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Learning and creative professionals in the knowledge economy: what and how they learn


Abstract:
Drucker (1993) coined the terms ‘knowledge work’ and ‘knowledge worker’. These workers who use knowledge to create products and services in the new economy – knowledge economy – may also be known as creative knowledge workers. This new economy – the knowledge economy – is emerging. Writers from various disciplines: sociology, economics and business management have written about it.

This article is based on empirical research and literature review. Using one example of such workers to exemplify the types of knowledge required carrying out their roles in the knowledge economy, this article investigates the types of knowledge required and how they are learnt in the context of creative knowledge workers. Finally, the paper considers implications of knowledge, and working and learning of these workers.

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Keyword Set: Knowledge; Learning; Creative knowledge workers; Knowledge economy

Introduction
Robert Reich (2001), economic analyst, described two types of workers with distinct personalities and talents. This investigation draws on Reich’s evocation of a certain type of workers - creative knowledge workers - in the new or knowledge economy where they apply their creative talents to produce innovative goods base on knowledge. His description of these workers followed on from Drucker’s (1993) pronouncements of a new analysis of the new economy, which Drucker termed ‘knowledge work’ and ‘knowledge workers’.

This article uses the above descriptions to investigate the types of knowledge that may be applied by knowledge workers. It is not the intention of the article to investigate the creative working approaches of creative knowledge workers rather a study to ascertain the forms of knowledge that are needed by these workers and the implications for their working and learning. There are different types of workers in this new economy and that not all workers fit the creative workings of creative knowledge workers. Basing on empirical research and literature review methodologies, this article focuses on several arguments namely: that this new economy does not have defined boundaries but
‘connective dimensions’ with other styles of economies; that knowledge of science, technology and culture industries is relevant in knowledge application; that certain forms of knowledge are relevant towards the production of innovative products and services; and that there are different ways of acquiring these types of knowledge in different settings.

There are five sections. The Introduction section consists of the aims, lines of argument and structure of the paper. The second section is on literature review, though not a comprehensive survey of literature on the knowledge economy per se but one that is related to creative knowledge working. The next section offers a summary of knowledge from the context of the new economy, a definition of knowledge for the purposes of this article, and suggests implications resulting from the knowledge definition, which may be applied to producing innovative products and services. The fourth section relates to creative knowledge working from the perspectives of their knowledge and learning. A description of such workers is provided from advertising. The final section provides implications of working and learning from the perspectives of macro, meso and micro levels and considers the contributions of the paper.

Differing views of the knowledge economy
This section investigates the differing perspectives of the knowledge economy. It argues that there are no defined boundaries and that there are ‘connective dimensions’ to existing forms of economies. The differing perspectives may be examined from positions of overviews and fragmented views of the new economy that affect how knowledge may be determined.

Bell, a sociologist, in his book “The Coming of Post-Industrial Society: A Venture in Social Forecasting” (1973), attempted to forecast societal changes over the next three to five decades. He viewed this book as “an essay in social forecasting” (Bell 1973 p 3). His major contribution in terms of the importance and value of knowledge in his post-industrial society is that knowledge (especially theoretical knowledge relating to science and technology) has become crucial in innovation and commercial production and no longer as reliant on materials, labour or capital. His post-industrial society revolves around the “centrality of and codification of theoretical knowledge” (Bell 1973 Table 1-1) where professionals, scientists and technicians apply “abstract theory through the use of models, simulation, decision theory and systems analysis” (Bell 1973 Table 1-1). Bell argued that this theoretical knowledge using computers enabled workers to innovate goods and services in traditional sectors. He suggested that this communal society was founded on a rational and collective decision-making approach where knowledge application took place in traditional industries such as transport, public utilities, distribution, hotel, and catering.

The sociologist, Manual Castells (2000), used Bell’s idea of the importance of knowledge, for which he duly acknowledged, to further his theories in his three volumes entitled: The Information Age: Economy, Society and Culture. He concurred with Bell regarding knowledge after the industrial era in three ways namely: reliance of knowledge as an important aspect in the new economy; definition of knowledge as “organised statements of facts or ideas” and information as organised and communicated data. Castells (2000)
suggested that the application of knowledge is aided by information, communications and electronic technologies (ICET) resulting in exponential transformation. This process aids innovation in terms of products and instead of raw materials or energy; the human mind becomes “a direct productive force, not just a decisive element of the production system” (Castells 2000 p 31). He viewed innovation not as the blue-sky variety but one that was incremental or staged. Castells’ new society is geared towards production and consumption that are organised on a global scale and carried out by multi-dimensional networks located in multinational companies. His other observation in relation to knowledge and the new economy is that he has an optimistic view of knowledge and the business driven world where tensions and issues are determined by market forces.

