

A Truly ‘Transformative’ MBA: Executive Education for the Fourth Industrial Revolution

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Abstract

The world over, universities describe their Masters of Business Administrations as ‘transformative’ but so many rely on traditional retrospective curriculums, structures and assessment. The suspicion in some quarters is that the MBA badge has sometimes become more about prestige than transformation; inputs rather than outputs. Yet it is increasingly clear that the global economy is at a turning point with the World Economic Forum going as far as describing the advent of a Fourth Industrial Revolution. Technology in particular is changing the nature of work and the role of managers while the nature of jobs and the skills that will be needed in the near future is in flux. Organisational success increasingly relies on creative and adaptable colleagues able to lead and shape change; here innovative executive education has an essential role to play.

A discussion paper centred on these topics, this article makes the case for MBAs to be truly transformative by shifting the emphasis firmly towards intellectual creativity and problem solving, together with innovative assessment regimes which challenge mid-career professionals to be adaptable and able to take managed risks supportive of professional innovation. It argues the case for a breed of MBAs that are not retrospective and elitist but rather are driven by the transformative ambition of developing participants’ cognitive powers.

Keywords: meta-skills; management and leadership; work; business schools;

Introduction: What Should Transformative (Executive) Education Mean?

MBA's remain the ultimate statement in executive education but need to evolve if they are to equip mid-career students with the skills and abilities they require to succeed in the fast approaching 'fourth industrial revolution'. This article is offered as a discussion paper intended to provoke and consider one possible evolution for the MBA. It brings together previously unconnected debates about pedagogic transformation, the future of the MBA in executive education, and the contemporary dialogue about the changing economy. It views the development of the MBA through the lens of the skills required in the business world of tomorrow. Consequently, it is organised around two themes of preparing for the fourth industrial revolution and being a Master of Business Administration, sandwiched between two questions: what should transformative (executive) education mean? And concludes by asking what should tomorrow's Executive MBA look like? This introductory section tackles the first. By drawing on mainstream thinking, it articulates a narrative about what transformative education could mean in the context of the MBA.

Education should be a transformative experience. It has the power to change lives, skills and outlooks. The pioneer of 'transformative learning', Jack Mezirow (1997, 5), articulated the concept as 'the process of effecting change in a frame of reference' and it is a definition that still has currency (even though it needs extending). To be transformative, then, means that a course is ambitious in what it expects of learners; not simply knowledge and input but a re-evaluation (a 'renegotiation') of the way in which we see the world. Even the language of knowledge and skills should be considered insufficient and the sense of learners' 'being' is fundamental to the experience (Barnett, 2011). That need to change the frame of reference makes it an idealised ambition for executive education comprising experienced adults able to reflect and share. Indeed, while this ideal of transformation is pertinent to all higher education, it has particular relevance to programmes which engage those in mid-career. 'Executive education courses are found to be distinctive on the basis that responsibility for learning, and the direction of the journey being taken, rests largely with the participants themselves' (Lockhart, 2013). That is, education providers should be facilitating the development of learners, creating the space and conditions (Savin-Baden, 2008) for intellectual curiosity, growth and changing frames of reference.

The MBA is the ultimate statement in executive education. As Baruch (2009) demonstrates they offer high potential return on investment for participants contributing greatly to their human capital. (Executive) MBAs across the world promise 'transformative' experiences and yet there is a suspicion that many remain rather retrospective in construction and outlook. The criticism is not new and notable grumbles about these courses emerged before and in the wake of the financial crisis a decade ago. Navarro's (2008) study of top-ranked US business school MBA curricula found a lack of emphasis on subject integration, experiential components and 'soft skills'. Elsewhere, Henry Mintzberg's book *Managers not MBAs* (2004) is critical of some leading programmes and in it he argues that it is impossible to properly teach management as so many programmes attempt but that

Business Schools can facilitate experienced managers reflecting on their practice. The case being made is that the transformative potential of some MBAs is hampered by too rigid reliance on instruction and emphasis on inputs rather than the possibilities of development and outputs. Executive education in particular offers such possibilities because it involves reflecting on experiences and developing the careers of participants.

