Innovation in the ‘Public Sector’

Putting it into Perspective

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Innovation in the 'Public Sector'

– putting it into perspective

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The ICE-project investigates user driven innovation processes in service businesses. The project aims at developing new tools and scripts that service companies can apply in order to introduce or enhance such innovation processes.

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Innovation in the 'Public Sector'

– putting it into perspective

Abstract:

Governments around the world advance innovation as a significant means to improving public services (Walker, 2006:311). Within this discussion the word innovation seems to be used habitually by policy makers where there are high expectations in relation to reviving, boosting and renewing the flagging economies and the public sector services. Within this context, innovation in the public sector is recognized as a vital factor in meeting the challenges of globalization and demographic changes, and simultaneously sustaining a high level of public services to citizens and businesses.

However, there is ambiguity and disagreement in the 'literature' with no universally accepted definition (National Audit Office 2006; Becheikh, N. et al 2007) about what innovation is, And about what deserves to be classified as an 'innovation' (Hartley 2005; Moore and Hartley 2008; Osborne 2008). Through reviewing the literature concerning innovation theory and the more recent literature on innovation in the public sector this paper compares and contrasts both definitions and classifications of innovation in an effort to shed more light on this complex area.

Introduction

"The functioning of the public sector gives rise to considerable debate. Not only the efficiency and efficacy of the sector are at stake, but also its legitimacy" (Bekkers 2005).

Innovation, innovation, innovation – the word innovation seems to be a contemporary popular buzzword used loosely by politicians, policy makers and others in relation to 'improving' or making the 'public sector' more effective and efficient. Governments around the world advance innovation as a significant means to improve public services (Walker, 2006:311). Indeed Western governments are preoccupied with responding to ongoing changes within their societies, failure to do so will lessen their capability for efficient governance (Merritt, 1985:09). The pursuit to achieve advances in quality and efficiency of public provided services appears to be a high priority for most member states of the EU and OECD. Within this context individual member states continuously evaluate and regulate their policies responding to the changing make-up of society and any issues related to

this along with appeasing political and public demands to services provided by the public sector. Indeed the process of public policymaking concerns the conceptualisation of problems put forward to government to solve, where civil servants construct possible options in the shape of policy resolutions that are often implemented, assessed and amended (Sabatier 2007:03).

Mostly, discussions concerning public governance focus on finding suitable solutions and methods that contribute both to sustaining economic growth and public welfare services (United Nations, World Public Sector Report 2008:05). Within this discussion the word innovation is used habitually by policy makers where there are high expectations in relation to reviving, boosting and renewing the flagging economies and the public sector services. Here innovation in the public sector is considered an essential component in relation to meeting the challenges of globalization and demographics, while at the same time sustaining a high level of public services to citizens and businesses.

For example, in Denmark the Government has made innovation public policy and has great expectations for the innovation concept with regard to turning the economical downturn, reviving economic growth and reshaping the public sector to meet the future demands and challenges of demographics. Within this context it is anticipated that demographics will have a profound effect upon public sector services. On the one hand there will be more older people requiring and demanding services, and at the same time fewer people in the labour market to sustain the public sector through tax contributions (Danish Agency for Science, Technology and Innovation 2008A:03; 2008B:03; Malikova and Staronova, 2005:15).

Subsequently, one of the main challenges facing the Danish public sector is meeting demands from politicians and citizens pertaining to providing additional, improved, and more cost effective services with fewer hands - this is where the concept of innovation is thought to be the way ahead to champion the government's goal of equipping the flagging public sector to face the challenges of tomorrow.

However, considering the focus and emphasis on public sector service innovation there does not seem to be any universal agreement or understanding of what deserves to be classified as innovation (Von Stamm 2003:01 – 05) and more specifically what innovation is in the public sector service

context. Becheikh et al. (2007) for example found numerous approaches to defining innovation in the public sector during their *"systematic revue"* (2007:05). Moreover, they emphasize the difficulties of defining innovation in the public sector context that is simultaneously comprehensive, explicit and exact (2007:06). Therefore the aim of this paper is to explore the literature concerning innovation and innovation in the public sector in an attempt to contribute to the discussion about a) what innovation is in the public sector, and b) classifying innovation in the 'public sector'. This is followed by a reviewing the theory of innovation literature and analysing definitions of innovation put forward in the literature. This is followed by an analysis of how innovation is classified in the literature concerning innovation in the public sector to see if there is any consensus. However before doing so the starting point is in the literature on creativity in an attempt to shed more light on the innovation concept.

The relationship between creativity, implementation and innovation

Creativity + (Selection) Development + Implementation = Innovation

> *"Innovation, just as many other things in management and life, means different things to different people ... while there is generally agreement on the components of innovation (i.e. creativity and implementation), there is often disagreement on what deserves the title 'innovation'."*
>
> (Von Stamm 2003:01 – 05).

Von Stamm (2003) highlights that there is a general consensus amongst researchers concerning the essential components of innovation i.e. creativity and implementation. Moreover, she highlights the subjective nature of innovation whereby people construct their own interpretations of what innovation is and about what deserves to be acknowledged as 'innovatory'.

A creative idea usually is a combination of well-known ideas not previously consolidated (Poincaré 1913; cited in Martindale 2009:109). Einstein's famous equation $E = mc^2$ is considered to be an instance of this – it combined old ideas in a new and surprising fashion (Martindale 2009:109). This is the starting point for innovation – creativity – the act of coming up with an idea and the first essential component of innovation (Von Stamm, 2003:02).

Amongst others, the idea that innovation starts with creativity is put forward by Amabile et al. (1996) and Von Stamm (2003). Amabile et al. (1996) maintain that: *"all innovation begins with creative ideas. Successful implementation of new programs, new product introductions, or new services depends on a person or a team having a good idea – and developing that idea beyond its initial state"* (1996:1154). 'Successful implementation' is significant here and implies that to be innovative then creative ideas have to move beyond the prototype or the trial phase and be adopted by an organisation in its daily usage or practice. Amabile et al. 1996 define creativity as "*the production of novel and useful ideas in any domain*" and subsequently define innovation as: "*the successful implementation of creative ideas within an organisation*" (1996:1155). This implies that innovation is made up of two essential components: creativity and (successful) implementation. That's to say the underpinning component for innovation is creative ideas by individuals (Von Stamm, 2003; Amabile et al., 1996), groups (Amabile et al., 1996) or communities (Leadbeater, 2008) and only comes into play as innovation through successful implementation.

Successful implementation implies that the creative idea must be positive, constructive and provide practical means for accomplishing the creative idea. In short, to become (an) innovation a creative idea must be selected, developed and brought into use before it can be considered (an) innovation. This idea is reinforced by Von Stamm (2003) who maintains that "*creativity is an essential building block for innovation*" (2003:01) and the notion is mirrored through the "*widely accepted definition of innovation*", namely: **creativity + (successful) implementation = innovation** (2003:01). Through this simple definition she highlights the very core of innovation: creativity and implementation. Von Stamm (2003) points out for innovation ingenuity is not enough; innovativeness requires action, moving ideas from fiction to fact through implementing it successfully (2003:01).

