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Towards a multidisciplinary definition of innovation

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Abstract

Purpose – This paper aims to undertake a content analysis of extant definitions of "innovation" as a basis for proposing an integrative definition of organizational "innovation".

Design/methodology/approach – A literature review was used to generate a representative pool of definitions of organizational innovation, including definitions from the different disciplinary literatures of economics, innovation and entrepreneurship, business and management, and technology, science and engineering. A content analysis of these definitions was conducted in order to surface the key attributes mentioned in the definitions, and to profile the descriptors used in relation to each attribute.

Findings – The key attributes in the paper present in definitions were identified as: nature of innovation; type of innovation; stages of innovation, social context; means of innovation; and aim of innovation. These attributes are defined, descriptors assigned to them, and both a diagrammatic definition and a textual definition of organizational innovation are proposed.

Originality/value – As a concept that is owned and discussed by many business disciplines, "innovation" has many different definitions that align with the dominant paradigm of the respective disciplines. Building on these diverse definitions, this paper proposes a general and integrative definition of organizational "innovation" that encompasses the different perspectives on, and aspects of, innovation, and captures its essence.

Keywords Innovation, Organizational innovation, United Kingdom

Paper type Research paper

Introduction

This paper focuses on innovation within business organisations and environments. As marketplaces become more dynamic, interest in innovation, its processes and management has escalated. Organizations need to innovate in response to changing customer demands and lifestyles and in order to capitalise on opportunities offered by technology and changing marketplaces, structures and dynamics. Organizational innovation can be performed in relation to products, services, operations, processes, and people. As long ago as Schumpeter, 1950 argued that organisations should innovate in order to renew the value of their asset endowment. Even before this, whilst the term innovation may not have been used extensively, processes that are associated with innovation and economic and technological change were perceived as being important (Lorenzi *et al.*, 1912; Veblen, 1899; Schumpeter, 1934). Although we recognise this, in this paper we focus only on explicit definitions of innovation. Zahra and Covin

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(1994, p. 183) suggest that "Innovation is widely considered as the life blood of corporate survival and growth". Innovation is recognised to play a central role in creating value and sustaining competitive advantage. Bessant *et al.* (2005, p. 1366) on the role of innovation in renewal and growth emphasise "Innovation represents the core renewal process in any organization. Unless it changes what it offers the world and the way in which it creates and delivers those offerings it risks its survival and growth prospects".

The significance of innovation is not restricted to business organizations. The US has a Department for Innovation (2008), and in the UK there has been widespread and ongoing acknowledgement of the importance of innovation. In 2003, the Department of Trade commented on the link between continuous innovation and jobs, profit and standard of living: "If UK-based companies fail to innovate, jobs and profits will suffer, and our standard of living will fall compared with other countries". More recently, the UK's Department for Innovation Universities and Skills (2008) commented on the wider implications of innovation in the face of globalisation and environmental challenges by highlighting the importance of all types of innovation in creating and maintaining competencies and responding to environmental and demographic restrictions. There is agreement that in order to both sustain their competitive position and to strengthen it, organizations and economies must innovate and promote innovation. Innovation is a key policy and strategic issue.

Innovation is tightly coupled to change, as organizations use innovation as a tool in order to influence an environment or due to their changing environments (internal and external) (Damanpour, 1991). However, innovation may involve a wide range of different types of change depending on the organization's resources, capabilities, strategies, and requirements. Common types of innovation relate to new products, materials, new processes, new services, and new organizational forms (Ettlie and Reza, 1992). These different forms of innovation draw to varying extents on different teams, departments, and professional disciplines. Therefore, innovation is of interest to practitioners and researchers across a range of business and management disciplines, and has been discussed variously in, for example, the literature on human resource management, operations management, entrepreneurship, research and development, information technology, engineering and product design, and marketing and strategy. Each of these different disciplines proposes definitions for innovation that align with the dominant paradigm of the discipline. As Damanpour and Schneider (2006, p. 216) state: "Innovation is studied in many disciplines and has been defined from different perspectives".