The above two writers gave varying overviews of the new economy. Bell focused on scientists in traditional sectors, and Castells on the interface between knowledge, organisation, and production to create innovative products. Castells’ idea of creativity is an incremental variety with dependency on ICET. His business driven world has three characteristics of informational, global, and networked. They did not explore the possibilities of a new society/economy with knowledge at its core where an ‘epistemic culture’ needed to exist before a knowledge society could flourish, collaborative application of knowledge for innovation in business organisations, production of new goods, and inclusion of knowledge from other industries besides science and technology-related ones. For these possibilities, we turn to writers who offer fragmented views of this new economy.

Knorr Cetina, a sociologist, suggested a different approach of examining knowledge to Bell and Castells. She used ethnological and qualitative approaches as opposed to the quantitative methods. Knorr Cetina argued that there existed different cultures in society before a knowledge society could become established (Knorr Cetina 2005a). She called them epistemic cultures with exemplars such as high-energy physics and foreign exchange market (Knorr Cetina 2005b, Knorr Cetina and Bruegger 2002a and 2002b). Associated with these cultures were national (cultural) influences (Knorr Cetina 2005b). She also advocated that such cultures were open to more than just human players and that objects, which she termed ‘objectualization’ (Knorr Cetina 2005b), were becoming more significant. Implicit in her two epistemic culture examples are creativity, which are required in knowledge production and with different modes of working.

Nonaka and Takeuchi (1995), as writers of management, focused on Japanese businesses and how knowledge might be created from an organizational level. They advocated four modes of knowledge conversion. These included: socialization, externalization, combination and internalization. This approach of social knowledge creation also offered two corporate variations of tacit and explicit, drawing from Polanyi’s (1966) knowledge classification (base on individual) rather than one generic notion of knowledge from the viewpoints of Bell and Castells. Nonaka and Takeuchi also offered a cultural dimension in the form of Japanese intellectual tradition and thus a different way of viewing knowledge. However, the two important points that are different to the other writers are: a collaborative approach to commercial knowledge applications; and especially in the second process - externalization - where innovation gives rise to new knowledge and
from that a new paradigm and a model of developing new products.

Quah (2002 and 1999), an economist, advocated a new type of good - a digital variety - that was derived from knowledge and could be a knowledge economy product. A digital good is a sequence of binary bits such as ideas, knowledge, computer software, codified messages, videogames, and DNA sequences (Quah 2002). He argued that the traditional economic approach of perceiving from the production side was insufficient. The consumption side should also be included in the digital equation. His pronouncement of digital goods in the knowledge economy has several implications. They are: a. new digitalized goods will become prolific in future; b. new sectors will occur; and c. the bringing together of manufacturer and consumer will mean shortening of time for these new goods to be available especially with the assistance of ICET and lowering of costs with the disappearance of middle persons.

The next two sociologists - Lash and Urry (1994) – argues for the inclusion of creative/culture industries in the new economy. He viewed the phenomenon of ‘vertical disintegration’ as part of the evidence of a culture industry, such as copy-editing and design in the publishing industry in the UK carried out by sub-contractors and not in-house, for inclusion in the new economy. They cited further evidence of vertical disintegration of intermediaries such as agents who could influence production decisions, vet and find books for publishers resulting in having greater powers alongside the deterioration of publishing firms activities. For the purposes of this paper, the definition of culture industries is one that is defined by the Department for Culture, Media and Sport (2001) in England, which include publishing and advertising.

They (Lash and Urry 1994) also suggested that such culture industries applied another phenomenon - ‘reflexive’ approach - to production where people working on the shop floor had greater input for innovative practices and that professional-managerial employees had to take on value-added role. These new styles of working evidenced the need for culture industries to be included in the knowledge economy. The two sociologists further suggested that there was a connection of aesthetic sensibility between culture industries such as advertising, publishing, and certain technology sectors such as IT software. This appreciation and sensitivity to beauty and good taste were connected to branding and could add value to a product and that a reflexive production approach of innovation and design added value to a product.

The above overviews and fragmented ones provided differing perceptions of the knowledge economy. A central point arising from these writers is that knowledge plays a key factor in innovation of products in this new economy, which is supported by accelerating developments of ICET. The other idea is that this form of economy has no clear boundaries and is in a transitional state with links to other forms of economies. This transitional process means that dimensions are created linking this new style, the knowledge economy, with the old style economy, which I term ‘connective dimensions’. The first connective dimension relates to an increasing digitalization of intangible goods that are easily accessible over the Internet (such as music, advertisements, books and films) alongside tangible products (such as laptops, MPS players and mobile phones). The second is the increasing global network of business making on one hand and the still
significant factor of cultural perspective on the other. The final one refers to the closer connection of producer and user as illustrated by the pop group, Arctic Monkeys (Gibson 2005), which produced and distributed directly its music via the Internet to its audience. These differing dimensions of the knowledge economy will affect how knowledge is perceived.

