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Why the creative industries matter to economic evolution

Jason Potts

CCi, Queensland University of Technology, Brisbane, Australia

School of Economics, University of Queensland, Brisbane, Australia

Tanaka Business School, Imperial College, London, UK

Abstract. This paper proposes that the arts and cultural sector, copyright industries or ‘creative industries’ (DCMS 1998) play a crucial but as yet widely unexamined role in the process of economic evolution through their facilitation of the adoption and retention of innovations in terms of the development and provision of the social technologies for producer-consumer as well as consumer-consumer interactions. It is proposed that the incorporation of the creative industries into the model of economic evolution thus fills a notable gap in respect of the social technologies of origination, adoption, diffusion and retention of innovation.

Introduction

Economic evolution is driven by the process of innovation along the line of technological trajectories. Analysis of this process tends to focus on the origination and diffusion of new technologies, on the agents and organizations engaged in this process, and on the institutions that facilitate it. Following Schumpeter (1939), industrial or sectoral analysis is predominantly concerned with epochal physical technologies, the manufacturing sectors (e.g. steel, chemicals, microelectronics, biotechnology, etc), and service sector components relating to finance, transport and communication (Freeman and Soete 1997). The notion that the arts and cultural sector, copyright industries or ‘creative industries’ (DCMS 1998) might also be integral to the process of economic evolution is rarely entertained. Yet I shall argue

that this is a perhaps significant oversight, although not in the direction that ‘culture matters’, but rather in terms of the contribution of these sectors to the facilitation of the adoption and retention of innovations in terms of the social technologies for producer-consumer as well as consumer-consumer interactions. The incorporation of the ‘creative industries’ into the model of economic evolution thus fills a notable gap in the analysis of the social technologies of adoption, diffusion and retention.

The focus on physical technologies has of course proven to be a hugely successful research strategy that has produced a great deal of useful theory and analysis of how economic systems evolve as a growth of knowledge process. However, it has also systematically failed to account for the forms of knowledge and coordination mechanisms not well represented in this ostensibly science-based supply-side model. In particular, the role of the service sector, the knowledge base of ‘the arts’ broadly considered, and the adoption of new technologies to new consumer lifestyles, including the social nature of such choice, have all been systemically overlooked in the evolutionary account of economic growth.

This paper seeks to redress this oversight by setting out the arguments for why evolutionary economists should care more about the creative industries.¹ My central argument is that the creative industries offer not just another case study of economic growth through innovation, but more significantly, they are part of the evolutionary mechanism itself in their provision of essential evolutionary services. Their relevance is beyond that of being another interesting subject for evolutionary economic analysis, but may instead be a crucial part of the mechanism of economic evolution. Specifically, the creative industries address the social aspects of economic evolution in terms of networks of choice, adoption, organization and coordination.

The upshot is that all processes of economic evolution² will involve the creative industries at some part of the process. This is less apparent for mature technologies or industries, for which structures of coordination have stabilized. But it is of manifest significance when the economy is deeply and rapidly evolving, as it appears to be over the past few decades in

respect of the 'new economy' etc. The rapid growth of the creative industries of recent (Potts and Cunningham 2007) may not just be due to wealth effects, or the benefits of ICT and globalization, but may reflect the deeper order of market-based economic evolution in which all new ideas are born into a social context and must develop in that space.³ The creative industries, in this view, are a further element of the innovation system (Potts 2007a, 2007b), and an essential part of any general theory of economic growth and development.

This paper builds on several previous papers examining the creative industries (CIs) from the evolutionary perspective. In Cunningham (2004, 2006), the CIs were argued to be a source of economic growth (which developed a further line of argument from DCMS 1998, Howkins 2001, Florida 2002, and others). This proposition was further refined in Potts and Cunningham (2007), in which four models of the relation between the CIs and the aggregate economy were tested. Using data on relative growth rates, employment, entrepreneurship, income and profit for many countries over the past decade, we found overwhelming evidence that the CIs are growing relatively (i.e. evolving) in the economic order. This was further explored for extreme income statistics in Potts (2006). This line of analysis increasingly pointed toward an evolutionary appreciation of the CIs.

