Mapping and explaining the Multi-perspective, Systems-based Research sub-Systems Movement

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Abstract:

As an essentially personal academic journey all along, the Multi-perspective, Systems-based (MPSB) Research is inevitably not well understood in the academic community. At the same time, over the last two years, the MPSB Research has been evolving quite fast. This paper tries to uncover the structure of the MPSB Research as a sub-Systems Movement (sub-SM) in terms of its evolutionary paths. Its aims are: (i) to make the MPSB Research comprehensible to the academic community, (ii) to serve as a consolidation effort on the MPSB Research as well as (iii) to invite academics to participate in this intellectual venture. In the discussion, the notion of sub-Systems Movement has been formulated and employed.

Key words: The MPSB Research, Key MPSB notions, The Systems Movement, A sub-Systems Movement (sub-SM), A sub-SM map, Systems thinking

Introduction

The Multi-perspective, Systems-based (MPSB) Research was launched by the writer in 1992 as the research theme for the writer's Ph.D. Degree programme at the Department of Industrial and Manufacturing Systems Engineering, the University of Hong Kong. This research programme culminated in the production of a Ph.D. thesis of Ho (1996a) which was also

summarized in Ho (1995; 1996b). Recently, the revitalized MPSB Research programme has been reviewed by Ho (2014a). This paper makes an attempt to uncover the structure of the evolutionary paths of the MPSB Research to date so as to achieve the following three related aims:

Aim 1: to make the MPSB Research comprehensible to the academic community.

Aim 2: to consolidate the MPSB Research works in an organized diagrammatic form made to date

Aim 3: to invite academics to participate in this intellectual venture as a community-based one

This endeavor to explain, review and synthesize the MPSB notions and the evolutionary paths of the MPSB Research in the form of a System Movement map is deemed necessary to meet the three related aims as this research has essentially been a one-man intellectual venture, thus not much known to the academic community. To pave the way for the discussion of MPSB evolutionary paths, a description of the newly developed MPSB Research notions is provided in the next section as they are inevitably referred to in the mapping and explaining exercise.

Some newly developed notions in the MPSB Research

In the 1996 version of the MPSB Research, there were twelve key MPSB notions (Ho, 1995; 1996a; 1996b), namely: (1) MPSB Research, (2) MPSB frameworks, (3) perspective, (4) a perspective switch, (5) a migration of perspective, (6) perspective anchoring, (7) an MPSB rich picture building exercise, (8) an MPSB knowledge compiler, (9) an in-built tension of pluralism, (10) MPSB cognitive filters for management, (11) enlightening management education and (12) key MPSB concepts. Since then, a number of additional MPSB notions have been proposed. Eight post-1996 key MPSB notions are briefly defined in Table 1.

Table 1: A summary of the eight Post-1996 key MPSB notions

Newly formulated key MPSB notions	Description of the notions
1. MPSB managerial intellectual learning (Ho, 2013a; 2014b)	This refers to the Multi-perspective, Systems-based intellectual learning by people of management concepts and notions which is expected to be employed to comprehend and inform management practices in the real world (Ho, 2014b).
2. The MPSB managerial intellectual learning process (Ho, 2013a; 2014b)	This refers to a process framework for MPSB managerial intellectual learning that involves the phases of (i) Data Management, (ii) Absorbed reading, (iii) the MPSB knowledge compilation and (iv) Practice-based intellectual learning.
3. An MPSB e-learning support system (2013b)	This refers to the human activity system of provision of learning support to students via the social media platform based on MPSB thinking.
4. The Managerial Intellectual Learning Capability-Building Mechanism (Ho, 2014c)	This refers to the self-sustaining (learning) energy acquisition and combustion function to drive the managerial intellectual learning process.
5. An MPSB Scholar-practitioner in Business Management (Ho, 2014d)	This refers to people who are actively engaged in Business Management-related scholarly activities and management practices based on MPSB thinking.
6. Double-hybrid management accountant (Ho, 2014e; 2014f)	This refers to MPSB scholar-practitioners in management accounting.
7. An MPSB Knowledge Supply Chain Framework (Ho, 2014a)	This refers to a knowledge management-cum-supply chain process-view of all the MPSB Research activities, whose expected output is relevant and actionable management knowledge for usable consumption.
8. A Systems-based Housing Imagination Evaluation Framework (Ho, 2014g)	This refers to an MPSB-cum-Housing Imagination-based framework, as a never-ending learning process, to evaluate Housing Studies-related phenomena. The framework makes explicit use of the notions of inquiry systems and the system complexity model.