To be transformational, then, it is important to develop career supporting meta-abilities that Butcher and Harvey (1998) outlined long ago as cognitive, self-knowledge, emotional resilience, and personal drive since these learned abilities play 'an important role in allowing a wider range of management knowledge and skills to be used effectively. It is often seen as part of the style, character or even 'maturity' of a manager.' (ibid, 75). This idea is very much in line with the argument set out in JPD by Mannix (2012, 33) that 'engaging with the knowledge, interests and life situations of learners... facilitates learners in the reconstruction of how they perceive knowledge and of their own identities ... the further and deeper students are willing to think and draw on their knowledge and own experiences (different learning spaces in which students reside), the more creative and metacognitive they can become.' These layers upon layers mean that executive education and MBAs can be transformative in a way that goes beyond even Merizow's (1997) conceptions. Indeed, this would go some way to assuage Boyd and Myers' (1988) criticism of the rationality of transformational learning approaches at the expense of intuition, imagination and emotion.

To remain relevant, MBAs need to evolve and the reason that this is so important today is illustrated by what is happening in the environment in which mid-career professionals are working and face in the near future. These needs (which if are not exactly emerging now) are increasingly crucial.

Preparing for the 'Fourth Industrial Revolution'

Arguably, MBAs are the pinnacle of executive education. Generalist programmes, they prepare mid-career participants for a range of business roles. Such generalism is perhaps all the more important given the likelihood of numerous career change and the need to cope with a rapidly changing environment. This section considers the changing economy in the context of the MBA and the roles that participants play in their careers.

One of the most authoritative contributions to analysing the economic world over the horizon came from the 2016 World Economic Forum in Davos. The conference that year focussed on the urgent demands of what has become known as the Fourth Industrial Revolution. Following mechanisation and steam in the 18th century; production and electricity in the late 19th century; computers and the internet in the second half of the 20th century; this fourth industrial revolution of robotics, artificial intelligence and biotechnology promises change just as profound. These were all known as revolutions, of course, because the change they heralded was not simply economic, it touched society, politics, education, health, thought and environment. Practically every corner of life in fact. 'The Future of Work' (2016), which came out of

this WEF, underlined the significance of what is about to happen arguing that 65% of today's school children will end up in jobs that do not yet exist and that as early as 2020 a third of the desired skillset for jobs will be ones not considered crucial at the time of writing. Alarmingly, it predicted 7 million jobs lost worldwide to new technologies.

It is not alone. There have been numerous studies and startling interventions to the public debate in recent years in particular around the impact of Artificial Intelligence and its potential for 'replacing' some white collar skilled jobs. Moshe Vardi of Rice University of Texas kicked off a vigorous debate for stating that 'We are approaching the time when machines will be able to outperform humans at almost any task' (Cookson, 2016). Others have attracted popular attention such as the free market Institute for Fiscal Studies which warned that rises in the living wage would fuel the automation of many low skilled jobs (Cribb et al, 2018) while the strangely historic case made by Microsoft's Bill Gates was that robots which replace human jobs should be taxed (Quartz, 2017). Technology, it seems is moving at such a pace that it will fuel a great economic boom and change the way the world works.