**Knowledge in the context of creative knowledge working**

The previous section reviewed writers, which provided varying perspectives of the knowledge economy. In this sector, the notions of knowledge are defined where knowledge relating to areas of science, technology, and culture/creative industries is relevant in the knowledge economy. This sector also offers varieties of knowledge for application and insights of this definition.

Bell (1973) emphasized the importance of theoretical knowledge in the areas of science and technology. Computers were also necessary along with knowledge. A collective approach to such activities was called for. Castells (2000) concurred with Bell as regards definitions of knowledge and added the relevance of ICET in creating products in global businesses. The products are incrementally created. The businesses are networked, global, and multi-dimensional. Knorr Cetina (2005 a and b) argued that epistemic cultures were needed for knowledge to exist before it is applied. Cultural influences are important and that people are dependent on objects such as computers and mobile phones. Nonaka and Takeuchi (1995) focused on knowledge application by Japanese businesses where tacit and explicit knowledge are relevant. This approach to collaborative business making might give produce innovative products. Quah (2002 and 1999) viewed knowledge as binary bits that could be transacted over the Internet. These products are digital in nature where new sectors can occur. This digitalization process may mean that there is a closer relationship between producers and users. Lash and Urry (1994) argues for the inclusion of creative industries in the knowledge economy and with these knowledge associated with the industries and that certain creative industries may be linked with technological ones in terms of aesthetic sensibility.

For the purposes of this article, knowledge from the perception of its application in the knowledge economy may be defined as follows. Those working in the new economy to produce innovative products or services use knowledge collaboratively and/or individually. The drivers of this means of production are people. The human mind becomes the crucial factor in business activities. Knowledge relating to areas of science, technology and culture industries is important. Knowledge can be explicit like the codified knowledge in the sciences and technological areas.

Knowledge can also be tacit, which is not codified or written down. This form of knowledge may also relate to areas of sciences, technology and culture-related areas. It can also refer to past job and life experiences. As one of the main characteristics of the knowledge economy is the ICET dimension, knowledge may also be stored and manipulated by technologies. ICET affects knowledge not only in terms of storage capacities and manipulability but also accessibility. This greater accessibility of knowledge facilitates the coming together of interested parties such as producers and users to produce goods that they desire.
The above definition of knowledge in the knowledge economy is wide ranging as it offers the relevance of knowledge from areas of science, technology, and creative industries. The definition indicates varying forms of knowledge for applications in this new economy. Five insights of this perception of knowledge may include: Firstly, having knowledge in one of the three areas may not be sufficient to operate in the knowledge economy. A wider knowledge of disciplines may be required. The depth of knowledge may depend on the nature of use. Secondly, people may use this knowledge to carry out their work. However, knowledge can reside outside individuals in depositories such as the Internet, education institutions, libraries, and specialist organisations. Thirdly, is the important supporting structure of ICET. The knowledge of the existence of these advanced technologies together with the possibilities of applying them to knowledge work are important in innovating knowledge goods. Fourthly, the conventional thinking of producers having sole proprietorship of manufacturing goods is less marked as advance technologies allow greater access of knowledge by other interested parties such as users to participate in creation of a new product, design, production and marketing of goods. This overlapping of production functions traditionally performed by manufacturers has changed the perceptions of knowledge in terms of ownership, accessibility, and application. Fifthly, knowledge may be explicit or tacit. The tacit variety may reside with people who have life and job experiences. This form of knowledge with its specific individual’s perceptions may be used to improve work processes, and as a resource for innovative ideas and practices, possibly culminating in production of knowledge economy goods. The next section investigates how the types of knowledge that may be applied by two workers in the knowledge economy.

**Case study of a creative knowledge worker**

This section brings together the lines of arguments indicated at the start of this article as indicated at the start of the article. This section relates these arguments by providing a definition of a creative knowledge worker (for the purposes of this section of the article), and how he/she may use the types of knowledge for knowledge work. An explanation of the empirical basis follows next. A ‘case study’ specific to the advertising sector is featured. Though it is not the intention of the article to investigate the activities of a creative knowledge worker, it is nevertheless relevant that his/her roles are investigated in relation to the types of knowledge that are required. To this end, a working definition of a creative knowledge worker may be one who uses ICET and depending on the nature of the job and contexts, asks new questions, comes up with novel approaches, or creates a variation or a vision that may be acceptable to peers towards a commercially viable product or service. He/She may be a producer or user working collaboratively or individually. The knowledge applied may relate to the disciplines of science, technology or culture-related industries either singly or a combination of. Knowledge may also include previous job and life experiences. Needless to say, not every person who is employed in this new economy conforms to the above definition.