When these eight post-1996 MPSB notions are added to the twelve original MPSB notions, there are 20 key MPSB notions altogether. With such a large number of academic jargons, it is useful to have a glossary of these notions to facilitate readers to comprehend the MPSB works. In this respect, Table 1 is useful but not complete as it only covers eight new notions. For the

other 12 notions, readers are referred to *Table 1: "Key MPSB concepts in MPSB Research"* in Ho (2013c), which is an open-access journal article published in the *European Academic Research*, and the MPSB works published from 1995 to 1996.

The MPSB Research as a sub-Systems Movement

The topic on the overall view on alternative paths of developing ideas and theories in Systems Thinking is known as the Systems Movement (Checkland, 1984). According to Schwaninger (2006): "The systems movement has many roots and facets, with some of its concepts going back as far as ancient Greece". A similar and more detailed account was provided by Jackson (2003, Chapter 1). Based on the writer's interpretation of Ackoff (1981), the Systems Movement started in the mid-1950s when "it was generally recognized that the source of similarities of the interdisciplines was their shared preoccupation with the behavior of *systems*". Flood and Carson (1998) identify four development cycles (DC) within this movement:

DC1: "Systems thinking, when formalized, leads to systems theory, which promotes systems thinking".

DC2: "Systems thinking, when formalized, leads to systems theory, which helps to explain structure and behavior in other disciplines, which promotes systems thinking".

DC3: "Systems thinking, when used in real-world application, helps to promote management effectiveness in other disciplines, which promotes systems thinking".

DC4: "Systems thinking, when used in real-world application, improves the effectiveness of problem management, which promotes systems thinking".

The MPSB Research has been argued to be located in DC2 in Ho (2013c). The main viewpoints behind the Systems Movement (SM) notion were originally explained in Checkland (1984), which predated Flood and Carson (1998), as follows:

SM-view 1 (about usage of a map): One can make use of a map (i.e. a Systems Movement map) to build a picture of the systems movement as a whole activity.

SM-view 2 (about a typological map): A Systems Movement map is a typological, not a representational, one.

SM-view 3 (about minimum necessary categories): A Systems Movement map provides "the minimum necessary categories needed to enable any piece of work to be "placed" and related to others".

SM-view 4 (about spanning categories): "Any particular piece of systems work may well span several of the map's categories".

Checkland (1984)'s explanations of the Systems Movement in terms of a Systems Movement map are equally applicable to the discussion of the evolutionary paths[1] of the MPSB Research here. This point will be revisited in the latter part of the paper. From the works of Schwaninger (2006) and Flood and Carson (1988), three more Systems Movement views are identified here:

SM-view 5 (about development cycles): Systems movement is made up of a number of development cycles (DC) [or evolutionary paths as a special kind of DC proposed in this paper] (Flood and Carson, 1988).

SM-view 6 (about levels of applications): Applications within the development cycles occur at a number of levels, including individual and family levels, organizational and societal levels, and, finally, the complex technical systems level (Schwaninger, 2006).

SM-view 7 (about organized wholes): All applications within the Systems Movement "build on the idea of systems as organized wholes" (Schwaninger, 2006).