There is, however, a flip side to the sort of economic change both expected and currently being experienced. The socio-political and economic ramifications of globalisation have already been felt. The election of Donald Trump to the Presidency of the United States and the 'Brexit Environment' in Britain owe a great deal to the divisions created by a world where unskilled work no longer has the security that it once had and the unskilled find themselves trapped in low wage precariousness. Each represented rebellions of ordinary voters in post-industrialised regions against 'metropolitan elites' who were more likely to be educated and skilled (Barber, 2017; Standing, 2016). Indeed, some of the retrograde policy to follow has resulted in further falls in productivity growth as business uncertainty means stalled investment not least in human capability. From an executive education perspective these events serve as a stark reminder that prosperity, progress and success are reliant on a skilled workforce; together with conceptions that skillsets are not static. That is the demand for many traditional high level professional skills associated with business functions and management will shrink as technology becomes more capable. But it perhaps also reminds us that business organisations exist within and have responsibilities to society. It is perhaps a reason why MBAs have come to embrace 'social enterprise' following the financial crisis (Milway & Goulay, 2013). The political turbulence reminds us of the importance of looking outside the organisation to make sense of the world. It reminds us that business education should reflect all of this.

The extent to which 'robots' will put vast numbers of people out of work cannot yet be known. As a note of caution, one is reminded of the futurology of the 1950s which foresaw technological advances leading to short working weeks and lives of leisure (Barber, 2011). The reality was very different. Just as with the first industrial revolution, productivity advances freed up humans to do other things: first it was manufacturing and then following deindustrialisation it was services. Technology has historically made us more productive and created more and different work. As Autor

(2015, 5) observes, ‘journalists and even expert commentators tend to overstate the extent of machine substitution for human labor and ignore the strong complementarities between automation and labor that increase productivity, raise earnings, and augment demand for labor.’ There are clear illustrations of this: Developed western economies have experienced deindustrialisation since the 1970s. At home, it is often stated that Britain no longer manufactures anything. In fact this is not true. Manufacturing output in the UK in the current decade is at higher levels than the 1970s hitting a 10 year peak in January 2018 (ONS, 2018). However, the sector is a much smaller proportion of the overall economy which has seen a growth in services (especially financial) and technology. Moreover, thirty years ago it employed 25% of the working population, today it is about 8% (Salisbury, 2014). That is a much smaller number of workers are needed to produce more products and the demand for unskilled labour is greatly diminished. Productivity growth in the manufacturing sector has outstripped that of services and the economy as a whole. Meanwhile, the broader economy has created more jobs than ever before but it is only largely amongst the most skilled that secure employment can be identified (Goos & Manning, 2007). For instance, even in manufacturing the proportion of hours worked by unqualified staff has dropped from 26% to 8% over the 20 years 1993- 2013 while workers in the sector with degrees has gone from 7% to 16% (Salisbury, 2014).

Consequently, it would be wise to exercise some scepticism about the mass unemployment created by the fourth industrial revolution but attention needs to be paid to the changing nature of work. So let us get out of the prediction game and instead focus on the trend identified in these studies and developments.

What previous economic change has demonstrated is the demand for new skillsets as older ones become more obsolete. The challenge business schools face today is developing executives for tomorrow when that skillset is changing and uncertain. Indeed, the World Economic Forum report itself suggested that even today for those on a four year technical degree, half of the knowledge acquired in the first year is outdated by the time of graduation. The response required is not about trying to second guess the precise skills needed in five or ten years’ time, but rather it is about developing graduates with the cognitive abilities to innovate and handle whatever challenges arise. It is about being truly transformative. And that need is in fact already with us. The economist and founder of the WEF, Klaus Schwab (2016) has argued that the lifespan of organisations which do not innovate is limited and has demonstrated that companies listed on the S&P index have already suffered an average drop in life expectancy from 60 to just 18 years. Theoretically, business schools have long taught this: Schumpeter’s (1942) concept of ‘creative destruction’ held that innovation drives economic growth but leaves destruction of established business in its wake. Creative destruction naturally means generating more economic value than is demolished but it is also about the reallocation of resource from the least efficient to the most efficient. It favours entrepreneurialism and business schools need not only to theorise but to also develop the skills in demand. In the fourth industrial revolution (a period of creative destruction), a prominent resource must be scarce human skills. And the nature of those skills is not a mystery.