The latter is commensurate with Amabile (1996) and reinforces the notion that innovation is simply the successful implementation of new creative ideas. According to Von Stamm (2003), implementation consists of the following components: creativity, selecting ideas, development and commercialisation (2003:01). Moreover, implementation is not an individual enterprise it requires "*team effort*" thus organisations must have methods and practices in place to: "*allow the timely and effective execution of projects*" (2003:01). Thus implementation concerns transforming new creative

ideas into actualisation through a structured process – from the drawing board onto the factory floor, from seed of thought to objectification.

Whilst there is no universal definition of creativity it is widely held that creativity involves: "*the ability to come up with something 'new' which is of* ***'value' or 'useful'*** (Bills and Genasi 2003; Cox 2005; Ford 1996; Rickards and De Cock 1999; cited in Rehn and De Cock 2009). Although the words 'value' and 'useful' are a bit woolly, it is assumed here that they involve a positive impact upon society. Thus following this line, if creativity is the first essential component of innovation then innovation must involve creating useful positive outcomes for people. Perhaps this fairly straight forward idea that innovation is simply the successful implementation of new creative ideas conceals the multifarious nature of innovation (Walker 2002; Becheikh et al. 2007).

While there seems to be general acceptance of the components of innovation i.e. creativity + successful implementation = innovation there is no common agreement about what can be labelled as an innovation. Perhaps this has something to do with the complex progressive nature of innovation that begun in the early work of economists, like Adam Smith and Joseph Alois Schumpeter.

Innovation – Historical Perspective

> *"In the first fire-engines, a boy was constantly employed to open and shut alternately the communication between the boiler and the cylinder, according as the piston either ascended or descended. One of the boys ... observed that, by tying a string from the handle of the valve which opened this communication, to another part of the machine, the valve would open and shut without his assistance, and leave him at liberty ... with his play-fellows"* (Smith 1776:08).

Economic development through innovation is not a new phenomenon and is found in the classical works of economists (Lundvall 2006:05). For instance, innovation plays a central role in the introduction of the Wealth of Nations by 18th Century Scottish economist Adam Smith (1723 – 1790) (Lundvall, 2006:05). Lundvall (2006) maintains that Smith (1776) classifies two distinct types of innovation "experience-based" and "science-based" (2006:05). Moreover, the example of

innovation outlined above concerning the boy and the fire engine exemplifies the very nature of innovation and encompasses the widely held view of creativity as something 'useful and of value'. Needless to say all fire-engines of the time were fitted with such a piece of string freeing many boys of such labour. Indeed what Smith (1776) outlines is what could be described respectively in today's terminology as 'process' and 'product' (technical) innovation(s).

The first example put forward by Smith (1776) concerns *"common workmen"* finding new efficient labour saving methods to perform operations: *"A great part of the machines ... were originally the invention of common workmen ... employed in some very simple operation ... turned their thoughts towards finding out easier and readier methods of performing it ... in order to facilitate and quicken their particular part of the work"* (1776:08). In addition as highlighted above, one of the *"greatest improvements"* made to fire-engines at the time was created and implemented as a labour saving device by a boy. Furthermore, Smith (1776) highlights product (technical) innovations where machine manufacturers and scientists combined new and different bits and pieces together to make handy time saving improvements: *"Many improvements have been made by the ingenuity of the makers of the machines ... and some by that of those who are called philosophers or men of speculation, whose trade it is not to do any thing, but to observe every thing ... upon that account, are often capable of* ***combining together*** *the powers of the most distant and dissimilar objects"* (1776:09). Smith (1776) appears to have laid the early foundations for a theory concerning innovation.

Joseph Alois Schumpeter (1883 – 1950) is however regarded as the founder of modern innovation theory and research (Lundvall, 2006:07). It is held widely that the modern concept of innovation stems from Schumpeter's work and that his work still has considerable influence on the understanding of innovation and innovation research today. The starting point for Schumpeter's theory concerning entrepreneurship[1] was by questioning the scope of the dominant economic theory of the day in relation to explaining the impact of innovation and entrepreneurship on the economy (1961:61–63) [1934]. Schumpeter *"broke with traditional economics ... he postulated that dynamic disequilibrium brought on by the innovating entrepreneur, rather that equilibrium and optimization, is the 'norm' of a healthy economy and the central reality for economic theory and economic practice"* (Drucker, 2007:24). According to Schumpeter (1961) the 'circular flow' was

[1] Schumpeter's theory of entrepreneurship was part of an endeavour to create an entirely new form of economic theory (see; Swedberg, R., 2000).

inadequate to explaining entrepreneurial/innovative behaviour and futile in relation to foreseeing the consequences of sporadic bursts of activity caused by innovative/entrepreneurial behaviour, which significantly influences the economy (1961:61):

> *"These tools only fail ... where economic life itself changes its own data by fits and starts. The building of a railway may serve as an example. Continuous changes which may in time, by continual adaption through innumerable small steps, make a great department store out of a small retail business, come under the "static" analysis. But "static" analysis is not only unable to predict the consequences of discontinuous changes in the traditional way of doing things; it can neither explain the occurrence of such productive revolutions nor the phenomena which accompany them"* (Schumpeter, 1961:62–63) [1934].

Central to Schumpeter's theory is the concept of 'economic development' – development meaning changes to economic life due to internal initiatives as opposed to coerced external factors (1961:63). According to Schumpeter (1961) [1934] the surrounding world impacts significantly upon the economy therefore 'economic development' is not a phenomenon explicated economically; he maintains that answers concerning 'economic development' can only be found outside of economic theory (1961:63) [1934]. Economic development is a distinct phenomenon in the Schumperian sense, impulsive and discontinuous change permanently disrupting the economic balance (1961:64) [1934]. According to Schumpeter innovation is an activity that creates economic development and driven primarily by production (the manufacturer); while there is a relationship between the wants (demand) of the consumer (satisfying wants feeds production) and production, the producer is viewed as the overriding initiator of economic change (1961:65) [1934]. Therefore according to Schumpeter (1961) [1934] economic development is closely linked to production which is the combination of readily available materials. However, to produce new goods or existing goods through different processes means to unite these materials and processes in new ways perhaps leading to innovations (1961:65) [1934]. However, in order for the development phenomenon to emerge the new combinations[2] have to be in fits and starts – thus Schumpeter defines development (innovation) as the *"carrying out of new combinations"* (1961:66) [1934]. Schumpeter's (1961)

[2] Schumpeter refers to those carrying out new combinations as entrepreneurs, and the act of doing new combinations as enterprise (1961:74) [1934]. According to Schumpeter entrepreneurship is not a profession, a social class or a "lasting condition". Once the entrepreneur ceases carrying out 'new combinations' and becomes established within the business community the entrepreneurial nature ceases (1961:78) [1934].

[1934] definition of innovation is still very relevant today – this is normally how researchers understand and investigate innovation.

According to Schumpeter these new combinations lead to key innovations such as: *"the introduction of a new good"* (new to consumers or enhanced versions of existing goods); *"the introduction of a new method of production"*; *"the opening of a new market"*; *"the conquest of a new source of supply of raw materials or half-manufactured goods"*; and *"the carrying out of the new organisation of any industry, like the creation of a monopoly position ... or the breaking up of a monopoly position"* (1961:66) [1934]. The main emphasis of Schumpeter's innovation typology concerns *"new combinations"* with the focus on supplying and organising manufacturing along with production processes, products and the market. While Schumpeter's (1961) [1934] definition seems limited to the private sector it is very relevant today in relation to understanding and researching innovation taking place in the public sector.