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[1] An *evolutionary path* is a kind of Systems Movement development cycle (DC) which also shows research activity sequence along the path and might itself further split into sub-paths over time.
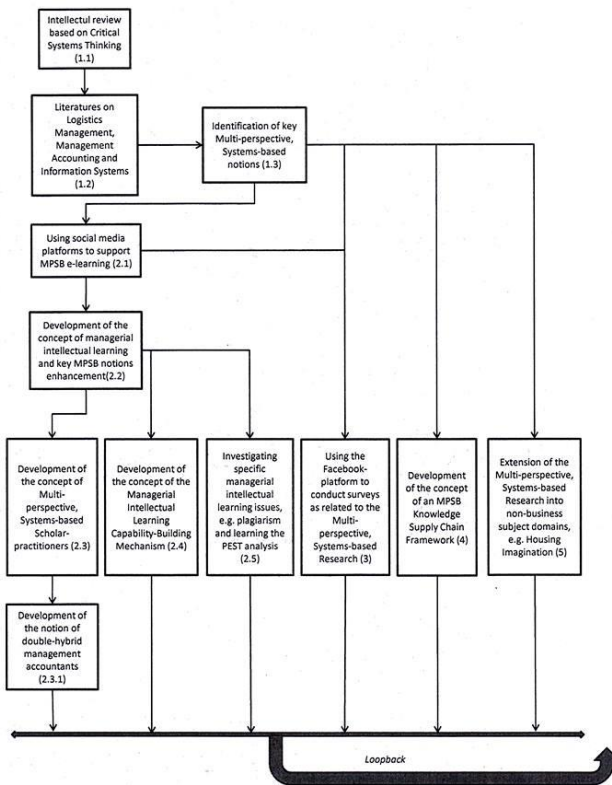
Having explained the nature of the Systems Movement and the Systems Movement map, the writer now examines and maps the MPSB Research as a sub-Systems Movement. Basically, **a sub-Systems Movement (sub-SM) is a development cycle in the Systems Movement that also possesses all the characteristics specified in SM-views 1 to 7**. In other words, a sub-SM is a systems movement within a containing Systems Movement. For example, within the Systems Movement, the development of Soft Systems Thinking and Critical Systems Thinking (Jackson, 1991) can be considered as two prominent sub-SMs. In both cases, the sub-SMs are participated by global networks of academics and practitioners. **The underlying structure of a sub-SM is made up of a number of development cycles or evolutionary paths which can be depicted in a sub-SM map**.

At the outset in 1992, the MPSB Research was identified with a specific path of development in the Systems Movement (i.e. DC2), which was to make theoretical advancement in Systems Thinking by employing such thinking and associated theories in reviewing a number of management disciplines[2] (Ho, 1996a). In particular, the genesis of the MPSB Research was to examine the topic of Decision Support Systems using Critical Systems Thinking. Shortly afterward, its research scope was expanded to cover Information Systems, Logistics Management and Management Accounting. This resulted in the publication of a number of academic papers and conference papers on these three management disciplines as the scholarly activity outcome of the MPSB Research. By 1996, twelve key concepts had been identified for the MPSB Research (Ho, 1995; 1996a; 1996b). By the end of 1996, the publication activity on the MPSB Research had petered out. But then, around 2011, the writer began to experiment with using Facebook to provide e-learning support to his students. Out of this Facebook-based initiative, the writer

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[2] In Ho (1997), three definitions of the term "discipline" based on Jones (1995) have been reviewed in the field of Decision Support Systems Studies.

