of discourse about the given IT declines and either stays on at some level or disappears from the publication altogether.

The previous study tested the three hypotheses discussed above for the ascent phase, which was defined to be a combination of the latency and the growth phases. However, it is not clear whether the exogenous factors for which the hypothesized patterns have been attributed – such as enabling technologies and their cost and critical mass user base – would equally influence both the latency and the growth phase of the lifecycle. In fact, it seems that the critical mass effect would influence the popularity in discourse after the fashion enters the growth phase. Therefore, the current study breaks the ascent phase into the latency and growth phases and tests the same set of three hypotheses with respect to each of these phases. We would have liked to test the same hypotheses with respect to the decline phase, but the lack of enough fashions that have completed their lifecycles prevented us from such a test.

Therefore, the hypotheses tested in the current study are as follows:

H-1L: For both IT fashions and management fashions, there will be a correlation between the year in which a fashion emerged and the latency phase of its life cycle: fashions introduced later will have shorter ascent period for IT fashions.

H-1G: For both IT fashions and management fashions, there will be a correlation between the year in which a fashion emerged and the growth phase of its life cycle: fashions introduced later will have shorter ascent period for IT fashions.

H-2L: The rate at which the latency phase of IT fashions gets shorter over the years is higher than that for management fashions. That is, the latency phase of IT fashions gets shorter even faster compared to management fashions.

H-2G: The rate at which the growth phase of IT fashions gets shorter over the years is higher than that for management fashions. That is, the growth phase of IT fashions gets shorter even faster compared to management fashions.

H-3L: The duration for the latency phase in the fashion lifecycle will be longer for IT fashions than that for management fashions.

H-3G: The duration for the growth phase in the fashion lifecycle will be longer for IT fashions than that for management fashions.

4. Methods

4.1 Identification of Information Technology and Management Fashions

We identified the set of IT fashions by reviewing the cover stories, special issues, special sections, or themes from a subset of periodicals that publishes review-like articles such as CACM, IEEE Spectrum, and the major tracks of the Hawaii International Conference on Information Systems (HICSS) using 1970 as a starting point. We identified management fashions using Huczynski (1993) and Carson (2000) as the main sources complemented by other resources on the web. Based on a set of criteria – such as the lack of ambiguity and the minimum number of publications – discussed in Lee and Collar (2002), we have reduced the initial set of 81 IT fashions and 49 management fashions to 47 and 17 fashions respectively.

4.2 Definition of the Fashion Lifecycle

An IT fashion was defined as *the production and consumption of temporarily intensive [information technology] discourse.* Using the same approach as Abrahamson, we collected annual periodical data, specifically the number of occurrences that an IT Fashion appeared in discourse, using ABI Inform as the data source. We defined a management fashion similarly and ABI Inform was again the data source for its annual periodical data.

However, we deviated from Abrahamson's method, as well as other researchers of management fashion, by using keyword searches instead of subject searches when identifying the publication counts (or hits). We chose the keyword search mainly because we believed that the appearance of a given term, even when it is not the main subject of the article, does represent a part of the fashion phenomenon. In Lee and Collar (2002), we discuss other rationales for this choice and caveats in the comparison of our studies to others based on the subject search.

While the first appearance of a publication on a new information technology marks the beginning of an IT fashion and the peak year makes the end of the growth phase, there is no milestone that marks the end of the latency phase and the beginning of the growth phase. To identify this milestone, we looked for a per-annum publication count threshold that satisfies the two constraints. First, going beyond this threshold must represent at least the beginning of popularity. For example, one or two publication count a year may simply be a random occurrence and would not satisfy the constraint. Secondly, once beyond the threshold, there should not be too many dips below the threshold. In other words, if the threshold represents the genuine beginning of popularity, then the publication count should continually rise until it reaches the peak rather than dropping below the threshold several times. After exploring with thresholds ranging from two to eleven, 9 was chosen as the per-annum publication threshold because it maximizes the continuity above the threshold and because it seems a sufficiently high number to represent a genuinely wide interest, especially considering that ABI Inform captures only a part of those that are published.

4.3 Methods for Testing the Hypotheses

In a prior study, the combined latency and growth phases for IT fashions were longer than management fashions from the perspective of when the fashions were first introduced (Lee and Collar 2002). This study investigates this further by focusing on specific phases of the lifecycle, specifically, the latency and growth phases, to determine if the same pattern exists at a more micro level.

We tested H-1L and H-1G, namely that the duration of the latency and the growth phases, respectively, have shortened over the three decades (H-1L and H-1G) as follows. We first categorized IT fashions and management fashions respectively into three distinct groups that correspond to three decades: 1970s, 1980s, and 1990s. We then computed the average duration for each group and regressed them over the three decade groups.

We tested H-2L and H-2G, namely that the rate at which the duration of the latency phase and the growth phase, respectively, shortens is higher for IT fashions than management fashions (H-2L and H-2G) as follows. For the latency phase, the duration data for all the IT fashions and the management fashions were respectively regressed over the years since 1970 by their starting year of the latency phase. We compared the slopes and used the Chow test to test for the significance of the difference. For the growth phase, we used the same method except we regressed using the starting year of the growth phase.