Schumpeter (1942) puts forward the concept of **'creative destruction'** where he distinguishes between 'natural growth' and 'development'. Here he asserts that development is the result of entrepreneurial behaviour brought about through 'creative destruction'. According to Schumpeter (1942) through '**discontinuous**' *"competence-destroying"* changes' entrepreneurs transform the economy to new levels which brings about development in society, improving the life quality of people (Manimala 2009:121). Within this context 'destruction of competencies' is viewed as a 'creative' entity since society and the economy are transformed positively to another level (Manimala 2009:121). 'Creative destruction' or rather innovation enables progress in the world giving entrepreneurs the status of powerful 'agents of change' (Rehn and Christian 2009:224). Schumpeter's emphasis here is that innovation is production driven.

Schumpeter has been **criticised** concerning his assertion that innovation is primarily production driven. For instance, Schmookler's (1966) research found precisely the opposite; that inventions and innovations are more likely to thrive in areas where demand is high and increasing (Lundvall 2006:08). However, it seems that Schumpeter's (1961) thoughts, definition and typologies concerning innovation from the 1934 (German – English) translated version of his book are still widely cited, applied, adapted and adopted today in many concerns both inside and outside of industry. Furthermore, much of present-day research (for example, see: Fuglsang & Sundbo,

2005:330) on innovation have been motivated by Schumpeterian thought where researchers from diverse fields have utilised elements from his work (Swedberg, 2000:18).

Drucker and Schumpeter (1961) differ considerably concerning the primary sources of innovation. Schumpeter advocates that innovation is **production-driven** and Drucker maintains that innovation is **demand-driven** where the major source is *"purchasing power"*: *"Instalment buying literally transforms economies ... wherever introduced, it changes the economy from supply-driven to demand-driven, regardless almost of the productive level of the economy"* (2007:28).

Drucker (2007) similar to Schumpeter (1961) views innovation as the method for entrepreneurs to exploit change by **combining existing resources** in innovative and productive ways to create new and different values, or the adaption of materials into resources to create new and different "satisfactions" (2007:31). Drucker (2007) views innovation as economical or social and defines it in terms of **demand** as opposed to **supply** and states that innovation is ***"changing the value and satisfaction obtained from resources by the consumer"*** (2007:30). However, unlike Schumpeter (1961) Drucker links the significance of innovation to commerce and both private and public sector services with the emphasis on practicing *"systematic innovation"* along with the application of *"successful innovation"* (2007:17).

Systematic innovation comprises the *"purposeful and organised search for changes and in the systematic analysis of the opportunities such changes might offer for economic or social innovation"* (2007:31). Again, the focus here is on **exploiting change**. Drucker (2007) maintains that the overwhelming majority of successful innovations exploit change and specifically involves scanning seven sources for innovative opportunity (2007:31). Drucker (2007) maintains that there are seven fundamental sources to innovation; (1) The Unexpected - the unforeseen, success, failure, or external happening – all of which are directly linked to fundamental behavioural changes, expectations and demands from consumers (2007:37-50); (2) Incongruities concerns innovation within an industry, a market, a service or a process (2007:51). This source of innovation relates to conflicts between 'actual' and 'assumed reality' (2007:32); (3) Process Need (refers to process innovation based on deficiencies in a working process; (4) Industry and Market Structures concerns unexpected changes in industrial or market structure; (5) Demographics (population changes); (6)

Changes in perception refers to changes or reconstructing societal values; and (7) new knowledge (scientific and non-scientific) (2007:32).

Druckers' (2007) approach to innovation is managerial viewing management as a significant 'vehicle' for *"profound change"* in relation to changing ways of thinking about innovation (2007:12). Moreover, he advocates a systematic approach to innovation, putting forward a learning methodology concerning the widespread multidisciplinary sharing of ideas and understanding about innovation across organisational boundaries both in private and public sectors. For Drucker (2007) change is the key word where entrepreneurs exploit change through the process of innovation. The latter brought about perhaps by changes in values, insight, mindset, conflict or deficiencies in working processes or products, new industries or markets, new knowledge, demographics, and/or demands from citizens. Even though Drucker (2007) and Schumpeter differ concerning their starting point for innovation (demand vs. Supply driven) most of the sources of innovation put forward by Drucker (2007) are compatible to the types of innovation put forward by Schumpeter (1961).

Subsequently, after Schumpeter, innovation in the private sector seems to be divided into different categories or typologies by various writers. Some researchers have categorised innovation into 'product' (outcome) and 'process innovations' and others distinguish between 'technological and administrative innovations'. Product innovations generally fit into Schumpeter's (1934) first category *"the introduction of a new good or a new quality of good"* and signifies change or changes to the product or services available from an organisation. Process innovation is about changes in the way goods or services are manufactured and correspond to Schumpeter's (1961) second category *"the introduction of a new method of production"*. However, process and product seem to be closely related and more than likely are part and parcel on the shop floor or place of product or service innovation.

Utterback and Abernathy (1975) distinguish between 'product' and 'process innovations' and put forward two models accordingly (1975:640). In short they advance that both production processes and products are developed over time through simultaneous evolutionary processes (1975:641-642). According to Utterback and Abernathy (1975), a product innovation is either a completely new technology (knowledge) or a combination of technologies introduced to the market to meet the

needs of users or the market (1975:642). They put forward different stages of product development and propose that initially the emphasis is on product performance as opposed to product range; the emphasis subsequently shifts from performance to standardisation and cutting costs – ultimately giving greater yield (1975:642). Process innovation concerns the same simultaneous evolutionary starting point to the production process applied to produce a product or service (1975:641).

Merritt (1985) views innovation as a process by which new ideas or practices (new or improved) are adopted or diffused (1985:11). Thus Merritt (1985) defines innovation as *"the introduction of a new idea, method, or device"* (1985:11). Deutsch (1985) sees innovation as a learning process and asserts that innovation is made up of recurring "*microsocial*" learning both at the societal and the individual levels and advocates a reinforcement learning approach to innovation (1985:25).

According to Deutsch (1985) at the societal level, innovation is *"the adoption on a relatively large scale of some invention or discovery"* (1985:19). At this level according to Deutsch (1985), large scale innovations are science driven primarily by *"observations and experiments ... matters of new knowledge"* (ibid). Deutsch (1985) asserts that innovation demands new; behaviour, routines, roles and practices for both actors and institutions (1985:19-20). Furthermore, he maintains that in order to constitute an innovation then at least one or all of these conditions must be met (1985:20). Deutsch (1985) suggests that at both the individual and organisational levels innovation concerns reinventing; perceptions, intentions and re-evaluating ways of seeing things – in short a total change in mindset (ibid).