Whilst there is some overlap between the various definitions of innovation, overall the number and diversity of definitions leads to a situation in which there is no clear and authoritative definition of innovation. As early as 1984, Ettlie *et al.* (1984) commented on the problems for research and practice of innovation arising from this disciplinary void. More recently, both Zairi (1994) and Cooper (1998) have suggested that one of the challenges of innovation is the lack of a common definition, which undermines understanding of the nature of innovation. A general definition adaptable to different disciplines and covering different aspects of innovation would be beneficial as "the term 'innovation' is notoriously ambiguous and lacks either a single definition or measure" (Adams *et al.*, 2006, p. 22).

Our emerging research questions draw on the work of Kahn *et al.* (2003), p. 197) who highlight the requirements for clarification of defining innovation "beyond just the typical extremes of incremental and radical innovation?" Also, Danneels and Kleinschmidt (2003) emphasize the importance of a better understanding of product innovativeness. So, what are the key definitions of innovation? How do these vary between different disciplines? What are the similarities and differences? Is it possible and helpful to construct a universal definition? In this paper, our aim is to identify one multi-disciplinary definition of innovation Addressing these research questions, we suggest that one common clarified definition of innovation will not only provide a better understanding of the notion of innovation for the diverse range of practitioners within organisations, but will also enable researchers to collaborate more closely to more holistically investigate this complex concept. The purpose of this article is to further develop understanding of the concept of innovation and to arrive at an integrative definition, based on a content analysis of previous definitions. A particular and important contribution of this article is that our analysis is based on 60 definitions from different disciplinary traditions and paradigms, thus providing a first attempt to capture the "essence" and produce an integrative, cross-disciplinary definition of innovation. Another important question, but beyond the scope of this article is: How do definitions of innovation vary over time? We hope to address this in a future paper.

Our paper is structured as follows. First, we present a short literature review, reflecting on some of the previous definitions of innovation in order to illustrate the similarities and differences, the next section explains the methodology associated with the collection of the definitions, and the content analysis of the 60 distinct definitions that have been identified. This is followed by a findings section, which reports on the key attributes of the innovation definitions and the frequency of occurrence of descriptors to describe those attributes. On this basis, a model for the definition of innovation, together with a succinct textual definition of innovation is proposed. We conclude with recommendations and a brief discussion of the limitations of the paper.

Literature review

To demonstrate the diversity of the definitions of innovation and to press the case for the development of an integrative definition, we offer a few examples of definitions of organizational innovation where some emphasize different aspects of innovation and others are dedicated to a discipline. Thompson's (1965, p. 2) early and straightforward definition simply states: "Innovation is the generation, acceptance and implementation of new ideas, processes products or services". A similar definition of innovation was proposed more recently by West and Anderson (1996) and quoted as recently as 2008 by Wong *et al.* (2008, p. 2): "Innovation can be defined as the effective application of processes and products new to the organization and designed to benefit it and its stakeholders". On the other hand, Kimberly (1981, p. 108) defines innovation from a different perspective which embraces different forms of innovation: "There are three stages of innovation: innovation as a process, innovation as a discrete item including, products, programs or services; and innovation as an attribute of organizations." Some scholars place emphasis on the degree of newness. For instance, quoting Van du Ven *et al.* (1986) state that, "As long as the idea is perceived as new to the people involved, it is an 'innovation' even though it may appear to others to be an 'imitation' of something

that exists elsewhere". Newness is also associated with change. Damanpour (1996, p. 694) provides a detailed definition of innovation, which is much quoted:

> Innovation is conceived as a means of changing an organization, either as a response to changes in the external environment or as a pre-emptive action to influence the environment. Hence, innovation is here broadly defined to encompass a range of types, including new product or service, new process technology, new organization structure or administrative systems, or new plans or program pertaining to organization members.

Other variations in the definition of innovation arise from different disciplinary perspectives. For example in knowledge management, the focus is on knowledge being vital for innovation or even a type of innovation. As Plessis (2007, p. 21) notes:

> Innovation as the creation of new knowledge and ideas to facilitate new business outcomes, aimed at improving internal business processes and structures and to create market driven products and services. Innovation encompasses both radical and incremental innovation.

In technologically related definitions, the main focus is on innovation being a product related to new technology (Nord and Tucker, 1987).