The discussion below is based on empirical research and literature review. The investigation comes from one-to-one semi-structured interviews with practitioners and academics in the advertising and IT software sectors. It included 31 interviews over three countries of England, Singapore, and Japan. The literature review spans disciplines of
sociology, economics, business management, and psychology, which are incorporated in a theoretical framework of creative knowledge working.

**Art director**

With this case study of an art director, the roles include the creation of a visual appearance for planning and execution of a campaign. In order to carry out these roles, he/she needs to understand the product that is being advertised, the target audience, the rationale of the campaign and the amount of appropriate information that is supplied to the audience. An art director needs to work on his/her own to plan the campaign, and lead on providing an overall vision of the campaign in areas such as visual imagery, and rationale. Leadership qualities are required to provide a vision for this campaign as well as presenting it in a manner that is convincing for the client, team members and other stakeholders to accept and execute.

There needs also to be a collaborative dimension too, where information such as the product and target audience is needed from the team. This team may be situated in-house (e.g. in the advertising agency) or part of the team may be sub-contracted. The art director will require his/her knowledge around interpersonal and intrapersonal intelligences to lead and get the best out of his/her team members. This requires him/her to have knowledge of individual members of the team in areas such as talents, personalities, and skills they bring to this campaign. The skills may include a high level of technical expertise in a variety of media such as print, television, and digital. The above roles cover both types of ways of working: collaboratively or individually.

The art director also needs to have an understanding of the technical possibilities of what each media can deliver from the perspective of this campaign. He/She needs to have an understanding in film, layout, photography, and typography. Knowing the technical possibilities will also inform him/her of the potential aesthetic sensibilities that is required to engage with the audience at an emotional level as exemplified in the ‘Twisted to Fit’ Levi’s campaign. Returning to the possible media for the campaign, if the brief of the campaign is to have integrated coverage such as print, television and digital gaming, then the duration will differ. For print, it will be static, for television the usual time is sixty seconds and for digital gaming, a shorter duration than television. Another possible context to be added to this complex role may be a global dimension, which the campaign may be planned to operate in. Finding the big idea for an aesthetic angle will require a problem solving solution.

Cognitive abilities of the art director will be required to use his/her past job experiences including technical knowledge, knowledge of current or past cultural reference points that may be applied to create the wow factor/emotional hook and tacit knowledge to come up with the big idea for an aesthetic dimension. Being a ‘general sponge’ will be useful in order to draw from his/her knowledge of a popular trend (possibly from a non-related sector such as film and visual art: painting) that can be used to create a variation that Csikszentmihalyi (1988) defines as a possible scenario of a creative act and more importantly from the perspective of this advertisement in producing an emotional hook with the audience.
The seeking of the aesthetic sensibility requires the art director's anticipatory imagination skills to anticipate the reaction of the targeted audience in order to make the copy and visual imagery shout, whisper and stop the intended audience in their tracks may it be literal (for print), or a heart beat (for television and digital gaming media). Gardner's (1993) multiple intelligences of inter- and intra-personal intelligences are useful to understanding their relevance to this area of creative knowledge work. Finally, passion and commitment to the job in hand will be required to complete this campaign.

In short, an art director requires knowledge of: the product being advertised; the processes of completing an advertising campaign; the target audience; rationale of the campaign; vision of the campaign including visual imagery; client, team members (especially their strengths, limitations and team dynamics), other relevant stakeholders; technical knowhow in a variety of media such as print, television and digital depending on the focus of the campaign; technical possibilities of each media used in the campaign such as duration of advertisement; understanding of layout, film, photography and typography; and cultural trends to create the wow factor. These forms of knowledge as indicated in the previous section included explicit and tacit ones, art and technology-related ones, ICET-related, and job and life experiences. The complex roles of an art director require knowledge of more than one discipline, knowledge from and about people and depositories, and knowledge of ICET and their possible impact on a campaign.