Technological innovation concern "*the adoption of a new idea that directly influences the basic output processes*" (Daft 1978; cited in Zhao, 2005:27) and seem to be commensurate with process innovation and Schumpeter's (1934) second category. According to Daft (1978), administration innovations embrace amongst other things, changes to policies and resource allocation related to the social structure of the organisation (Daft 1978; cited in Cooper 1998:498). Perhaps the latter could partly correspond to Schumpeter's (1961) fifth category *"the carrying out of the new organisation of any industry"* (1961:66).

Summary

Thus far, what is clear is that the starting point for innovation is creativity, without creative ideas there would be no innovation – thus creativity can be viewed as the first core component of innovation. Secondly, creative ideas only become innovation when they transformed from thought to actuality and implemented successfully by an organisation, local community or society. Here implementation is the keyword and the second core component of innovation, no implementation equals no innovation.

Furthermore, innovation can be viewed as the knack of finding newer, easier, efficient labour saving methods to perform operations through combining different processes and/or bits and pieces (new combinations) together and their successful implementation. Moreover, innovation is a word or a concept used to describe the impulsive discontinuous disruptive actions of entrepreneurs upon the 'economic development' of a given society. Additionally, innovation is viewed specifically as a mechanism to exploit change through combining resources in new and productive ways to create new and different realizations along with wealth. Post Schumpeterian researchers have divided innovation into different categories and typologies. One example of which is to divide innovations between 'product' (outcome) and 'process which are commensurate with Schumpeterian (1934) thought. Moreover, innovation is viewed as an 'evolutionary process' (Utterback and Abernathy, 1975) this suggests constant learning by doing and implies continuous watchfulness looking for easier and better ways of doing things like the boy, the fire engine and the piece of string.

Defining innovation is not a simple matter, from the few definitions included thus far one can identify a number of features that form the basis of a definition of innovation: creativity, implementation, newness, awareness, constant learning by doing, new behaviour, new outlooks and mindsets, labour saving, efficiency and change (discontinuity) for the better through exploiting given opportunities and different combinations of objects, materials and processes.

Understanding Innovations as Impact

Generally innovations can be understood in terms of impact upon the organisation, local community, the economy and society as incremental and radical. The fundamental processes behind these two types of innovations have been described respectively as "exploitation" and "exploration" (March 1991; cited in Manimala 2009:121). Exploitation implies minor adjustments to an organisations current product or services whilst exploration implies risk taking and constructing something new. The term radical ("*competence-destroying*" Tushman and Andersen 1986; cited in Manimala 2009) when applied to innovation(s) refers to *"path-breaking, discontinuous, revolutionary, original, pioneering, basic, or major* innovations" (Green et al., 1995; cited in Zhao, 2005:27). Examples could be the creation of new products, services or industries (Manimala, 2009:121) or "doing something completely different" (Bessant and Tidd, 2007:28). Radical innovations inherently are costly and hazardous by nature with the pursuit of new "cutting edge technologies" and venturing into unknown terrain where knowledge is immature or absent (Green et al., 1995:205). Furthermore, more radical innovation projects are more likely to fail as opposed to an incremental project (Baker et al 1985; Sounder 1987; cited in Green et al. 1995).

Within the public sector context Radical innovations are considered to be *"(...) development of new services or a fundamentally new way of organising and delivering a service"* (Albury, 2005:52). Albury (2005) maintains that although innovations might be radical, incremental or systemic, the majority of innovations are incremental changes (2005:52).

Incremental innovations are thought to enhance current services/products and cut costs (Manimala 2009:120). Incremental innovations are ("*competence-enhancing*" Tushman and Andersen 1986; cited in Manimala 2009) innovations are small improvements made to enhance processes, products and services along with reducing costs (Manimala, 2009:121) or put more simply *"doing what we do but better"* (Bessant and Tidd, 2007:28). Green et al. (1995) advance that radical innovation projects are more likely to fail as opposed to incremental projects (Baker et al., 1985; cited in Green et al. 1995). Albury (2005) puts forward that within the public sector incremental changes are *"(...) relatively minor changes and adaptations to existing services or processes - brought about by public service professionals to improve performance and the lives of service users"* (2005:52).

Understood in terms of Point of Departure

Furthermore, innovations can be understood in terms of their point of departure: top-down, bottom-up, needs-led or efficiency-led (Koch and Hauknes, 2005:08). These terms signify the launching pad for innovation(s): Top-down normally refers to 'top' management or 'organisations/institutions higher up in the hierarchy' (Koch and Hauknes 2005:08) and in public sector services could easily refer to national or local politicians and/or senior civil servants filtering down to middle management. Bottom-up normally refers to innovations initiated by "*workers on the factory floor*" (Koch and Hauknes, 2005) up till middle management and by individual or groups of users. Needs-led and efficiency-led innovations signify whether the innovation process was triggered to meet a particular need or difficulty; or to enhance the efficiency of procedures, products or services already in place (Koch and Hauknes, 2005:08).

Innovation in the Public Service Sector

While there seems to be some agreement in the literature (e.g. Von Stamm 2003; Amabile 1996; Vigoda-Gadot et al. (2005:09) concerning the core elements of innovation (e.g. creativity and successful implementation) there does not seem to be any agreement about what can be classed as innovation (Von Stamm 2003:05; Osborne and Brown, 2005:119). This is evident when looking at the literature concerning innovation in the private sector and seems to be the case concerning innovation in the public sector. Within this context, there does not seem to be any commonly accepted definition within the literature that deals with innovation in the public sector.

Since Schumpeter's (1934) industrial limited notion of innovation and definition based mainly on production definitions have widened in range and approach; social innovations (organisational, institutional and political innovations), innovations in services, and innovations in the public sector are now included (Halvorsen et al. 2005:02). Perhaps this partly explains the ambiguity within the literature when it comes to defining innovation where there seems to be a definite lack of any common definition of the innovation concept. This feature is made clear in the (2006) report by the UK National Audit Office (NAO) who found: *"There is no widely accepted or common definition of what counts as an 'innovation'"* (2006:04).

Furthermore, Osborne (1998) found a distinct lack of innovation definitions along with the inclination to treat innovation as a homogenous concept as opposed to a group of interrelated ones (1998:1136). Osborne (1998) advocates "*specificity*" in both definition and terminology to fully comprehend innovation (1998:1136). Røste (2008) found a similar tendency concerning the literature on public sector innovation: "*The innovation concept is found in literature that focuses on various aspects in the public sector, but in spite of this diversity very few discusses what the concept actually covers in the various settings*" (2008:155).

Becheikh et al (2007:05) identified several definitions of innovation during their systematic literature review on public sector innovation ranging from 'simple general' to 'complex' definitions (2007:05); although it was not specified if the definitions were context specific. Becheikh et al. (2007) suggest that the diverse approaches to innovation definition and the words used to describe it (e.g. 'improvement', 'creativity', 'invention' etc.) is an indicator in itself to its sheer "*complexity and the multidimensionality"* of the concept. Therefore, within this context it's challenging to put forward a definition of innovation in the public sector which is simultaneously "*exhaustive, clear and precise*" (2007:06). Furthermore, innovation is: *"highly complex and it is impossible to offer a simple definition"* (Walker 2003:93).