Methodology

Aims

This study aims to:

- Identify the recurring attributes of "innovation" that are included in diverse definitions of innovation.
- Propose both a diagrammatic model and a simple textual definition which together act as a basis for summarizing the essence of "innovation".

Gathering definitions

The first stage in the research was to collect as many definitions as possible of the term "innovation". In this process, it was important to achieve representation over time and across disciplines. The definitions were gathered through a thorough literature review of articles on innovation, and innovation types and processes, using online databases, journals and books. In addition, as the number of definitions identified in some areas is far less than others, the relevant journals for those specific areas were further reviewed and the text of each article on innovation was examined to see whether they proposed a new definition; for example, in the area of organization studies, key journals such as *Management Science*, *Journal of Management Studies*, *Organization Science* and *Administrative Science Quarterly* were reviewed. However, in general, articles in these journals refer to definitions of innovation proposed elsewhere rather than offering their own definition.

Ultimately some 60 definitions of innovation were collected from the various disciplinary literatures, as shown in the following:

- *Business and management*: 18 definitions from 1966 to 2007.
- *Economics*: nine definitions from 1934 to 2004.
- *Organization studies*: six definitions from 1953 to 2008.
- *Innovation and entrepreneurship*: nine definitions from 1953 to 2007.
- *Technology, science and engineering*: 13 definitions from 1969 to 2005.

- *Knowledge management*: three definitions from 1999 to 2007.
- *Marketing*: two definitions from 1994 to 2004.

Table I presents the authors, the year and the discipline of the gathered definitions. Full citations of each of these papers are listed in the references at the end of the article.

Analysis

A content analysis was conducted of the collected definitions in order to surface the key attributes mentioned in these definitions considering the disciplinary variations, and to profile the descriptors used in relation to each attribute.

Content analysis is defined as "a research technique for the objective, systematic and quantitative description of the manifest content of communication" (Berelson, 1952, p. 8), or "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti, 1969, p. 14). We considered the definitions of innovation to be forms of communication and messages and we were seeking to identify the specified characteristics or attributes of these. Various phenomena can be counted in a content analysis, including, for example, actors, words or themes. What we were counting were the words, rather than authors or disciplines, although these do feature in our analysis. Content analysis was selected as the most appropriate as it "is an approach to the analysis of documents and texts ... that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner" (Bryman, 2001, p. 177). Definitions of innovation are considered as sections of text, which are amenable to deconstruction into component attributes, which can be categorized and counted. However, from our search of the literature, there were no predetermined categories available. Therefore, we used a modified approach to content analysis, which enabled the construction of categories. This is similar to qualitative or ethnographic content analysis (Altheide, 1996; Bryman, 2001), where there is an emphasis on allowing categories to emerge out of the text. However, the categories emerged through transparent quantification (as demonstrated in the following) rather than the researchers simply generating these. In addition, care was taken with coding (to ensure discrete dimensions and mutually exclusive categories) and interpretation of meaning to ensure consistency, reliability and validity.

To be more precise, the following steps have been taken in the content analysis:

(1) Classification of definitions of innovation by their disciplinary orientation.

(2) Cleaning the text in order to simplify the word frequency count process. For example, the word "process" has been used as two different concepts: process as a type of innovation; and, process as procedures or set of routines. To resolve this complication in the content analysis, "process" as a type of innovation remained the same but "process" as routine was changed to "procedure". Another example is the words "technological" and "technical", both referring to the same type of innovation; they have been used interchangeably and hence occurrences of these two terms have been merged and in the proposed definition the preferred term is "technical".

(3) Counting of word frequencies – The number of times words appeared in each set of definitions (disciplinary group) was counted using the word frequency query option of NVIVO8 software.