The Employer Skills Survey (2016) highlighted among other things the shortage of 'complex analytical skills' which it said accounted for 39% of vacancies. Elsewhere, the World Economic Forum (2016) has emphasised complex problem solving, critical thinking and creativity as the top three skills required by 2020. Similarly, the American Management Association (2010) has for nearly a decade emphasised critical thinking, problem solving, communication, collaboration creativity and innovation as critical skills. More recently, the Chartered Management Institute (2014) has argued that in the future technology will mean that 'people skills' are even more vital and also underlines the need for complex analytical skills and creativity.

This lends weight to conceptions of the workplace and economy of the near future where technology is capable of undertaking many skilled tasks ranging from accountancy to operations to sales. These represent skills which are associated with the traditional functional view of the organisation and management structures within it. And yet the emerging role of technology only makes certain human learned skills obsolete - not people. It frees up human capacity to do what it is uniquely able: the think and create. But it does perhaps represent the need for a shift from the old industrial mindset.

In business education, it is astonishing just how much emphasis is still placed on rather retrospective conceptions of business as traditional (middle) management when as far back as 1988 Druker foresaw a knowledge economy that would require far fewer managers as we become more reliant on specialists. More recently Schwab (2016) has argued that business needs to abandon 'command and control' in favour of collaboration and teamwork. The CMI (2014) survey found risk taking and innovation were rarely encouraged in 62% of UK companies, while hierarchical organisational structures were identified as damaging innovative potential. The implication here for a generalist programme like an Executive MBA is optimising the ability of specialists to work together, innovate and create. And yet even integrated subject areas are surprisingly rare and courses continue to accentuate functionality. The consequence of this pedagogically, is that the over-emphasis in curricula, on both managing people as resource units, and structuring education through the prism of autonomous business functions, is somewhat retrospective and outdated, and risks developing near obsolete knowledge and skills at the expense of that which is demanded.

Perhaps two newsworthy modern companies serve as a useful metaphor here. In 2017 the European Court of Justice ruled in favour of something most of us already (thought we) knew: Uber is a taxi company. And yet the vociferousness with which it argued to the contrary tells us something about how Uber perceived itself and the nature of the skills it valued. For Uber, the largest taxi company in the world, the skill of driving a taxi is near irrelevant to its core strategy and operation. And it owns not a single vehicle. Similarly Airbnb which provides more rooms than any hotel chain in the world, owns no property and cares little for those traditional hotel management, catering and tourism skills. Think too of traditional business functions and consider that in order to operate drivers in 633 cities worldwide (Rusli, 2014) or to offer in

excess of three million lodgings across the globe (Airbnb, 2018), the complete absence of middle managers at Uber or Airbnb coordinating these vast and complex arrangements. Think too of the nature of finance and business investment as neither of these companies has had to risk capital on the ground in physical equipment or infrastructure in the way that a traditional transport or hotel business might. The marginal costs of each unit of output are incredibly small by comparison to previous generations. This changes the nature of the skills they need to develop and attract as much as the way business is conducted. Both are technology and brand driven, truly global in outlook, relatively small operationally and specialised given their reach and ultimate size.

If Uber and Airbnb serve as metaphors for the changing nature of the global economy, they should serve too as a hint for MBAs and executive education in terms of what they need to deliver. The skillset needed today and tomorrow is perhaps softer but actually more difficult to develop. The economy needs creative, adaptable, emotionally intelligent, politically aware individuals who are able to look outside their organisations and make sense of the world. It needs individuals who can lead, make sound judgements, solve problems and make a positive impact. It requires a shift to an open mindset.

Being a Master of Business Administration Tomorrow

Appropriately, given the narrative here about the fourth industrial revolution, the history of the MBA is interwoven with industrialisation (of the United States in the early twentieth century in particular) and so it stands to reason that curriculums must adapt to the economic and social environment they serve. Indeed, this is all the more important where that environment is changing rapidly. After all, being Master of the subject has to mean more than technical skill, particularly if that skill is becoming rapidly outdated.