published an article (i.e. Ho, 2013b) on e-learning support in *Systems Research and Behaviour Science* based on the MPSB perspective. At about the same time, the writer came across the open-access journal of *European Academic Research (EAR)*, and succeeded in publishing an article on managerial intellectual learning (i.e. Ho, 2013a) there. Hereafter, this writer has been publishing academic articles in EAR quite regularly. Indeed, mainly via the publication platform of EAR, the writer has been able to resume the scholarly activity of academic paper writing and publication on a regular basis. This scholarly activity leads to the speedy revitalization of the MPSB Research. Nevertheless, though publication of academic papers is very useful for sharing MPSB ideas with readers, most likely readers will not be able to figure out the structure of the evolutionary paths of the MPSB Research. The task of uncovering the structure of these evolutionary paths is done here via an enriched Systems Movement lenses. In this clarification exercise, the MPSB Research is perceived as a sub-Systems Movement. The structure of the evolutionary paths, made visible in the form of a sub-Systems Movement map of the MPSB Research, is depicted in Figure 1 for easier comprehension by the readers.

Figure 1: A sub-Systems Movement map of the Multi-perspective, Systems-based Research

In Figure 1, the evolutionary paths mainly flow downward. This flow indicates the sequence of events along these paths in this downward direction. Items 1.1 (Intellectual review based on Critical Systems Thinking), 1.2 (Literature on Logistics Management, Management Accounting and Information Systems), and 1.3 (Identification of key Multi-perspective, Systems-based notions) belong to the initial phase of the MPSB Research that took place from 1992 to 1996. The rest of the items (i.e. items 2 to 5) in Figure 1, as evidenced by the publication of articles in journals, have been mainly carried out after 2011. Structurally, the sub-SM splits at item 1.3 into four sub-paths, i.e. item 2.1 (sub-path 1), item 3 (sub-path 2), item 4

(sub-path 3) and item 5 (sub-path 4). For items 2.1 (Using social media platforms to support MPSB e-learning), 2.2 (Developing the concept of managerial intellectual learning and key MPSB notions enhancement), 2.3 (Developing the concept of Multi-perspective, Systems-based Scholar-practitioners), 2.4 (Developing the concept of Managerial Intellectual Learning Capability-Building Mechanism) and 2.5 (Investigating specific managerial intellectual learning issues, e.g. plagiarism and learning the PEST analysis) all focus around the theme of managerial intellectual learning, while also clarifying closely associated notions, such as Enlightening Management Education and Managerial Intellectual Learning Capability Building Mechanism, etc. Other than that, these items also work on clarifying and enhancing the existing key MPSB notions, as noted in item 1.3. Item 2.1 represents the second point that witnesses another splitting of evolutionary path into two sub-paths, which are items 2.2 and 3 while item 2.2 is the third splitting point with three subsequent sub-paths (i.e. items 2.3, 2.4 and 2.5). The subtheme of 2.3.1 (Developing the notion of double-hybrid management accountants) is a specific application of the notion of Scholar-practitioners in Management Accounting. Item 3 (Using the Facebook-platform to conduct surveys as related to the Multi-perspective, Systems-based Research) utilizes the writer's Facebook platform to conduct questionnaire surveys. So far, three such surveys have been conducted. Their findings have been published in Ho (2014m; 2014n; 2014r; 2014s). Item 4 (Developing the concept of an MPSB Knowledge Supply Chain Framework) works on a significantly broader process on the MPSB Research. Its focus is on the high-level perspective on Research Methods and knowledge delivery for the MPSB Research. Item 5 (Extending the Multi-perspective, Systems-based Research into non-business subject domains, e.g. Housing Imagination) applies the MPSB Research in a non-business subject called the Housing Imagination. This is quite an unusual research path as

the research focus of the MPSR Research heretofore has been exclusively on business subjects. Lastly, the *loopback* arrow in Figure 1 underscores *SM-view 5 (about development cycles)*. The trajectory of the swinging sub-SM is often influenced by the somewhat unpredictable teaching assignments and exploratory literature review activities of the writer. It can also be said that the sub-SM trajectory is a manifestation of the writer's intellectual learning process over the year. Overall, Figure 1 is a mapping exercise product that exemplifies *SM-view 1 (about usage of a map), SM-view 2 (about a typological map), SM-view 3 (about minimum necessary categories) and SM-view 5 (about development cycles)*. It also indicates 3 splitting points within the sub-SM, i.e. items 1.3, 2.1 and 2.2. Due to the evolutionary nature of the sub-SM, the sub-SM structure alters over time. This means that the sub-SM map as depicted in Figure 1 will inevitably be amended with the passage of time. The figure is useful for serving **aim 1** (on the comprehension of the MPSB Research) **and aim 2** (on the consolidation of the MPSB Research works in a diagrammatic form) of this paper.