Table I.
List of sources of definitions categorized by disciplines

Economy
(Schumpeter, 1934)
(Mansfield, 1963)
(C. Freeman, 1974)
(Nelson and Winter, 1982; OECD, 1981)
(Nelson and Winter, 1982)
(Dosi, 1990)
(Baumol, 2002)
(Chen *et al.*, 2004)
(Roper and Love, 2004)

Innovation and entrepreneurship
(Barnett, 1953)
(Drucker, 1985)
(Kuhn, 1985)
(Urabe and Child, 1988)
(Lundvall, 1992)
(Cumming, 1998)
(Salavou, 2004)
(Alves *et al.*, 2005)
(John Bessant and Tidd, 2007)
Management
(Swan *et al.*, 1999)
(Cardinal *et al.*, 2001)
(Plessis, 2007)

Business and management
(Karger and Murdick, 1966)
(Knight, 1967)
(Caroll, 1967)
(Becker and Whisler, 1967)
(Shepard, 1967)
(Daft, 1978)
(Van de Ven, 1986)
(Tushman and Nadler, 1986)
(Lewis and Seibold, 1993)
(Wolfe, 1994)
(Brown, 1994)
(Damanpour, 1996)
(Klein and Sorra, 1996)
(McGrath *et al.*, 1996)
(Mone *et al.*, 1998)
(Trott, 2005)
(J. Freeman and Engel, 2007)
(Damanpour, 1996)

Marketing
(Porter, 1990)
(Berthon *et al.*, 2004)

Technology, science and engineering
(Myers and Marquis, 1969)
(Roy Rothwell and Gardiner, 1985)
(During, 1986)
(Nord and Tucker, 1987)
(Badawy, 1988)
(Damanpour and Gopalakrishnan, 1998)
(Udwadia, 1990)
(Sundbo, 1996)
(Dunphy *et al.*, 1996)
(Tang, 1998)
(Figueroa and Conceicao, 2000)
(Smits, 2002)
(Francis and Bessant, 2005)

Organization study
(Barnett, 1953)
(Thompson, 1965)
(Zaltman *et al.*, 1973)
(Kimberly, 1981}
(M.A. West and Farr, 1991)
(García-Morales *et al.*, 2008)

(4) Grouping of words with the same stem (e.g. implement, implementing, and implementation) in the word frequency results.

(5) Elimination of the words, which appeared only once or twice in their set of definitions, or words, which are of no value, such as pronouns. It should be mentioned that for those disciplines that have fewer definitions such as knowledge management or marketing, the elimination process was performed more flexibly and cautiously. For example if the word "product" (that has been repeated frequently in the other disciplines) was represented in knowledge management definitions only once, it was not eliminated because its lack of repetition is a result of the few number of definitions in this discipline.

(6) Identification of the innovation attributes from the word frequency counts. This process commenced with the definitions of innovation in business-management and economics disciplines as they have the greatest number of definitions in this study.

(7) Clustering of the descriptors used in connection with each attribute for each discipline as shown in Table II.

(8) Cross disciplinary analysis of the descriptors used for each attribute. For each attribute those words that have been used in common between a number of disciplines (suggesting similarity) were selected, and are highlighted in bold in Table II, and extracted and displayed in Table III.

(9) The proposal of a diagrammatic and text definition of innovation.

It should be noted in Table III, the counts for some descriptors exceed the total number of definitions; for example "new" has been repeated 76 times where there are only 60 definitions of innovation. This is due to the fact that the word "new" has appeared in some definitions more than once, for example:

> Innovation concerns processes of learning and discovery about new products, new production processes and new forms of economic organization, about which, ex ante, economic actors often possess only rather unstructured beliefs on some unexploited opportunities, and which, ex post, are generally checked and selected, in non centrally planned economies, by some competitive interactions, of whatever form in product market (Dosi, 1990, p. 299).

Hence, out of the 76 times the term "new" has been used, on 34 occasions there has been repetition of the word in the same definition. Similarly, the term "organization" has been repeated more than once in some of the definitions, for instance:

> Innovation is a process that follows invention, being separated from invention in time. Invention is the creative act, while innovation is the first or early employment of an idea by one *organization* or a set of *organizations* with similar goals (Becker and Whisler, 1967, p. 463).

Table IV summarises the total number of occurrences of words in the database of definitions, relative to the total number of definitions in which that word appears.