We tested H-3L and H-3G, namely that the duration for the latency phase and the growth phase, respectively, in the fashion lifecycle will be longer for IT fashions than for management fashions as follows. For each decade, we compared the means of the IT fashions and the management fashions and tested its significance using the T-test.

5. Results and Discussion

As shown in Tables 1(a) and 1(b), the findings clearly show the decline in the duration of both the latency and the growth phases of both the IT fashion and the management fashion lifecycle (H-1L, H-1G). Although there is an exception of the small change from the 1970s to the 1980s for management fashions and the fact that 1990s management fashion data requires a larger sample size, the pattern is overwhelmingly confirmed by the rest of the data. It is also interesting to note the closeness between the IT fashion and the management fashion averages in each of the phases in each of the three decades. This parallel does seem to point to an intriguing underlying pattern even though making any claim would require more data. Therefore the study supports our assumption that the effect of the Internet and the advanced network technologies in recent years should

Table 1. Changes in the lifecycle duration of IT fashions and Management Fashions over the period of 1970-2000.

(a) Changes in the duration of the Latency Phase

		IT Fashion	Mgmt Fashion
1970s	Mean	**8.38**	**8.75**
	Stand. Dev.	7	4.78
	n	11	12
1980s	Mean	**5.18**	**5.00**
	Stand. Dev.	3.49	2.55
	n	18	4
1990s	Mean	**1.62**	**2**
	Stand. Dev.	1.85	0
	n	11	1
Regression over the years	β	-3.38*	-3.375*

* Significance less than or equal to 0.05;
** Significance less than or equal to 0.01.

Table 1 –continued

(b) Changes in the duration of the Growth Phase

		IT Fashion	Mgmt Fashion
1970s	Mean	**10**	**5.83**
	Stand. Dev.	5.7	3.78
	n	11	12
1980s	Mean	**6.64**	**5.50**
	Stand. Dev.	5.76	2.29
	n	18	4
1990s	Mean	**1.69**	**3**
	Stand. Dev.	1.55	0
	n	11	1
Regression over the Years	β	-4.16	-1.42

* Significance less than or equal to 0.05;
** Significance less than or equal to 0.01.

have the effect of shortening the length of both the latency and the growth period by making potential fashion seeds (ideas or prototypes) more easily noticed and communicated faster.

Table 2 shows the results of the regressions on the changes in the duration of both the latency and the growth phases respectively. As shown, the rate of change is greater for IT fashions than management fashions only in the growth phase but not in the latency phase. The Chow statistic on the difference in the rate of change between IT and management fashions for the growth phase is significant at 97.5% level, but insignificant for the latency phase.

Table 2. Rate of Change in the Duration for IT Fashions vs. Management Fashions.

		IT Fashion	Mgmt Fashion
Latency	β	-.284**	-.42
	n	40	17
Growth	β	-.484**	.092
	n	40	17

* Significance less than or equal to 0.05;
** Significance less than or equal to 0.01.

Similarly, T-test on the absolute magnitude of the latency phase durations for IT fashions vs. management fashions show non-significant difference for all the three decades. For the growth phase durations, the result is similar to what was found for the ascent phase as a whole in the previous study (Lee and Collar 2002). That is, the difference between IT fashions and management fashions is significant at 95% level for 1970s. In 1980s, the visual inspection seems to support the difference (6.64 for IT fashions vs. 5.5 for management fashions), but T-test yields insignificance. In 1990s, the duration of IT fashions is in fact shorter than that of management fashions, but a single sample for the management fashions in 1990 does not allow us to make claim.

We can explain the confirmation of the H-2G by pointing to the seemingly heavier dependence on exogenous factors for IT fashions than for management fashions, as we did in the previous study for the aggregate ascent phase data. As discussed in the Hypothesis section, we assumed that with faster and more reliable communication, technologies develop faster and become more cost effective. As technologies diffuse faster, the critical mass of the user base is attained faster. We also assumed that these factors influence IT fashions more directly than management fashions. For example, the success of a management technique does not presuppose many enabling technologies except those techniques like Business Process Reengineering that are heavily technology-driven. It is also generally less critical for a management technique that everybody else uses the technique than for an information technology where adoption of standards plays very important roles.

We can also explain the findings for the growth phase (H-3G) by appealing to the heavier dependence of IT fashions, relative to management fashions, on the exogenous factors discussed above and the uncertainties they introduce. We assumed that these uncertainties, in turn, would likely prolong the duration of IT fashions because the more success variables a technology depends on, the longer it would take before its success is determined. We can also explain the finding that the difference is non-significant in 1980s and that in 1990s IT fashions seem to have shorter durations as the force hypothesized in H-2 (faster rate of decrease in reduction for IT fashion) overcoming the force hypothesized in H-3 (longer duration due to uncertainties from the exogenous factors). Although we need further confirmation with larger sample sizes, it seems that the duration for the IT fashion growth phase has decreased much faster since 1970s that in fact, we would likely to see shorter duration for IT fashions than management fashions. This prediction seems to be also supported by our observation that many companies compete to adopt new technologies as they become available in recent years.