MBAs have been seen as a passport to success: in part because of the elitism of holders, an exclusivity which the most elite Schools have sought to reinforce with eye watering increases in fees and costs. This is most stark in the United States where the top 25 Schools according to FT Ranking data charged an average of \$118,468 in 2016 a rise of 81% on 2006 (Moules, 2016). As provision has expanded with more programmes from more Business Schools across the world, recent history has seen an emphasis on barriers to entry for the most prestigious programmes including not only price but also accreditation and entry. This can be the only real justification for fees which are many multiples of similar courses at less prestigious institutions which can demonstrate similar quality, rigour and coverage. While attractive to those able to participate in elite programmes in a transactional sense, these barriers can be seen to constrict the transformational potential of the MBA not least because the clamour for accreditation can mean conformity and lassitude when free thinking and dynamism is needed. By way of correlation, Lindorff and Jonson (2013) raised the spectre that some management education content might no longer be appropriate given its findings that firms where the CEO held an MBA did not perform any better than those where the head did not. There is perhaps danger where there is too much emphasis on inputs, conformity, drawing from a narrow

socio-economic spectrum and groupthink. Indeed, curriculum conformity has perhaps manifested itself in a criticism that business schools are engaged in practice that is no longer as relevant as it could be to real world executive development, immersed too much in (tired) academic theory or over-emphasising traditional analytical skills at the expense of craft, art and style (Bennis & O'Toole, 2005; Lockhart, 2013; Mintzberg, 2004).

It is surely not only business that needs to innovate in the fourth industrial revolution – MBAs need to reflect the huge change taking place. The new challenges of the global economic environment even mean that there is an opportunity for Business Schools to reassert their relevance by focussing on the development of creative thinkers capable of adaptation and shaping the future. Here the idea of a truly transformational MBA surely has currency. The emphasis on skills and abilities relevant to the new economy rather than barriers to entry and conformity. In this environment, transformative MBAs as executive education should not be a badge for the elite but rather represent an opportunity to broaden intellectual horizons and prepare cognitively for the uncertainties of the future. Employers should see transformative MBAs as a mark of intellectual curiosity and adaptability. That is, while they might be unable to predict the skills needed in five years' time, they should have the confidence that an employee who has engaged in such an MBA is innovative, creative and capable of adapting to whatever emerges.

To be a Master of Business Administration is perhaps more challenging than it once was. Today it must represent more than a comprehensive grasp of business functions. The curriculum must look outwards to the complexities of the external environment, engage in current debates and issues in the global world as well as local economies, develop the ability not just to understand strategy but to really think strategically.

Naturally, developing the scarce skills needed for the future is polarising and recognising the nature of revolution should also be an essential part of being an MBA. Previous industrial revolutions divided the rich and poor, facilitating social and political change. The transformative MBA must be about more than shareholder returns and take civic responsibility seriously. Intriguingly the line between private and public sectors is more fluid than ever. Public sector employees today are as likely to be commissioning as delivering services while a range of public provision is undertaken by private and third sector organisations or in partnership. Sectors are facing comparable challenges and need to make sense of the changing world together while many commercial organisations are acknowledging their responsibilities to society and the local economies in which they exist. MBAs should do likewise.

Conclusion: What Should Tomorrow's Executive MBA Look Like?

The discussion in which this article has engaged has contrasted two MBA caricatures: the 'retrospective MBA' which is structured around narrow business functions and derives its appeal from exclusivity and the 'transformative MBA' focussed on intellectual creativity and innovation capable of preparing graduates for the new

demands of the fourth industrial revolution. It is recognised, of course, that this is a caricature and the MBA market is as wide as it is deep with countless programmes with strengths and weaknesses. Nevertheless, this caricature is useful in emphasising the skills needed tomorrow. In discussing MBA development through the lens of this phase in our economic development, this article has made the case for a greater emphasis on executive education associated with what it has defined as truly 'transformative'. That is an emphasis on creativity, problem solving, adaptability, strategic thinking and meta-abilities: the ability to innovate, lead and shape the future. But what would this look like in tangible form? In drawing together the key points in the discussion, this concluding section sketches out some possible considerations.