Findings and discussion

Tables II and III show the attributes of innovation definitions that have been identified through the content analysis. These six attributes form the basis for an integrative definition of innovation, since they have been surfaced from key definitions drawn from different disciplinary areas. It is important to note that these attributes are all in

Table II.
Result of first phase of innovation content analysis, word frequency count based on sector and attributes

	Business and management	Economy	Innovation and entrepreneurship	Technology/science/ engineering	Knowledge management	Marketing	Organization study
Nature	New, 16 Change, 4	New, 24 Improved, 4	New, 10 Change, 2	New, 11 Challenge, 2 Change, 2	New, 2 Improve, 1	New, 3 Change, 2 Improve, 1	New, 4
Type	Product, 7 Process, 5 Service, 5 Program, 2	Product, 9 Process, 6 Service, 3 Technical, 3	Product, 4 Service, 4 Technical, 3	Product, 10 Service, 8 Process, 7 Technical, 3	Product, 2 Incremental, 1 Process, 1 Radical, 1 Service, 1 Technical, 1	Product, 2 Process, 1 Service, 1	Product, 4 Process, 3 Service, 3
Stages	Adoption, 3 Creation, 4 Design, 2 Implementation, 2 Development, 2	Production, 4 Introduction, 3 Manufacturing, 3 Development, 2 Commercialization, 3	Generation, 3 Application, 2 evelopment, 2 Implementation, 2 Acceptance, 1 Creation, 1	Adoption, 7 Development, 3 Generation, 7 Implementation, 2 ntroduction, 2 Commercialization, 4 Creation, 2	Creation, 2 Decision, 1 Design, 1 Development, 1	Learning, 1 Communication, 1	Adoption, 3 Application, 2 Development, 2 Program, 2
Environment	Organization, 7 Firm, 6 Customer, 2 Developer, 2 External, 2 System, 2 Users, 2	Organization, 2 Actor, 1 Consumer, 1 Customer, 1 Social system, 1	Organization, 2 Users, 2 Customers, 1 Employee, 2	Organization, 12	Group, 1 Internal, 1 Organization, 1	Organization, 1	Firm, 5 Organization, 4 Group, 2 Unit, 2
Means	Idea, 5 Resource, 4 Invention, 3 Technology, 3 Investment, 2 Market, 2 Creativity, 1	Economy, 2 Equipment, 2 Idea, 2 Industry, 2 Market, 2 Technology, 2	Idea, 5 Creativity, 5 Invention, 2 Innovativeness, 1	Market, 6 Technology, 6 Creativity, 4 Invention, 4 Idea, 2 Innovativeness, 1	Knowledge, 2 Idea, 1 Market, 1	Technology, 1 Invention, 1	Idea, 3 Innovativeness, 3
Aims	Superior, 4 Advantage, 2 Value, 2 Competition, 2 Influence, 2 Sustain, 2 Differentiation, 2	Economic, 2 Compete, 3	Economy, 2 Need, 2 Compete, 2 Success, 2	Economic, 2 Success, 2 Differentiation, 1	Business, 1	Superior, 1	

Attribute	Word frequency count
Nature of innovation	New, 76
	Change, 10
	Improve, 6
Type of innovation	Product, 40
	Service, 25
	Process, 23
	Technical, 10
Aim of innovation	Competition, 7
	Success, 6
	Economy, 6
	Superiority, 5
	Differentiation, 3
	Advantage, 2
	Value, 2
Social context	Organization, 29
	Firm, 11
	Customer, 4
	Group, 3
	Unit, 2
	Developer, 2
	Employee, 2
	External environment 2
	Social system, 2
	Workforce, 1
	Consumer, 1
	Internal environment, 1
Means of innovation	Idea, 22
	Invention, 12
	Technology, 12
	Market, 11
	Creativity, 10
Stages of innovation	Adoption, 13
	Development, 13
	Creation, 9
	Implementation, 6
	Commercialization, 7
Summary of attributes frequency	Type of innovation, 98
	Nature of innovation, 92
	Means of innovation, 69
	Innovation and people, 60
	Stages of innovation, 48
	Aim of innovation, 31

Table III.
Summary of word frequencies grouped by attributes

strong evidence not merely in discursive expositions on innovation management, but also in the definitions of the basic concept of innovation. These attributes are defined as follows:

- *Nature of innovation* refers to the form of innovation as in something new or improved.
- *Type of innovation* refers to the kind of innovation as in the type of output or the result of innovation, e.g. product or service.