What is more, another factor which could influence the challenge of defining innovation in the public sector is its sheer size and diversity. Windrum (2008) reflects this magnitude and diversity: *"the public sector comprises a system of public institutions that affect people's everyday lives in a myriad of ways ... these institutions include the political institutions and structures that determine and implement laws. They provide basic social and public services, such as social welfare services, education and health"* (2008:05). Røste (2008) reinforces this point and states that the public sector is made up of numerous diverse organisations and could easily be divided into various "industries" and as such the fundamental mechanisms for innovation differ (2008:169). This can only add to difficulties in defining innovation in the public sector.

As highlighted by Becheikh et al. (2007) there are a number of definitions of public sector innovation to be found within the literature. Several definitions of innovation found within the literature dealing with the public sector are explored here in an attempt to identify the core features of what innovation is in a public service sector setting. The definitions included here have been

selected at random from the material at hand and represent diverse implications of what innovation is contended to represent:

Definitions of Innovation in the Public Sector

Newman et al. (2001) in their study concerning the investigation of why local authorities in England innovate and to what purpose define innovation as: "*discontinuous or step change, as something which was completely new to a particular local authority (though which may have previously been applied elsewhere), and a change which had already been implemented rather than just an aspiration or planned initiative*" (2001:61). This definition emphasises already implemented sporadic incremental changes concerning new innovations to the local authority in question with particular focus on implementation.

Green et al. (2001) in their examination of innovation in services in the European Union stress that innovation and change should not be considered synonymous since organisations change continuously. However, normal organisational developments like recruiting new staff are not innovative steps unless new staff are specifically recruited to bring new 'knowledge' into the organisation or to perform new tasks (Green et al. 2001; cited in Cunningham 2005:02). They propose a definition that emphasises newness through introducing new processes, practices, collaborators or by creating something new: *"doing something new i.e. introducing a new practice or process, creating a new product (good or service), or adopting a new pattern of intra- or interorganisational relationships (including the delivery of goods and services)"* (Green et al. 2001; cited in Cunningham 2005:02).

Mulgan and Albury (2003) put forward a wide reaching definition that could fit most public sector organisations: *"New ideas that work ... successful innovation is the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes efficiency, effectiveness or quality"* (2003:03). This broad definition emphasises successful innovations and seems to imply tried and tested innovations, perhaps previously applied elsewhere as in the Newman et al (2001) definition. Moreover, this definition seems to imply radical innovations as opposed to incremental innovations considering the emphasis on "*significant improvements*" and also includes the idea of implementation.

In the OSLO Manual (2005) the OECD define innovation as "*the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method inbusiness practices, workplace organisation or external relations*" (2005:46). This generic definition of (an) innovation covers a host of innovations within different sectors. Its main emphasis is on the implementation of something new or a significantly improved version of an existing product, service, process, method or new partners.

Osborne and Brown (2005) put forward a general definition of innovation which views innovation primarily as a transformational process through introducing *"newness into a system"* by applying novel ideas and the occasional invention to disturb continuity to the product, service and/or its surroundings: *"The introduction of newness into a system usually, but not always, in a relative terms and by the application (and occasionally invention) of a new idea. This produces a process of transformation that brings about a discontinuity in terms of the subject itself (such as a product or service) and/or its environment (such as an organisation, market or a community)"* (Osborne and Brown, 2005:121).

Albury (2005) defines (successful) innovation as: *"the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes efficiency, effectiveness or quality"* (2005:51). This definition includes the two core ingredients of innovation (e.g. creativity and implementation) and emphasise that the implementation of new processes etc. should result in significant enhancements to quality and efficiency.

Halvorsen et al. (2005) define innovation in the broadest terms as *"changes in behaviour"*. They assert that studying innovation in the public sector setting requires a broad approach: "*Studying innovation in the public sector, one has by the outset removed oneself from the narrowest interpretations of innovation"* (2005:02). It's worth mentioning that Halverson et al. (2005) were part of the PUBLIN project and as such were required to adopt a wide definition of innovation in order to cover several dimensions of innovation in the public sector (2005:02).

Koch and Hauknes (2005) view innovation as "*strictly a micro-level phenomenon*" and assert that it's entirely up to researchers to decide what should be classed as (an) innovation. Within this context they advance innovation as a critical analytical model for analysing 'social activities and interaction' and maintain that innovation should not be understood as a *"descriptor of an objective reality or generic category of behavioural dimensions in an empirical reality"* (2005:07). Koch and Hauknes (2005) assert that innovation is shaped by the environment of the individual and is a "*behavioural expression*" commensurate with the aims, goals and concerns of the innovating entity within the wider social economic and cultural milieu (2005:09). They maintain that essentially innovation involves "*doing something differently and deliberately in order to achieve certain objectives*" (ibid). They put forward that Innovation is a change of behaviour new to the unit in question – in this case the innovation can be transferred from elsewhere. Furthermore, they maintain that innovation essentially concerns the intentional implementation of behavioural change within a given context by "*social agents*" (2005:07). This emphasis on 'intentional' implies that innovations have to be carefully planned and managed suggesting a top-down approach and shifts emphasis from spontaneous innovations emphasised by Schumpeter (1961). Koch and Hauknes (2005) advance the following definition: *"Innovation is a social entity's implementation and performance of a new specific form or repertoire of social action that is implemented deliberately by the entity in the context of the objectives and functionalities of the entity's activities"* (2005:09). This definition emphasises the deliberate implementation of something new or importing new skills or aptitudes into the entity in question brought about through social interaction commensurate with the intentions of the entity and in tune with the socio-cultural and socio-economical environment. Social action implies a movement to bring about change within the entity in question. According to Koch and Hauknes (2005) approach innovations are "subjectively determined" created by resources (economical, material and human) and the perceptions of those involved. Moreover, innovations are "*activity specific*" to the body in question, its output and environment (2005:09).

The UK Governments (2008) White Paper: 'Innovation Nation' proposes that innovation can be defined as: "*the successful exploitation of new ideas, which can mean new to a company, organisation industry or sector. It applies to products, services, business processes and models, marketing and enabling technologies"* (2008:12). This wide ranging definition emphasises that to be classed as an innovation the new idea has be successfully developed.

Innovation Definition Table:

Source of Definition	Core features	Common Features
Schumpeter (1961):	Impulsive and discontinuous change/ carrying out of new combinations	
Drucker (2007):	Exploiting change – new combinations	Change/new combinations
Daft (1978):	Adoption of a new ideas that directly influences the basic output processes	Newness/implementation
Merritt (1985):	The introduction of a new idea method, or device,	Newness
Deutsch (1985):	Large scale adoption of creativity new behaviour, reinventing	Change/ Creativity/implementation
Amabile et al. 1996:	Creative ideas, (successful) implementation	Creativity & implementation
Newman et al. (2001):	Discontinuous, new to unit/ implementation	Implementation, discontinuity, newness
Green et al. (2001):	Action - introduction of new practice etc. creating new output; new patterns of cooperation	Newness/creativity/ change
Mulgan/Albury (2003):	New ideas that work: creation and implementation of new processes etc. significant improvements	Newness/creativity, implementation, significant improvements
OECD (2005):	Implementation of a new or significantly improved product (good or service), or process, new methods, new structure or external relations	Implementation/creativity newness, new cooperation
Osborne & Brown (2005):	Introduction of newness into a system the application of a new idea, transformation, discontinuity.	Newness/creativity change, discontinuity
Albury (2005):	Creation and implementation of new processes, products, services and methods of delivery - significant improvements in outcomes	Creativity, implementation, newness significant improvements
Halvorsen et al. (2005):	Changes in behaviour	Change – new course of action
Koch and Hauknes (2005):	Innovation - implementation and performance of a new specific form or repertoire of social action, implemented deliberately	Implementation, purposeful change
National Audit Office (2006):	New ideas, selection, development and implementation – performance enhancement	Creativity, implementation, performance enhancement.