Thus, the complexity and amorphous characteristics of this job may be summarised in a conversation between Marcello Serpa, Co-Chief Executive Officer of Almap/BBDO, Sao Paulo and his aunt:

“Cello, what do you do in the ad agency again?” “I’m an Art Director.”
“You mean, you take the pictures?” “No. A photographer takes the pictures.”
“You write copy, then?”
“No, A Copywriter writes the copy.”
“I see... you draw illustrations...” “No. An illustrator draws them...”
“Then... you make films... direct actors...”
“No. A film director does that...” “You write scripts, screenplay...”
“No. Scripts and screenplays are written by the copywriter...”
“Well... You’re a real artist then... You’re the only one that really understands what you do.”

(Vaske 2001 p 134)

**Insights and implications**

The above discussion has implications for those already working and those wanting to work as a creative knowledge worker in the new economy. The implications may be viewed from two settings - work and learning – and from three levels: macro, meso, and micro.

Work setting may be viewed from the context of acquisition of knowledge whilst in work. This might take the form of a creative knowledge worker employed in an organization or be related to a project or institution such as a member of a team which had been sub-contracted out to complete a task such as creating an advertising campaign or an online game. Learning in this context refers to the acquisition of knowledge whilst not in the workplace. This may include learning on an accredited programme, which is
professionally or academically recognised. Learning may include acquisition of knowledge on an informal basis, which relates to potential creative knowledge work.

At a macro or societal level, this may entail how policy-makers in pan-continents such as the European Union, countries and sectors facilitate creative knowledge working. A strategy advocated by the Commission of the European Communities was to “help each individual to adapt, by improving the quality and availability of education and training for all ages...” to assist those who want “to move into better paid, more satisfying jobs...” (Commission of the European Communities 2007 p 8) and with emphasis on research and development spend (Commission of the European Communities 2007). The Commission’s emphasis is on creating a supportive environment for those wanting to work in an economy where high level of knowledge and quality work experience matter. This approach is in line with the requirements of creative knowledge workers. The Commission conforms to the historical divisions of work and learning. I have shown in this article that knowledge (explicit or tacit, from life or job experiences, or from people or depositories) may be acquired at work as well as from out-of-work settings. This traditional divide needs reassessment for the purposes of creative knowledge working in the knowledge economy. The other point relates to the industries, which the Commission referred to in the area of research and development i.e. science and technology related ones. As shown in the article, culture industries are also part of the knowledge economy and this needs to be re-calibrated by the Commission in line with the knowledge economy.

At a meso or organizational level, there are high levels of interactivities between work and learning settings. The implication is to provide structures that support creative knowledge working. From an organization perspective, business entities should have in place structures to support activities such as training and re-training staff to undertake creative applications of knowledge in those industries such as culture industries, science, and technology. These activities could involve in-house or external training whether they involve professional development in employees’ current fields of expertise or new fields of study. This might be to have a better understanding of other disciplines, which could be required in their creative working practices. In the case of advertising, an art director in a pharmaceutical company may want to have a greater understanding of new technological platforms for placement of pharmaceutical advertisements.

At a micro or individual level, a creative knowledge worker needs to acquire knowledge (and skills) in a variety of means. Learning can happen formally or informally, at universities or at work, and from work or life experiences. Formal learning may include professional and academic qualifications as required by the IT software workers. Informal ones such as knowledge of popular culture may be learnt via accessing current and past trends, reading, and participating in cultural activities. These informal learning approaches may be useful for those in the advertising industry. Depending on the type of job and sector a worker is in, one would expect that a science- and technology-related creative knowledge worker would start with sufficient specialist knowledge via his/her previous formal learning experience. However, he/she may want to enrol on an accredited programme either with a higher education institution or professional body to acquire
knowledge in a new discipline or update professional knowledge whilst in the workplace. From the perspective of the workplace, a worker (independent or employed by an organization) will benefit after the acquisition of new knowledge, which can then be applied in work practices. An example might be in using the new knowledge and past work experiences to make more efficient decisions in relation to software development. The outcomes of these decisions might be a reduction of software instructions or increase of innovative approaches to solving a software issue.

This article investigated the types of knowledge that are used by creative knowledge workers in the knowledge economy from empirical research and literature review. It evidenced for the inclusion of culture industries alongside science and technology related areas and that there were differing forms of knowledge for commercial application by these workers, and that knowledge might be acquired in different settings and ways. Knowledge was defined broadly.

Finally, the contributions of this article include: firstly, it calls for a re-assessment of the definition of knowledge from the perspective of its application by creative knowledge workers in the new economy, and secondly, there should a re-assessment of how knowledge might be learnt and the traditional notion of knowledge acquisition in accredited provisions such as academic and professional studies ought to be widened to encompass settings such as workplaces, family environments, and society. Lastly, the application of knowledge is crucial to understanding this new style of working.

References


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