	Total number of occurrences	Number of occurrences in distinct definitions
New	76	42
Organization	29	15
Product	40	33
Firm	11	4
Service	25	21
Idea	22	18
Invention	12	8
Superior	5	2
Improve	6	4
Process	23	21
Technical	10	8
Market	11	9
Creativity	10	8
Change	10	9
Implement	6	5
Group	3	2
Development	13	12
Commercialization	7	6
Technology	12	11
Value	2	1
Economic	6	5
Success	6	5

Table IV.
Total word frequency versus number of times words has appeared by definition

- *Stages of innovation* refers to all the steps taken during an innovation process which usually start from idea generation and end with commercialization.
- *Social context* refers to any social entity, system or group of people involved in the innovation process or environmental factors affecting it.
- *Means of innovation* refers to the necessary resources (e.g. technical, creative, financial) that need to be in place for innovation.
- *Aim of innovation* is the overall result that the organizations want to achieve through innovation.

In arriving at this final list of attributes two issues have been taken into consideration:

(1) One of the attributes of innovation, which only occurs in three of definitions relates to the time of innovation implementation or adoption in the context of specific industries. In this analysis, there are two definitions, which have paid attention to time of innovation by mentioning first or early use of innovation and there is one definition, which highlights the first use of innovation by the organization adopting it. For example, Rothwell (1992, p. 221) quotes Freeman as:

> The technical, design, manufacturing, management and commercial activities involved in the marketing of a new (or improved) product or the first use of a new (or improved) manufacturing process or equipment.

Owing to the limited number of definitions considering the time of innovation, this attribute has been excluded from the definition proposed in this study.

(2) Another term which occurs quite frequently is the word "process" which during the content analysis was replaced by "procedure" for simplification. Usage of this word was an indication of the fact that innovation is a process not a discrete act.

(3) Analysis of Table III demonstrates that in defining innovation, scholars have paid more attention to type, means, social context and stages of innovation and have made relatively limited reference to the aim of innovation. This may potentially be evidence of a serious disconnection between the rhetoric of innovation and its strategic context. On the other hand, most research reports and articles on innovation start by explaining the strategic importance of innovation. So, thus perhaps this is simply an oversight in the definitions or a taken-for-granted assumption.

On the basis of the key attributes of definitions of innovation and the descriptors used by those definitions to characterise the attributes, a diagrammatic definition of "innovation" is proposed in Figure 1. The diagram incorporates the six attributes identified as being common to the various disciplinary definitions of innovation. We do not suggest that this is the actual or ideal flow, or that the flow is linear. We do not give greater importance to "stages" or "aim" but simply suggest that these are six common, and therefore important, attributes of innovation. The model seeks to present the "essence" of innovation, no matter the organizational or disciplinary context. The six components of the model do not only describe the possible flow of the innovation process, they also indicate various starting points within the innovation process. This might be influenced by disciplinary background. For example, engineers might begin with a focus on the technical possibilities of a new product, whereas as marketing specialists might concentrate on identifying potential new markets. Individuals within organisations may choose different starting points on the journey to innovation. The chosen starting point might also have a strong relationship to the way innovation is achieved, or not.

In order to capture and articulate the diagrammatic definition in Figure 1 in words by means of interpretation, we propose that:

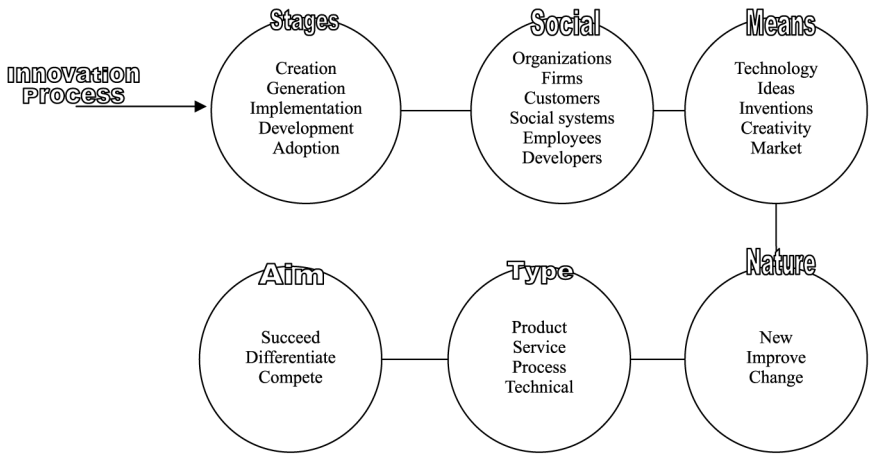

Figure 1.
A diagrammatic definition of innovation

> Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace.