In Potts *et al* (2007), we proposed a more radical definition of the CIs in terms of the dominant *social network* characteristic of the markets that compose them. In this view, the CIs are the set of markets (social network markets) in which because of essential novelty, value is uncertain, and agents thus rely on information from the choices of others to coordinate their own *generic behaviour* (Ormerod 2002, 2005; Earl and Potts 2004; Dopfer and Potts 2008). From this basis, the logical next step is toward unpacking the mechanisms by which this process occurs. This requires distinguishing between two evolutionary effects:

1. The evolution of the CIs with respect to whole economy, in the form of structural change in which the population of CI activities increases relative to the set of all economic activities; and
2. The evolution of all economic activities in terms of CI activities, where the CIs generate and facilitate the process of economic evolution through innovation.

This is plainly a co-evolving system, and one that is also co-evolving with other systems such as environmental, political or cultural systems. These two different processes are simultaneously occurring, yet usefully separated, as they are driven by different forces and have different analytic and policy implications. However, to build this argument we need to begin with the reasons for the systematic oversight of the dynamic value of the arts, culture and creative industries in economics in the first place.

Arts matters

The theory of economic growth and evolution is based about factor accumulation, technological change, institutional facilitation and innovation, all of which lead to productivity growth. There has been no sense that the arts and culture play a positive or driving role in this process; indeed, quite the opposite. The arts and cultural sectors have been firmly classified as consumption in the form of culture, leisure, entertainment, etc, all things that are antonyms of the concept of work and, moreover, of negligible military-industrial strategic importance. The implication is that a growing, evolving economic system can then afford more of these cultural consumer goods through subsidized production. Economic growth therefore enables the protection of the cultural/creative industries behind a wall of special treatment financed by the power and growth of the industrial economy (Netzer 1978, *cf.* Grampp 1989). The result was the cultural economics canon of market failure, productivity deficits, non-market value and justified special treatment. However, an unintended consequence was that, for the longest time, few suspected that the creative industries might be better conceived as an evolutionary mechanism rather than as a ward of the market economy (Jones 1995, 2006). How, indeed, could leisure activities ever be productively useful? It made no sense.

Yet the modern theory of economic growth and evolution fails to account for the significance of economic evolution as a process of the introduction of a new idea into a *social* system. The selection mechanism operating over economic evolution, including in

the process of variety generation, is a social process and not simply contagion or diffusion. The value of an economic analysis, as opposed to a social science or humanities analysis, is that it connects back to the knowledge and behaviour of the individual subject to a world of resources and incentives. But this is still an analysis of a social process, for the primary resource in any economic system is other people and what they know; economic growth involves change in that distributed knowledge.

In turn, cultural economics has systematically under-represented the dynamic value of the arts and creativity to the economic order due to its implicit static focus on cultural, socio-economic and technological equilibria.⁴ What the neoclassical welfare-theoretic cultural economics view fails to appreciate, then, is that change is costly before it is good. Novelty is uncertainty before it is opportunity. There are no incentives to evolutionary behaviour in a closed world and, in consequence, the efficacy of social structure in an open society⁵ is a determinant of economic evolution. The cultural economics perspective is focused only on the welfare of the cultural industries and the cultural goods and services they provide, but not on the dynamic evolutionary services they provide the rest of the economy.

In an equilibrium situation where everything is known (i.e. without uncertainty) there is no value to experimentation, or even diversity (Loasby 1999, Potts 2000). Along with entrepreneurship, both the sciences and the arts have no value in a closed system. This, in essence, explains why the standard approach to cultural economics systematically views these industries as having no dynamic economic value, but only cultural or non-market value. From the open-system evolutionary perspective, however, the creative industries are an evolutionary mechanism that in part determines not just the rate of economic evolution, but the directions it takes. This is a very different view to the standard political-economy perspective of the cultural and creative industries producing cultural value as an end in itself. What I am arguing, instead, is that the creative industries are part of the growth of knowledge process that drives all economic progress.

How creative industries facilitate economic evolution

Two related hypotheses connect the creative industries with economic evolution. The first is that the structure of the economic system is evolving, with the creative industries becoming a more significant component of the economic order. The second is that the creative industries are themselves part of the process of economic evolution across the economic order. It is important to distinguish these clearly, as they involve different mechanisms and have different analytic and policy implications. These are overviewed in Table 1 below.