Publications related to the MPSB Research sub-SM

Table 2 provides further information on the published articles on the MPSB Research and relates them to all the movement map items noted in Figure 1.

Table 2: Publications as related to all the items along the evolutionary paths of the MPSB Research sub-SM

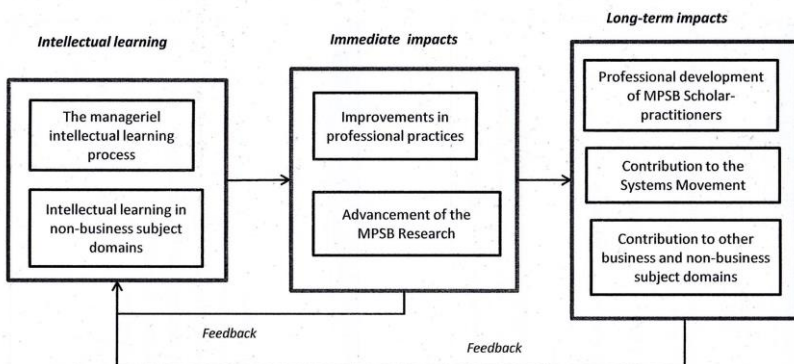| Evolutionary path Items of the MPSB Research sub-SM (re: Figure 1)	Related publications
Item 1 series	
• Intellectual review based on Critical Systems Thinking (1.1)	Ho (1995; 1996a; 1996b)
• Literature on Logistics Management, Management Accounting and Information Systems (1.2)	Ho (1995; 1996a; 1996b)

• Identification of key Multi-perspective, Systems-based notions (1.3)	Ho (1995; 1996a; 1996b)
Item 2 series	
• Using social media platforms to support MPSB e-learning (2.1)	Ho (2013b)
• Development of the concept of managerial intellectual learning and key MPSB notions enhancement (2.2)	Ho (2013a; 2013c; 2014b; 2014h)
• Development of the concept of Multi-perspective, Systems-based Scholar-practitioners (2.3), including the development of the notion of double-hybrid management accountants (2.3.1)	Ho (2014d; 2014e; 2014f; 2014r)
• Development of the concept of Managerial Intellectual Learning Capability-Building Mechanism (2.4)	Ho (2014c; 2014s)
• Investigating specific managerial intellectual learning issues, e.g. plagiarism and PEST analysis (2.5)	Ho (2014i; 2014j; 2014k; 2014l)
Item 3 series	
• Using Facebook-platform to conduct surveys as related to the Multi-perspective, Systems-based Research (3)	Ho (2014m; 2014n; 2014r; 2014s)
Item 4 series	
• Development of the concept of an MPSB Knowledge Supply Chain Framework (4)	Ho (2014a)
Item 5 series	
• Extension of the Multi-perspective, Systems-based Research into non-business subject domains, e.g. Housing Imagination (5)	Ho (2014g; 2014o; 2014p; 2014q)

From Table 2, the main academic papers as related to the various evolutionary paths of the MPSB Research sub-SM are listed. The table provides an illustration of ***SM-view 3 (about minimum necessary categories)*** of Checkland. In addition, it should be clear that the various items in different evolutionary

paths are not unconnected to each other. On the contrary, they are often richly associated to each other, since individual articles very often apply various inter-related MPSB notions located in different items in Figure 1 when addressing their respective article themes. Such a widespread situation testifies to **SM-view 4 (about spanning categories)** of Checkland. This inter-relatedness of articles is also reflected in Figure 2 that underlines the fact that "any particular piece of systems work may well span several of the map's categories" (Checkland, 1984). [The main ideas underlying Figure 2 will be further clarified in the next section.] All in all, Figure 1 (a sub-Systems Movement map) and Table 2 together reveal the underlying structure of the evolutionary paths of the MPSB Systems Movement.