This article has argued that retrospective programmes have tended to structure business education from the narrow and separate perspective of traditional business functions. While the skills and knowledge associated with those functions must continue to be included, the more progressive ambitions of a transformative MBA means taking a broader view and emphasising the development of meta-skill abilities. Practically all courses are broken up into discreet units but the implication here is that units become bigger, more integrated, freer, more encompassing, and enjoying more fluidity in themes and assessment.

Some of the objections to the long-term divergence between theoretical business school research and the applied skills required by students (Bennis and O'Toole, 2005) can also be overcome where these skills of creativity, innovation and adaptability are placed at the heart of learning. Barber and Luke (2015) demonstrated that as well as being used to develop the craft of research in students and to disseminate the results, published research by business school academics can also be used for what was termed 'thematic value'. Research can be considered a 'teaching object' (Alford and Brock, 2014) and used to stimulate sometimes unpredictable creative responses in mid-career students able to reflect upon and make connections with their own experiences. Such an approach should not be surprising to business educators. After all, Gareth Morgan introduced the idea of tackling complex problems through metaphors which stimulate managers to think about organisations differently, provide multiple perspectives to understand their dynamics and even create new insights (Morgan, 1986).

Facilitating creativity and problem solving in a systemically expert way across leadership and strategic thinking has to be central to the course. The advantage of executive education is the broad range of professional experience from which individual participants and collective cohorts can draw and reflect upon leading to new connections and ideas. The MBA must facilitate this in the same way that forward-looking, open, organisations must if they are to promote corporate innovation (Loewenberger, 2013). The course must view management and the changing nature of work itself in a progressive manner (Johnson, 2004). This should both challenge assumptions about organisational structures and hierarchies and promote practical application of leadership values systems allowing professionals to adapt to emerging situations (Grisby, 2016). Technology is changing organisations in

terms of how, what and why. The MBA must reflect this, acknowledging not only the change but also the uncertainty and developing possible responses. New opportunities to learn through connectivism approaches for instance also mean experience sharing via the information technologies now available (Siemens, 2005).

If the MBA has set its students the challenge of developing innovative capacity, it follows that assignments and assessment are also innovative, not simply for its own sake but such that it both facilitates creativity and reflects the sorts of skills relevant to professional life. So alongside traditional written assignments and presentation briefs, there is space for tasking students with producing committee briefing papers, organising professional practice colloquiums, participating in courts of enquiry, simulations, or tackling real-world problems of industry or society. To do this, tomorrow's MBA should be rooted in the local economy - the businesses and organisations that comprise the world around the university - and connected to the global network in which most professionals experience today. As such, the course could embrace civic engagement, global issues, cross-cultural work and operating in remote teams.

The business environment is experiencing a period of disruptive innovation as the fourth industrial revolution changes the world. MBAs not only need to adapt to this change to remain relevant but transformational MBAs are needed to prepare mid-career professionals for the change. To do this, they need to develop students' meta skills and enable them to lead in the paradigm shifts to come.

References

- Alford, J. and Brock, J., 2014. Interactive education in public administration (1) The role of teaching 'objects'. *Teaching Public Administration*, 32(2), pp.144-157.
- American Management Association, 2010. Critical Skills Survey.
- Autor, D. 2015. Why are there still so many jobs? The history and future of workplace automation. *The Journal of Economic Perspectives*, 29(3), pp.3-30.
- Barber, S. and Luke, P., 2016. Putting theory into theory: Thematic value of research in public administration teaching. *Teaching Public Administration*, 34(1), pp.96-108.
- Barber, S., 2017. The Brexit environment demands that deliberative democracy meets inclusive growth. *Local Economy*, 32(3), pp.219-239.
- Barnett, R., 2011. Lifewide education: A new and transformative concept for higher education. *Learning for a complex world: A lifewide concept of learning, education and personal development*, pp.22-38.
- Baruch, Y., 2009. To MBA or not to MBA. *Career Development International*, 14(4), pp.388-406.
- Bennis, W.G. and O'Toole, J., 2005. How business schools lost their way. *Harvard business review*, 83(5), pp.96-104.
- Boyd, R.D. and Myers, J.G., 1988. Transformative education. *International journal of lifelong education*, 7(4), pp.261-284.
- Butcher, D. and Harvey, P., 1998. Meta-ability development: a new concept for career management. *Career Development International*, 3(2), pp.75-78.