Table 1. Two models of CI dynamics

<i>model</i>	<i>phenomenon</i>	<i>example</i>	<i>caused by</i>	<i>analytics</i>	<i>policy</i>
Growth model of CIs	relative growth of the CIs	Fashion & design industry grows faster than all-industry average	Factor increases, ICT, microeconomic reform, globalization, wealth & demand effects	CI as a meso trajectory, Uniform growth	Competition policy
Evolutionary model of CIs	role of CIs in innovation	Fashion & design increasingly incorporated in all new products and services	Adapting new technology to human/social context, adoption and retention services	CI over meso trajectories Complex growth	Innovation policy

Growth model of creative industries

In the first model of creative industries dynamics, evidence from creative industries mapping documents from many countries for the past decade (and sometimes longer) clearly indicates the creative industries sector is growing at about twice the all industries average in value-added and employment (see Potts and Cunningham 2007). All industries experience this at some point, just as all eventually grow at a less than average rate. Such is the restless nature of industrial evolution (Metcalfe 1998, Metcalfe *et al* 2006). The creative industries are increasing in significance, and this has seemingly been occurring since the late 1980s/early 1990s. Why is this happening? The ‘drivers’ of this process are difficult to isolate and test, and surprisingly there has been very little analysis of this recent phenomenon. But a raft of explanations may be offered that include:

- Increased investment in and supply of input factors

The simplest explanation for the relative CI growth is increased investment in input factors. Increased capital investment may follow from increased sectoral profitability (which is widely reported), or opportunities to replace labour with capital, especially ICT. There is substantial evidence (DCMS 2001) that the sector has above average employment growth. A further source of labour growth arises from opportunities to access labour off-shore; however statistics about the extent of this are patchy.

- Qualitative improvement in input factors

A strongly related explanation for relative sectoral growth is qualitative improvement in input factors through increases in human capital, or through improvements in technology embodied capital. Again, there is strong evidence for both. Average levels of education in the creative industries are very high (as are wages, although proportionately less) and have been rising strongly since the early 1990s. But perhaps the strongest effect has been in the ICT revolution associated with telecommunications, digitization, personal computing and the internet. The creative industries are heavy users of these technologies, and their wide-scale adoption has revolutionized many aspects of production, delivery and even consumption of their output (see Leadbeater 2000).

- Growth of demand

However, the growth of the CIs may also be due to demand side forces associated with the substantial rise in global wealth since the early 1990s and the opening up of global markets. While this benefits all industries, this may have disproportionately benefited the CIs due to their supply of a set of goods and services for which income elasticity is greater than one. Furthermore, with the continued success of the NICs, China, Brazil, etc we should expect to see sustained high demand for the output of these sectors and therefore continued higher than average growth.

- Institutional change and efficiency

A further possible explanation is institutional change in the direction of capitalist institutions penetrating into this sector. Many parts of the CIs escaped regulatory reform in the 1980s that shook-up other industries, and the CIs harbour a large number of not-for-profit organizations. Furthermore, this has historically been a highly protected sector with many institutions effectively pre-dating capitalism. However, there is mounting evidence that this has begun to change of recent (Potts 2007a) in part due to the ICT revolution and the new opportunities created, but also due to the effects of globalization. This institutional change affecting organizational forms, business models and market strategies may be a significant explanation for the recent relative growth of the creative industries.

In all of these above explanations, the relative growth of the creative industries is attributed to favourable forces from the rest of the economy, variously as improved technologies for supply and increased demand for services, or to internal shake-up in consequence of wider economic growth. There is no analysis that has yet sought to quantify these effects in order to account for what proportion of growth can be explained by each. However, it is probable that each of these has some explanatory power and that together they may explain a sizable fraction of the growth differential of the creative industries in relation to the aggregate economy. Moreover, we might expect that similar results would be obtained in the many different countries for which this observation of differential growth holds.⁶

However, like the work by Robert Solow on production function estimation, it may well be the case that there remains a substantial residual. And if so, how might it be explained? My hypothesis at this point is that the technology analogue is that the creative industries themselves may be a kind of innovation technology in the sense of furnishing 'evolutionary services' as part of the *innovation system*, and in particular in the process of adoption and retention of new technologies. This, I suggest, is the evolutionary model of the creative industries.