Figure 2: An illustrative view on the inter-relatedness of notions in the MPSB Research

The inter-relatedness of the updated MPSB notions and cross-item-series coverage of ideas by articles on the MPSB Research: an illustration

Referring to Figure 2, which offers an illustrative view on the inter-relatedness of notions in the MPSB Research, there are three main components:

Component 1 (*intellectual learning*): This component covers the notion of managerial intellectual learning (as identified in ***Item 2 series*** of Table 2) as well as non-managerial intellectual learning (as identified in ***Item 5 series*** of Table 2).

Component 2 (*immediate impacts*): This component comprises (i) Improvements in professional practices (as discussed in ***Item 2 series*** of Table 1) and (ii) Advancement of the MPSB Research[3] (as more explicitly discussed in ***Item 1 series*** and ***Item 4 series*** of Table 1). ***Item 3 series*** (i.e. via Face-book-based surveys) makes up the research effort to gauge such immediate impacts.

Component 3 (*long-term impacts*): This component is made up of three items: (i) Professional development of MPSB Scholar-practitioners (as covered in ***Item 2 series***), (ii) Contribution to the Systems Movement (mainly examined under ***Item 1 series*** and ***Item 5 series***), and (iii) Contribution to other business and non-business subject domains (mainly discussed under ***Items series 1, 4, and 5***).

The newly coined MPSB notions mentioned in Figures 1 and 2 are defined in Table 1. Their detailed explanations can be found in the respective articles provided in Tables 1 and 2. These articles are also specified in Table 1. The two feedback loops in Figure 2 reflect the never-ending development process view of the MPSB Research. Such a view endorses ***SM-view 5 (about development cycles)***. Figure 2 is thus one way, among other possible ways, to view the MPSB Research and to synthesize the ideas involved (**aim 2** of this paper). The view in Figure 2 treats the notion of intellectual learning as the sole engine to propel the whole MPSB Research cycle. [The process of intellectual learning and the MPSB Research cycle do involve communication and collaboration with the business and academic communities. Thus, it is not quite an intellectual

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[3] According to Ho (1997), *advancement of the MPSB Research* can take the form of one of the four types of scientific progress.

activity by an isolated researcher.] The inter-relatedness of the key MPSB notions was also explained in the MPSB writings in the 1990s, e.g. Ho (1995; 1996a). Another way to relate key MPSB notions can be found in Ho (2014b, p. 690). Figure 2 is supportive of *SM-view 4 (about spanning categories)* of Checkland because inevitably articles on the MPSB Research have to address a number of cross-item-series topics with MPSB notions that are inter-related. The figure also serves to further illuminate the nature of the evolutionary paths model of Figure 1, notably on the underlying **SM-views 2 (about a typological map) and 5 (about development cycles)**. Figures 1, 2 and Tables 1, 2 together portray the MPSB Research as a sub-SM and its underlying evolutionary paths (i.e. the structure of the sub-SM). Moreover, they uphold all the seven *SM-views* which are embraced by this sub-SM.