The National Audit Office (2006) Team in their report defined innovation broadly as: *"Having new ideas, developing the best ones, and implementing them in such a way that there is (at least) a good chance that they will improve the ways in which your organisation operates or performs"* (2006:08). This definition denotes selecting and sorting creative ideas that are more than likely to succeed in enhancing organisational performance.

Summary

As demonstrated above there is no universal definition of what (an) innovation is and especially so in the public sector context. Could it be as Walker (2003) asserts that innovation is so highly complex that it is impossible to offer a simple definition? (2003:93). Becheikh (2007) advanced that the innovation concept is complex and multidimensional and as such is problematic to put forward a definition that is both unambiguous and clear-cut. Furthermore, Røste (2008) outlines the sheer size and complexity of the public sector itself which only adds to the difficulties of defining innovation in the public sector context. Perhaps each public service sector (e.g. education, health, social services etc.) should be considered as separate units of analysis and as such divided up into the particular areas of activity and service output or even narrower into subgroups? Here researchers perhaps can put forward definitions which are more precise and clear-cut to the particular area of research and as proposed by Koch and Hauknes (2005) leave it entirely up to researchers to decide what should be classed as (an) innovation within the particular organisational context commensurate with its aims, goals and intentions of the innovating entity within the wider social economic and cultural surroundings (2005:09). However despite this complexity and multidimensional aspect of innovation along with the diversity of definitions outlined above it is nevertheless possible to identify several core features that form the core of a general definition of innovation and a number of features that the included definitions have in common (outlined in table 1). Here newness, discontinuity and change are fundamental to innovation along with creativity, implementation and performance enhancement – without creativity, implementation, newness and change for the better for the unit of analysis, organisation or service user group in question then there is no innovation. In short, "*innovation has to be more than an idea – implementation or actual use of an idea has to occur in order to turn a new idea into an innovation"* (Damanpour and Evan 1984; Boyne et al. 2005; cited in Walker 2006).

The core features of innovation include; (discontinuous) change (Schumpeter, 1961; Drucker, 2007; Newman et al. 2001; Green et al. 2001; Osborne and Brown 2005) through the act of executing new combinations (Schumpeter, 1961; Drucker, 2007) or through introducing something new (Schumpeter 1961; Drucker 2007; Daft 1978; Merritt 1985; Green et al. 2001; Mulgan and Albury 2003; Osborne and Brown 2005; Albury 2005) or something significantly improved (OECD 2005) requiring new behaviour (Deutsch 1985; Halvorsen et al. 2005), skills (Koch and Hauknes 2005) and new types of cooperation (Green et al. 2001; OECD 2005) and the subsequent selection/development (NAO 2006) and the (purposeful/successful) implementation (Daft, 1978; Deutsch 1985; Amabile et al. 1996; Newman et al. 2001; Mulgan and Albury 2003; OECD 2005; Osborne and Brown 2005; Albury 2005; Koch and Hauknes 2005) of these creative ideas (Deutsch 1985; Amabile et al. 1996; Green et al. 2001; Osborne and Brown 2005) leading to (significant) improvements (Daft, 1978; Mulgan and Albury 2003; Albury 2005; NAO 2006).

Through incorporating the core features of innovation it is possible to put forward a general definition of innovation as: The process of selecting, developing and implementing creative ideas to bring about purposeful discontinuous progressive change through introducing something new or significantly improved to a particular product (service), process, practice or system through existing or new forms of cooperation. This definition implies a selection process for creative ideas, and assumes that not all creative ideas are doable or advantageous to the unit of implementation. Thereafter, creative ideas must be further developed before they can be implemented. Furthermore, only creative ideas that are deemed doable and progressive are selected for development and implementation. In addition, discontinuity is an essential element here that distinguishes between innovation and continuity which is normal organisational development (Walker et al. 2002:204).

Classifying Innovation

Classifying innovation is fundamental to comprehending its range and is essential to researching it within public services (Walker 2002:203). Moreover, classifying innovation is central to establishing the types of innovation to be found within public sector services (Windrum 2008:08) and differentiating between innovation types is necessary to understand the implementation of innovation (Walker 2007:592). Similar to innovation in the private sector there are several approaches to be found within the literature in relation to classifying innovation into different types

– here five approaches are compared in an effort to see if there is any agreement concerning the types of innovation to be found within the public sector. Hartley (2005) asserts that innovation in the public sector can be divided up into seven types (e.g. product, service, process, position, strategic, governance and rhetorical) while Koch and Hauknes (2005) identify six types (e.g. new/improved service, process, administrative, systemic, conceptual, and radical change of rationality. Walker (2006) asserts that there are three main types of innovation (product, process and ancillary) to be found within the public sector with the main type (product innovation) divided into sub-categories. Walker (2007) identifies four main types of innovation (service, organisational process and ancillary) and divides the main category of service innovation into three sub-groups which is exactly what is achieved in Walker (2006) and commensurate with product innovation. Windrum (2008) maintains that there are six types of innovation in the public sector to be found (e.g. service, service delivery administrative and organizational, conceptual, policy and systemic). These typologies of innovation are compared one by one here to identify any similarities or differences and are subsequently integrated into six innovation types that specifictly relate to the provision and delivery of public services: outcome (product), operational (service), (organisational) process, conceptual, policy and interface (systemic)

Product (Outcome) Innovation

Hartley (2005) puts forward that the term product innovation refers to new products (for example, of instruments used in dental clinics) (Hartley 2005:28). Furthermore, product innovation could refer to a new or an improved service (e.g. home teaching for excluded pupils) (Koch and Hauknes 2005:08). This implies that service innovation is a sub-category or an extension of product innovation. According to Walker (2006), product innovations are defined as new products or **services** (Walker, 2006:313) and best understood by their relationship to 'users' in public organisations (2006:313). Furthermore, Walker (2006) divides product innovations into three sub-categories and states that three types of product innovation within the public sector have been identified and tested (Osborne 1998; Walker et al 2002; 2006; cited in Walker 2006): **Total innovations** concern supplying new services to new users (this sub-category of product innovation is commensurate with 'position innovation put forward by Hartley (2005:28), according to her position innovation concerns *"new contexts or users"*; **expansionary innovations** entail public organisations utilising an existing service and delivering it to a new group of users, and

evolutionary innovations involve making new services for current users (Walker, 2006:313). To summarise, the term product innovation embraces new or considerably improved products (e.g. technical); new or significantly improved forms of service delivery, provision and ways of interacting with 'service users'. Product innovation compares directly to Schumpeter's (1961) first category of innovation (e.g. *the introduction of a new good"* (1961:66).