Our definition begins with the term "multi stage process" as most of the definitions presented earlier have highlighted that innovation is not a discrete act and is a process. Secondly, we focus on business organisations in this paper, although we have not explicitly articulated in our textual definition that innovation can occur in various social entities and contexts. Third, as shown in the diagram, many definitions have focused on the means of innovation, that is the ways in which ideas have been transformed into new, improved and changed entities, whether products or services, for example, for new markets. Therefore, a "multi stage process" together with "transforming ideas into new/improved products . . . " not only captures all the stages that different scholars have identified or referred to in their definition of innovation, it also highlights the fact that ideas are used and transformed (together with other means of innovation) to result in "New/improved products, services or processes", the main types of innovation identified together with the level of change they involve. Finally, although not often explicitly mentioned in extant definitions, we include the aim of innovation as "successfully advancing" (referring to process innovations) and "competing and differentiating" to reflect both the overall strategic aim of innovation and the potentially diverse social and environmental contexts in which innovation occurs. These diagrammatic and textual definitions, which seek to subsume and supersede earlier definitions with their specific disciplinary biases, recognize that an all-embracing definition of innovation needs to encompass a number of aspects of the essence of innovation.

Conclusions and recommendations

Innovation, and how it is managed, is a key strategic issue. It is of interest to both practitioners and researchers across a range of business and management disciplines. Having conducted a comprehensive content analysis, we have identified how different disciplines view innovation from a different standpoint and propose distinct definitions. It could be argued that each discipline requires it own discipline-specific definition. However, as business and research become more inter- and multi-disciplinary, we suggest there is a need for a more generic, integrative definition. This is to enable the development of common meaning and shared understanding of the various dimensions of innovation, identified in our proposed definition. We suggest that the number and diversity of current definitions of innovation creates ambiguity and confusion and we support McAdam *et al.*'s (2004) view that the absence of a consensual definition of innovation is problematic.

To address this, on the basis of a content analysis of existing definitions of innovation, extracted from a number of different disciplines, we have proposed a succinct and arguably intuitive textual definition of innovation. The text version of the definition is supplemented by a diagrammatic definition, which identifies the descriptors that can be used to provide a more detailed definition. Such a definition should assist in crossing disciplinary boundaries, and act as a basis for more transparent sharing and transfer of knowledge relating to innovation and its processes.

The objective in proposing a general definition of innovation has been to seek to offer a multidisciplinary definition for a multidisciplinary concept. There is evident

need for such a definition and it has the potential to inform both practice and research. A consensus on the definition of innovation offers a way forward for the identification of innovation within organizations and countries. The typology of innovation, implicit in our diagrammatic definition offers a means of classifying innovations. For example, there is the opportunity to classify definitions on the basis of whether they bring forward something new, or improve an existing aspect of the organization (nature). Similarly, innovations may be classified as product, service, process or technical (type), and the resources or means used to drive and support innovation can be identified in respect of the balance of technology, ideas, inventions, creativity, and market (means). This type of analysis would be useful for businesses in strategy and planning, and would offer a useful framework for comparing different innovation processes in different organizations, towards knowledge-building.

However, there are limitations with our paper. As a conceptual paper, we have produced our textual and diagrammatic definitions drawing on existing theoretical work from a range of business disciplines. In addition, although beyond the scope of this paper, we have noted there is evidence that the nature and focus of innovation has changed over time. Therefore, we propose adopting a chronological perspective in future research to explore how meanings of innovation have evolved, generally and specifically within disciplines. There is further empirical work to do to validate the proposed definition in terms of its suitability, usefulness and acceptability across different disciplinary groups and this is a clear agenda for further research.

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