Evolutionary model of creative industries

The evolutionary model of creative industries dynamics offers a rather different interpretation of the nature of and value created by this sector. Instead of thinking of the creative industries as an industry that produces a particular set of goods – entertainment, say – they might be better modelled as producing a service – the generation and facilitation of change.⁷ And although the designation ‘change industry’ might seem hopelessly abstract, the analytic framework proposed by Dopfer and Potts (2008) offers a way to unpack the role of the CIs in the process of economic evolution in terms of the analytic unit of economic evolution: a *meso trajectory* – which is the three-phase process of the (1) origination; (2) adoption; and (3) retention of a generic rule into a population of carriers (see Table 2 below). The creative industries are involved in all three phases. In other words, their economic significance derives not just from its operational economic value (as in products, exports, employment, etc.), but also from their contribution to generic change. The creative industries, according to this theory, will have greatest significance in an evolving economy, and least significance in a static or equilibrium economy.

Table 2: Phases of a meso trajectory (the unit of economic evolution)

	Meso 1- Origination	Meso 2 - Adoption	Meso 3 - Retention
Process	entrepreneurship and novelty	innovation, creative destruction	embedding and normalization
CI example	Art, Music, Publishing, Fashion	Advertising, Media	Design, Film & TV
Function	generating creative response, tools for imagination and exploration, models of change, experimental space	social network creation and control, connection of new technologies to new lifestyles, (often non-linear) selection mechanism	rendering of new rules into embedded functionality in the mind and as social rules

Let us now consider these phases in turn, and the role of the creative industries in each. The first phase of the process of economic evolution – what Dopfer and Potts (2008) call meso 1 – is the origination of a novel idea. This is the process of imagination and entrepreneurship in creating something new and developing it to the point that it may be adopted by others. This is the onset of innovation. The creative industries contribute to this broadly; both in the

provision of new ideas that then get developed within or, more often, in collaboration with other industries. Music and video games both provide good examples of this. But more importantly, the creative industries provide the services to generate and develop new ideas (what Dodgson *et al* 2005 call ‘innovation technologies’). This is especially true of publishing, TV and radio, which provide the space for the creation and analysis of ideas prior to them entering into economic space. A media rich society, for example, is not just good for democratic politics, but also good for the origination of innovation as well through the opportunities it furnishes for experimentation with new ideas. It should not surprise us that when the media industries are thriving, in both populist and specialized media, this offers a rich and fertile ground for the introduction of novel generic rules that are the basis of economic evolution.

Interestingly, this implies that the creative industries may in fact be a *precondition* for economic evolution (along with open markets, property rights, good governance, science and technology, etc) by their production of the socio-technical space for generic origination. This hypothesis implies that societies with underdeveloped or restrictive media (along with other creative industries) should not experience economic evolution, which seems plausible when we think of Communist Russia or Cambodia, North Korea, or the differential performance of East and West Germany. A default setting that attributes the creative industries to be just the entertainment or leisure industries should further seek to acknowledge that a significant point of entertainment and leisure in humans comes from engagement with new ideas. This is also why a rich fashion industry, as centred about many possible modes of fashion and not just clothes or shoes (Potts 2007c), may also be a catalytic precondition for economic evolution (Currid 2007). An externality of this preference for discussing ideas, even as entertainment, may well be innovation and economic evolution.

The second phase of economic evolution – meso 2 – is the adoption of the generic rule into a population of carriers. Often modelled as a partially stochastic adoption-diffusion process, this is the innovation process of creative-destruction in action, and through which a new

rule-population emerges and the knowledge base of the economy changes. The CIs are important to this process for the simple reason that it is inherently social. When dealing with uncertainty, we look to others, sometimes directly to their individual advice or choice, and at other times indirectly to the effect of their choice on price or sales, or even more indirectly, through other's representations of these effects (Potts *et al* 2007).