Service (Operational) Innovations

Service innovation refers to new ways in which services are provided to users (for instance new online services) (Hartley 2005:28) and seems to be an expansion of product innovation. In this respect service innovation seems to be commensurate with the underpinning aspects of product innovation. While Walker (2006) divides product innovation into three sub-categories (e.g. total, expansionary & evolutionary) Walker (2007) does exactly the same thing with service innovation this suggests that product and service innovations are exactly the same thing: total innovation = new services to new users; expansionary innovations = using existing services to a new user group and evolutionary innovations = delivering new services to existing users (2007:593). Furthermore, 'position' innovation put forward by Hartley (2005) that concerns "new contexts or users" is compatible with service innovations. Walker (2007) maintains that service innovations are concerned with production and are best understood by the relationship to 'users' (2007:593). Walker (2007) asserts that services innovations incorporate the implementation of material goods and *"intangible services"* (2007:593). Service innovations happen at the operational component of an organisation which influences the technical structure (2007:593). Service Innovations according to Walker (2007) are defined as *"new services offered by public organisations to meet an external user or market need: they are concerned with what is produced"* (2007:593). This definition reinforces the intimate affiliation between production and service innovations. Windrum (2008) differentiates between "*service innovation*" and *"service delivery innovation"* (2008:08) however; both of these categories are commensurate with product innovation and fit into Walkers (2006) sub-categories of total and expansionary innovations. According to Windrum (2008), service innovations concern launching a new service product or an enhancement to the quality of a service product currently in use (2008:08). Windrum (2008) suggests that all innovations that change the make-up of service design or service products are embraced by this category of innovation (2008:08). The latter (service delivery innovation) refers to new or changed service delivery and/or

modes of interacting with 'service users' within the context of service delivery (2008:08). Hartley (2005) also differentiates between production and service innovation and asserts that service innovation concerns: *"new ways in which services are provided to users (for example on-line tax forms)"* (2005:28). Walker (2007) maintains that service innovations occur in the operating component and affect the technical system of an organisation and include the adoption of goods (which are material) and intangible services are concerned with what are produced (2007:593). To summarise, the term service innovation embraces new or considerably improved services and concern changes in features and design of service products while the sub-category of service delivery involves new or altered ways of delivering services and/or modes of interacting with 'service users' within the context of service delivery. This type of innovation is commensurate with product innovation and compares directly to Schumpeter's (1961) first category of innovation (e.g. *the introduction of a new good"* (1961:66).

Process (Organisational) Innovations

According to Hartley (2005) process innovations are new ways in which organisational processes are designed; for instance *"administrative reorganisation into front- and back-office processes: process mapping leading to new approaches"* (2005:28). Koch and Hauknes (2005) suggest that process innovation involves a change in the way a product or a service is put together while Walker (2006) maintains that process innovations have wide-ranging impact upon organisations at all levels affecting the organisational construction, relationships, rules, roles and communication both internally and externally (Walker, 2006:313). As such, **new products** or **services** are seen as indirect consequences of **process innovations** (Damanpour et al. 1989; Damanpour and Gopalakrishnan 2001, cited in Walker 2006:314). Windrum (2008) reinforces this idea and asserts that administrative and organisational innovations affect the organisational structures and routines by which frontline workers construct services and/or how rear echelon workers support frontline services (2008:08). Walker (2007) expands the term 'process innovation' into 'organisational process innovations' and asserts that they are concerned with how services are provided (Abernathy and Utterback 1978; Damanpour and Gopalakrishnan 2001; Damanpour et al. 1989; Edquist et al. 2001; cited in Walker 2007:593. Walker (2007) reiterates the wide-ranging affects of this type of innovation upon the organisation (e.g. on relationships, rules, roles, procedures, structures, communication and environmental exchange) (2007:593). Walker (2007) focuses on two types of

'process innovations': 'Marketization' and Organisation (2007:593). According to Walker (2007) 'marketization innovations' reflect the core ideas of New Public Management (e.g. contracting, externalisation, and market pricing of public services) and are concerned with revenue purchasing and delivery methods (2007:593). They involve transforming operating processes and systems to boost efficiency of service provision and delivery (Schilling 2005; cited in Walker 2007:593). Organisation innovations are innovations in structure, strategy, and administrative processes (Damanpour 1987; cited in Walker 2007:593). Organisation innovations are concerned with the primary occupational activity and changes in the social system (2007:08). To summarise, process innovations within public sector services are viewed as wide-reaching innovations that have a major impact upon organisations and amongst other things impact upon internal procedures, policies and organisational structures. In short changing the way a product or a service is put together through discontinuous change in organisations. This is compatible with Schumpeter's second type of innovation: *"the introduction of a new method of production"* (Schumpeter 1961).

Conceptual Innovations

Conceptual innovation takes place at all levels and concern the introduction of new missions, strategies, objectives and underlying principles (Windrum 2008:09). This view is commensurate with 'rhetorical' and 'governance' innovation put forward in Hartley (2005:28). The former involves the introduction of 'new language' and new concepts, and the latter concerns new types of 'democratic' institutions, and new ways of engaging citizens (2005:28). Koch and Hauknes (2005) reinforce this idea and assert that conceptual innovation involves a change in mindset by actors which goes hand-in-hand with the use of new concepts (2005:08). Moreover, what Koch & Hauknes (2005:08) identify as *"radical change of rationality"*, which according to them is an innovation type where the *"world view"* or mindset of employees is transforming can be subsumed under the term conceptual innovations. Conceptual innovations concern challenging current views or suppositions which form the basis of existing 'service products, processes and organisational structures' (Windrum 2008:09). According to Windrum (2008) this type of innovation is significant to organisations under 'social or public' goals as they establish a connection under social or public objectives because they establish a link between the social economic objectives of a public organization and its operational rationale (2008:09).

Policy Innovations

Policy innovations are directly related to conceptual innovation and change the thinking or behavioural objectives linked to a 'policy belief system' (Sabatier 1987; 1999; cited in Windrum 2008:10). The term strategic innovation identified in Hartley (2005) which denotes: "*new goals or purposes of the organisation"* (2005:28) can be subsumed under 'policy' innovations. Windrum (2008) asserts that at the highest level (ministerial) two types of policy innovation can be identified: incremental and radical. The former centres on 'policy learning by the government while the latter is directly triggered by conceptual innovation (2008:10). Policy innovations are linked to three modes of learning (Glasbergen 1994; cited in Windrum 2008:10):

- Evolving policy learning to optimize objectives (incremental by nature).
- Conceptual learning – changes in common understanding and action (conceptual innovations) (radical by nature).
- Social learning – based on new common understanding of social interaction and governance (radical by nature) (Windrum 2008:10).