- Chartered Management Institute, 2014. Management 2020: Leadership to unlock long-term growth, CMI
- Cookson, C. 2016, 'AI and robots threaten to unleash mass unemployment, scientists warn', Financial Times, February 14
- Cribbs, J, Joyce, R and Kellier AN, 2018, Will the rising minimum wage lead to more low-paid jobs being automated?, IFS
- Employer Skills Survey 2015. 2016,
- Goos, M. and Manning, A., 2007. Lousy and lovely jobs: The rising polarization of work in Britain. The review of economics and statistics, 89(1), pp.118-133.
- Grisby, J. 2016. The 6 Different Mindsets of Leadership, CMI Insights, 4 October
- Johnson, J., 2004. Flexible working: changing the manager's role. Management Decision, 42(6), pp.721-737.
- Lindorff, M. and Prior Jonson, E., 2013. CEO business education and firm financial performance: a case for humility rather than hubris. Education+ Training, 55(4/5), pp.461-477.
- Lockhart, J.C., 2013. Executive Education: Can it Be Too Good? Journal of Executive Education, 12(1), p.5.
- Loewenberger, P., 2013. The role of HRD in stimulating, supporting, and sustaining creativity and innovation. Human Resource Development Review, 12(4), pp.422-455.
- Mannix, V., 2012. Different ways of knowing. Journal of pedagogic development, 2(3).
- Milway, K.S. and Goulay, C.D., 2013. The rise of social entrepreneurship in B-schools in three charts. Harvard Business Review, 28.
- Mintzberg, H., 2004. Managers, not MBAs: A hard look at the soft practice of managing and management development. Berrett-Koehler Publishers.
- Morgan, G. 1986, Images of Organisation Sage: Beverly Hills.
- Moules, J. 2016, 'Rising MBA tuition fees fail to damage demand ', Financial Times, May 1
- Navarro, P., 2008. The MBA core curricula of top-ranked US business schools: a study in failure?. Academy of Management Learning & Education, 7(1), pp.108-123.
- Office of National Statistics, 2018. Manufacturing (Index), Preliminary Estimate of GDP time series dataset (PGDP)
- Rusli, Evelyn (June 6, 2014). 'Uber Dispatches trips'. The Wall Street Journal. Retrieved November 7, 2014.
- Salisbury, B. 2014, 'Not the 'sick man of Europe' any more: How UK manufacturing output has increased since the 1970s despite 60% fewer workers', This is Money, 22 October
- Savin-Baden, M. (2008). Learning Spaces: Creating Opportunities for Knowledge creation in academic life. Open University Press, McGraw Hill: England.
- Schumpeter, J. 1942, Capitalism, Socialism, and Democracy...
- Schwab, K. 2016, The Fourth Industrial Revolution, World Economic Forum
- Siemens, G., 2005. Connectivism: A learning theory for the digital age. International journal of instructional technology and distance learning, 2(1), pp.3-10.
- Standing, G., 2016. The Precariat: The new dangerous class. Bloomsbury Publishing.

- Quartz (2017) 'The robot that takes your job should pay taxes, says Bill Gates' interview. <https://qz.com/911968/bill-gates-the-robot-that-takes-your-job-should-pay-taxes/> accessed January 2018
- World Economic Forum. (2016). The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution. World Economic Forum, Geneva, Switzerland.