The role of the creative industries in this process is deep and rich. The most obvious is in the commercial field of advertising and marketing, which seeks to inform and influence choice through the construction of various messages and rules for choice (Earl and Potts 2004). This aims to affect the patterns of generic adoption through the production of rules for choice regarding the novel idea. This function extends through film, TV, radio, and other CI activities that create and process social information. Nuclear power and GMO, for example, are both generic rules that have had their adoption process significantly influenced by the creative industries, as is currently true of Web 2.0 and climate change. The point is that the adoption and diffusion of the new technologies that drive economic growth and evolution are significantly affected by the creative industries through their role in handling and processing social information about new things. The creative industries facilitate, accelerate and stabilize the adoption of novel generic rule into the economic order and to broadly function as a selection mechanism (both selecting against particular ideas and amplifying others). Again, without the creative industries, according to this hypothesis, an economic system would experience less evolution (and growth), if at all, because the adoption process would be either hopelessly uncertain or constrained to the speed of personal knowledge. The vast acceleration in generic evolution from Gutenberg onwards, and again with telephony, radio, TV and the internet all suggest that the creative industries provide the evolutionary service of adoption facilitation.

The third phase – meso 3 – is the retention of the emergent population into the economic order and its ongoing replication. This is often described as a process of normalization and embedding that refers to a world of stable parameters and low uncertainty that neoclassical economics best describes. But from the evolutionary perspective the creative industries are

playing a further important evolutionary role in the facilitation of this process through the design of ways of being and the normalization of these ways. The obvious example is the new representation, through which-ever media, that transforms the new into the normal. Almost all creative industries feature in this function, from interactive software that seeks to embed technologies into interfaces that humans like, to books, films or TV that normalises a previously radical perspective, to design and architecture that locks these ideas into plastic or stone.

Of course, fashion, design and architecture, as with all other arts, also perform this same function with variation in proposing novel ideas, as in meso 1. Yet in an open system, meso 3 becomes the basis of a new meso 1, and so we should expect these functions to overlap such that a disjunction occurs whenever this mechanism becomes dominated by either radicalism or conservatism. The creative industries function to normalize and embed novel generic rules, but also to maintain their possibility and potential as new ideas come along. The creative industries not only generate complexity and evolution, but maintain it for further development.

The creative industries do not neatly decompose over these evolutionary phases, with architecture here and design there, for example. They tend to have different functions at different phases, and to appear at different points with varying significance and intensity, and indeed sometimes only obliquely: sometimes they matter more than other times, and different creative industries matter more within these times. But there is also a general sense in which they matter to the evolutionary knowledge base of the economic order, and in particular to what Dopfer and Potts (2007) call 2nd order or mechanism rules. These are rules for changing rules and include: rules for origination, rules for adoption and rules for retention, along with rules for origination of origination rules, rules for adoption of origination rules, etc, through the nine permutations. These represent the generic evolutionary capabilities of an economic order and the point I wish to make is that the creative industries supply some of these rules. The creative industries are part of the mechanism by which new ideas for new ideas are developed.

The creative industries are relevant to this inquiry because they both facilitate the process of evolution as in meso 1–3 above through their role in providing the raw algorithms that incline us then both individually and socially toward generic novelty, adoption and retention. It seems equally true to say that evolutionary economic man⁸ is in part a creative agent, as to say that an evolving economic system will have a creative mechanism that may in turn be identified with the creative industries (see also Frey 1999). Whether we think of this analytic conception as creative industries or social network markets, its generic function is to provide some of the mechanisms for dynamics. At any point in time, these will invariably seem indulgent or wasteful, or otherwise insignificant. But through time, these processes have structural significance.

The significance of the creative industries, in this view, is that they are part of the technology of economic growth and development; these industries then produce entertainment and employment as an additional benefit. The generic dynamics of this industry are perhaps then far more interesting than its operational statics, and this should also be the basis for how the creative industries are analytically conceived: namely, as functionaries of knowledge creation along with other elements of the innovation system. The prospects for economic evolution are in this way determined in part by the efficacy of the creative industries in the service of processing new ideas. To the extent that they do this, they are part of the mechanism of economic evolution.