Systemic Innovations

Koch and Hauknes assert that systemic innovation concerns a significant change to an existing system or the implementation of something new. According to them this could include establishing new systems and/or new ways to interact and cooperate (2005:08). However, there does seem to be some disagreement here concerning the core features of systemic innovation. Koch and Hauknes (2005) imply that systemic innovation involves internal processes whereas Walker (2006; 2007) and Windrum (2008) assert that systemic innovations concern external cooperation. Windrum (2008) maintains that systemic innovations concern external cooperation and emphasises that they involve *"new or enhanced ways of interacting with other organisations and knowledge bases"* (2008:10). The term 'systemic innovation' corresponds to what Walker (2006) identifies as 'ancillary innovations'. According to Walker (2006) ancillary innovations involve *"organisation-environment boundary innovations"* (Damanpour 1987:678; cited in Walker 2006:314). Here innovations are triggered through cross disciplinary cooperation with forces outside the organisation and as such the successful implementation is dependent on actors from other public agencies, user

Summarising Innovation Typology Table

Type	Sub-categories	Core features	Integrated:
Product	Total	new services to new users	Outcome Innovation
	Expansionary	existing service to new users	
	Evolutionary	new services for current users	
Service		new or significantly improved	Operational Innovation
		change in features and design	
	Service Delivery	new or altered ways of providing services & new forms of interaction	
Process	Administrative	new design, procedures, routines	
	Marketization	transforming to boost efficiency	Organisational Innovation
	Organisational	new structures, strategies & social systems along with administration innov.	
Conceptual		new missions, strategies, objectives, change in mindset, challenging current views or assumptions of existing services, structures etc. new forms of citizen engagement	Conceptual Innovation
Policy	Strategic	directly related to conceptual innovations – change mindset and behavioural objectives	Policy Innovation
Systemic		new or major forms of interaction with external actors and knowledge bases	Interface Innovation

groups, voluntary or private bodies (Damanpour, 1987:678, Walker, 2006:314). Walker (2006; 2007) maintains that these type of innovation are different to 'product' and 'process' innovation since the successful implementation of such innovations are dependent on outside factors beyond control of the implementing unit (2006:314). Furthermore, Walker (2007) highlights that this type of innovation often overlap with other innovation types (2007:594). Windrum (2008) suggests that interorganisational dealings have changed significantly in the public sector over the last two decades as a consequence of elements such as privatization, outsourcing, competition, deregulation, budgetary constraints and demands from the public (2008:10). Windrum (2008) puts forward that privatization and the outsourcing of public services has been central to the formation of new forms of cooperation with both NGO's and private sector organisations (2008:11). Here Windrum (2008) puts forward the surfacing of 'public–private partnerships' in the 1990's within the EU programme as a clear example of this (2008:11).

Summary

The innovation types included above are not intended to provide an exclusive list. However, they are representative of the innovation types to be found within the literature concerning innovation in the public sector. In 'reality' when change(s) come about often one or more innovation types can be at play therefore should be considered *"multidimensional"* (Hartley 2005:28). For example, the recent local authority amalgamation in Denmark may be characterised as a radical innovation involving conceptual, policy, operational, organisational and interface innovations. Moreover, innovation types are interconnected, they interact together and the presence of one type of innovation may exclude or encourage the development of other types (Becheikh et al. 2007:11).

Five approaches to public sector innovation typologies are presented and amalgamated above. Subsequently they are integrated into six innovation types that specifically relate to the provision and delivery of public services: outcome (product), operational (service), organisational (process), conceptual, policy and interface (systemic). Within the literature explored here there seems to be some confusion concerning the different innovation types. Perhaps the most perplexing concerns product and service innovation – this seems to be one and the same thing. Here the confusion mainly relates particularly to articulation. For example, Koch and Hauknes (2005) put forward "*a new or an improved service*" as a type of innovation that can be *"subsumed under product*

innovation" (2005:08). This is confusing at first where one assumes that such an innovation type would be placed under the category of operational (service) innovations – perhaps using the word 'can' implies that it could be placed elsewhere. Walker (2006; 2007) further confuses the matter by dividing both product and service innovations into the same sub-categories. In this case Walker (2006) points out that three types of product innovation have been identified and tested (e.g. total, expansionary and evolutionary) and subsequently Walker (2007:593) does exactly the same thing with service innovation – this suggests that 'product' and service innovations are one and the same and adds to the ambiguity concerning innovation. It's worth noting that some authors use the same labels to describe the same types of innovation while other authors draw upon different labels to describe the same actions. This diversity in labelling innovation types is confusing and only adds to the ambiguity surrounding innovation in the public sector. Within this context it would be most useful if researchers adopted a common public sector innovation classification codex to help demystify the types of innovation to be found within public sector services. As illustrated above classifying innovation is fundamental to understanding its scope and magnitude (Walker 2002:203) and is central to establishing the types to be found within public sector services (Windrum 2008:08) and differentiating between innovation types is necessary to understand the implementation of innovation (Walker 2007:592). Therefore a common innovation index would help to achieve this.

After integrating the different approaches here it seems that the term product innovation within a public sector setting embraces new or considerably improved service delivery and provision or products. Product innovations represent organisational outcomes and as such could be known as 'outcome' innovations and compares directly to Schumpeter's (1961) first category of innovation (e.g. *the introduction of a new good"* (1961:66).

Service (operational) innovations seem to be closely linked to product innovation if indeed they are not the same thing. At the very least the term 'service' innovation is an expansion of product innovation and seems be commensurate with the underpinning aspects of product innovation. Through integrating the various approaches above it seems that the term service innovation concerns new or considerably improved services and concern changes in features and design of service products while the sub-category of service delivery involves new or altered ways of delivering services and/or modes of interacting with 'service users' within the context of service delivery. This type of innovation deals directly with the operational side of public service delivery

and provision and could be known as operational innovation. Furthermore, service innovation seems to be commensurate with product innovation and as such compares directly to Schumpeter's (1961) first category of innovation (e.g. *the introduction of a new good"* (1961:66).

Process (organisational) Innovations within public sector services mainly concern changes to organisational processes (Hartley 2005) which have a significant impact upon the way a service is assembled (Koch and Hauknes (2005) and have wide-ranging consequences for the at all levels of the organisation affecting the organisational construction, relationships, rules, roles and communication both internally and externally (Walker, 2006; 2007; Windrum 2008). To summarise, process innovations within public sector services are viewed as wide-reaching innovations that have a major impact upon organisations and amongst other things impact upon internal procedures, policies and organisational structures. In short changing the way a product or a service is put together through discontinuous change in organisations. This is compatible with Schumpeter's second type of innovation: *"the introduction of a new method of production"* (Schumpeter 1961). Within the public sector services this type of innovation clearly centres upon the organisation and could be classified as organisational innovation(s).

Conceptual innovation involves:

- New concepts (Hartley 2005)
- New language (Hartley 2005)
- New missions, strategies, objectives and underlying principles (Windrum 2008).
- Change in mindset (Koch and Hauknes 2005)
- Challenging current views or suppositions (Windrum 2008:09)

At the heart of this type of innovation is challenging the status quo of existing services, structures and organisations. As highlighted above, policy innovations are directly related to conceptual innovation and change the thinking or behavioural objectives of organisations linked to a 'policy belief system' (Sabatier 1987; 1999; cited in Windrum 2008:10). This type of innovation specifically centres on organisational goals, strategies and rationales.

Systemic innovations concern significant changes to current systems or the implementation of something new (Koch and Hauknes 2005). Essentially, systemic innovations involves new or improved ways of cooperating with the environment (e.g. external actors or knowledge bases) (Walker 2006; Windrum 2008). With the huge focus on outside cooperation this type of innovation could easily be known as interface innovations.

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