The opportunism behind the MPSB Research sub-SM

Once in a while, the sub-Systems Movement goes awry and enters intellectual terrains less directly related to the core areas of functionally-oriented management disciplines, e.g., work-life balance, scholar-practitioners, managerial intellectual learning, Facebook-based survey exercises and Housing Imagination. This seemingly meandering movement with sporadic path-splitting reflects as much the inter-disciplinary nature of these business/non-business subjects as the idiosyncratic, dynamic, opportunistic and individual-based essence of the MPSB Research. For instances,

(i)   when the writer enrolled for the Master of Arts Degree in Management Systems with the University of Hull, UK in 1985, he had no idea of what the subject of Systems Thinking in Management was all about;

(ii)   when the writer decided to enroll for a Research Degree (initially an M. Phil Degree) with the University of Hong Kong (HKU), to launch the MPSB Research, the decision

was made over a causal lunch with a HKU Professor who happened to be supervising an Undergraduate student doing a final year project with the company that this writer worked for at that time;

(iii)   active publication of articles in the journal of *European Academic Research* was initiated one day when the writer noticed a posting of invitation in one of the writer's Facebook groups to publish papers.

(iv)   Recent Facebook-based survey exercises are carried as: (i) the writer has now a substantial number of Facebook members as a potential pool of survey respondents, (ii) there are free-of-charge and user-friendly online questionnaire survey applications available in the public domain, and (iii) quite many of the writer's students are now interested in doing questionnaire surveys in their final-year dissertation projects. Thus, doing some online questionnaire survey research exercises by the writer (re: item 3 of Figure 1) become feasible and valuable for both research and pedagogical purposes.

(v)   Since the Umbrella Movement in Hong Kong was triggered at the end of September this year (Wikipedia, 2014), the writer has been conducting regular protest site visits, collecting relevant newspaper article as well as conducted an online survey as a new study initiative on this movement in the MPSB Research mode.

Thus, the MPSB Research, as a sub-SM, has not been and will never be a well-planned process. Rather, it is an agile intellectual venture. Nevertheless, out of this evolving and opportunistic process, some patterns emerge in the form of (a) a plastic structure of the evolutionary paths of this Research as well as (b) certain inter-relatedness[4] of intellectual ideas and themes within this sub-Systems Movement.

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[4] *Relatedness of intellectual ideas and themes* in the Systems Movement and sub-SMs can be expressed in more than one way.

Concluding remarks

This discussion on the evolutionary paths of the MPSB Research sub-SM can be considered as an illustrative example of how systems thinking and theories can be developed via the path of application and review of them on functionally oriented management disciplines (i.e. DC2 of Flood and Carson (1998).). The figures, coupled with the tables in this article, render a structural-cum-evolving sub-Systems Movement image of the MPSB Research. For the writer, the topic of this paper could be located in item 3 of Figure 1 for its value in straightforwardly enriching the notion of an MPSB Knowledge Supply Chain framework.

Via the clarification and mapping exercise in this paper, the writer is able to more clearly identify and define the recent MPSB notions. These notions are assimilated into a Systems sub-Movement map (**aim 2** of this paper). In this respect, this work enables clearer reasoning and communication of research ideas to readers, both within the Systems community and beyond (**aim 1** of this paper). It enables academics who are interested in or even passionate about this kind of systems research to participate in it and they are sincerely invited to do so (**aim 3** of the paper). The hope is to convert the current MPSB Research sub-SM from being personal-based to community-based. Furthermore, within the Systems Movement, most of the communication in the systems community has mainly been addressed to each other within such a community rather than with outsiders, so maintained by Ackoff (2004). Probably, many systems theorists do not share this Ackoff's concern as a lot of systems thinking works, published in both systems and non-systems journals, can be considered as conducive to addressing this concern raised by Ackoff. Nevertheless, to address this concern related to the Systems Movement, endeavors to communicate with members outside the systems community via non-systems-community-

related communication forums, such as the journal of *European Academic Research*, on topics of interest to non-systems communities, e.g. management accounting, managerial intellectual learning and Housing Studies, as the MPSB Research has been doing, are always worth trying. Lastly, the discussion of the MPSB Research as a sub-SM itself can be treated as an illuminating example of the newly formulated concept of sub-SM. It is interesting to find out how analytically useful this notion can be when employed to study other sub-SMs.

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