Conclusion: Toward a creative industries model of economic evolution

My model, then, is one in which the service economy is continually giving birth to new industries, and in which the creative industries are a central part of this process. Economic growth and development is the ongoing process of meso trajectories, each resulting in an evolved order of agents, markets, firms and laws as a complex system we call an industry. In this model, however, the creative industries are not industries in this operational sense,

but a higher-order gallery or laboratory for new ideas that is an essential component of the innovation system of any economic order.⁹

The creative industries may thus provide a partial measure of the evolutionary capabilities of an economic system. This suggests a revision of the standard (Schumpeterian) model of economic evolution to account for the role of the creative industries in the origination, adoption and retention of a novel generic rule. In practice, this amounts to extending the same analytical treatment afforded to science, technology, engineering and manufacturing to the arts, practise, design and social coordination when seeking to explain the causes of economic growth. The creative industries growth model of economic evolution is composed of the same forces that drive all Schumpeterian/Hayekian evolution, but with additional recognition of the value of the social mechanisms in this process and the (creative) industries that generate these services.

The evolutionary growth and development of an economic system depends upon several ultimate causes (property rights, open markets, rule of law, etc) but it also involves several proximate causes that include the new ideas bought by both science and art. My point is that whatever the relative balance of significance, these are ultimately complements. The analytic inference is that economic growth and development is, in part, caused by the creative industries in consequence of the new possibilities they create. It is no accident that creative industries firms are among the worlds' largest, and that individual fortunes are disproportionately due to creative industries entrepreneurship (Potts 2006). Just as business and financial services, along with science and engineering services, have become an increasingly important aspect of the modern economy, so too have creative industry services, and for the same essential reason: the creation of the future through the coordination of experimentation and the adoption and retention of novelty.

The creative industries are in this generic view a crucial part of the mechanism of economic evolution that functions to open and develop the forward space of economic evolution through imagination of individual lifestyles and social possibilities.¹⁰ Economic evolution is

therefore often partially and sometimes significantly dependant on the state and nature of the creative industries. New ideas drive economic evolution and the creative industries are involved in this process through the origination, adoption and retention of novelty in the social context.

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¹ The standard definition of the Creative industries is due to the DCMS(1998) in which they are defined as the set of industries that are based on individual creativity, skill and talent that have the potential to create wealth and jobs through developing intellectual property. They include: advertising, architecture, arts & crafts, computer & video games, design, fashion, music, performing arts, film, TV & radio, publishing and interactive software.

² A process unit is a *meso trajectory* in the Dopfer-Potts (2008) framework.

³ See also the work of Leadbeater (2000) and Benkler (2006) on this theme.

⁴ On cultural economics, see Baumol and Bowen (1966); Blaug (1976); Frey (2000); Heilbrun and Gray (2000); Throsby (1994, 2001); Towse (1997, 2003).

⁵ In Karl Popper's sense.

⁶ The above average sectoral growth of the creative or copyright industries has been reported broadly for the period from the mid 1990s to the present in the UK, Australia, New Zealand, USA, Canada, Poland, Hungary, Singapore, and with less certainty, for the EU. The limit of this list is that such analysis has not been conducted on all nations. The broad result is that almost everywhere such estimates have been compiled, the result has been the same (the exception is China, but that may well be a special case given its extraordinary growth in other sectors).

⁷ As Shackle (1972) felicitously said: 'through imagined possibilities made real'.

⁸ *Homo Sapiens Oeconomicus*, Dopfer (2004).

⁹ I mean this in the scalable context of the creative industries in relation to an individual agent, a firm, an industry or an aggregate economy, including of course the global economy.

¹⁰ As Hartley (2007) explains: 'creative innovation and dynamic change, led by the implementation of individual creative ideas in socially current organizational and economic settings, progressively expands from specialist cottage industries, via commercial culture, to the entire population, modernizing and restructuring as it goes. What seems local and weird is perhaps better understood as a creative wrecking ball of modernization. So policy needs to stand back and let the modernization occur, but also it needs to step forward and make sure that the goal of whole-of-government approach is to develop a nationally competitive innovation system, via education, scholarships, tax policy, research, regulation, as well as direct trade & industry policy.'