With the present result, however, it behooves us to explain why the patterns do not hold for the latency phase (H-2L and H-3L). The explanation seems to lie in the definition of the latency phase. We have defined the latency phase as the period starting from the first appearance of the term in ABI-indexed publication to where it reaches the threshold of 9, after which the growth phase starts. As discussed earlier, the rationale for the threshold was that it should be a number that is large enough to reflect general interest but not too large to cause many breaks, i.e., dip below the threshold, once the number of publication goes above it. Therefore, we chose the operational definition of the latency phase to be the highest publication count in a given year that maximizes the continuity of the fashion lifecycle after it reaches the threshold.

What the result seems to tell us is that only when the fashion lifecycle enters into the growth phase, but not during the latency phase, does the exogenous factors influence the rate of the duration (H-2) or the relative magnitude of the duration for IT fashion compared to management fashion (H-3). One explanation is that these factors do not matter during the latency phase because the technology has not been widely exposed. Perhaps once people start becoming concerned with the availability of cost-effective enabling technologies and critical mass, then it is already a sign that the technology is widely known and that it is already in the growth phase. The latency phase can then be viewed as the period during which a new technology goes through the initial filtering of the first exposure based on its perceived ability to solve an existing performance gap [5].

The above discussion raises the question of whether we have the right definition of latency. Whether this definition of the latency phase is optimal or not is debatable. Some might believe that the latency phase is a natural kind of behavior or that it might be qualitatively distinct from the growth phase. Others, like us, might believe that it is a convenient but essentially arbitrary point along the lifecycle. In either case, all we can do is propose one and see if it generates interesting patterns or helps to explain the result.

The threshold we chose generate consistent patterns, namely that both Hypotheses 2 and 3, which were based on the assumption that IT fashions rely more heavily on exogenous factors, held for the growth phase but not for the latency phase. In this light, we argue that the results of this study corroborate the usefulness, if not validity, of the operational definition we have chosen as a milestone that marks the transition from the latency to the growth period – i.e. the largest per-annum publication count that would maximize the continuity once it is reached. In our study, it was 9 but this operational definition may be different in other contexts.

6. Conclusion

In this paper, we have highlighted the importance of IT fashions as a topic for information systems research. The study of IT fashions at the discourse level can reveal patterns whereby new technologies are perceived, the factors underlying these patterns such as the stakeholders in the knowledge enterprise, as well as techno-economic factors. We have also argued for the usefulness of leveraging on the existing study of management fashions in the study of IT fashions. The decade-long research on the theory of management fashions can provide us with a set of research questions, operational definitions, and methodologies that can be adapted in studying IT fashions. Furthermore, IT fashion research can contribute back to the management fashion and business research in general by helping us to identify what is generic to the fashion phenomenon and what is specific to the individual domains.

This study demonstrates the fruitful potential of IT fashion research by building on an earlier study that examined these patterns. We identified six hypotheses concerning the IT fashion lifecycle and comparing the different aspects of its phases over time to the corresponding aspects of the management fashion lifecycle. Doing so has yielded operational definitions of the different phases and led to a more precise definition of the fashion lifecycle, whether for IT fashions or management fashions. The usefulness, if not the validity of this definition, was corroborated by the consistent patterns, even when they deviated from the original hypotheses, found in the bibliometric data used for the study. In particular, this study revealed that even though the lifecycle for both IT and management fashions shortened over time, any differential results concerning the duration of the lifecycle between IT fashions and management fashions occurred during the growth phase but not the latency phase. We have explored possible explanations for this result, which led to the discussion of how the constructs in the lifecycle study such as this one should be operationalized.

This study is only a beginning in what we believe to be a very rich area of research. It formulates and tests only a fraction, those concerning the lifecycle, of many other questions that have come up in the course of our research on IT fashions. For example, the theory of management fashions tells us that management fashions can be viewed as an arena for knowledge entrepreneurs with their own motivations and that the stakeholders can be classified into four groups: technician, consultants, journalist, and academicians. We have examined IT fashions from this perspective and have reasons to suspect that the same breakdown may not hold for IT fashions.

There are many other open questions suggested by this study. Socio-psychological factors such as search for novelty or status seeking or the desire to appear individualistic and progressive without appearing deviant [4] are considered to play a significant role in the rise and fall of management fashions. How much role do they play in IT fashions? It has been argued that managers use discourse about mgmt techniques to communicate to organization stakeholders that their organization conform to institutional norms mandating the use of these techniques. Is this true of IT fashions as well? Are there academic fashions as in management fashions [18]? If so, in what way are they similar or different from other fashions? What is the relation in the rise and fall in popularity between the IT fashion at the discourse level and the diffusion of the technology or the meme (O'Reilly 2001) level? We hope that the current study provides a helpful basis for future research on this topic.

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