Commercial real estate: planning for change

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By: Rob Harris, Principal, Ramidus Consulting

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1. Introduction

It is a decade since the mighty Lehman Brothers crashed to earth, triggering the 'Global Financial Crisis' (GFC); considered by many commentators to have been the worst financial crisis since the Great Depression of the 1930s. Problems in the US subprime mortgage market were evident in 2007, but the full scale of contagion through the world financial system only became clear in the following year. In a very short space of time, complex mortgage-backed securities including bundled loan portfolios, derivatives and credit default swaps began to unravel. As their values plummeted so too did the credibility of the banks most heavily invested in them.

Freddie Mac and Fannie Mae were taken over by the US government in September 2008, while AIG, Bear Stearns, Lehman Brothers, Merrill Lynch and Washington Mutual – along with many lesser known institutions – were all destroyed in the ensuing mayhem, setting in motion a domino effect through global markets. Huge bail-outs and other palliative fiscal measures (including the US Government's $700bn rescue plan to remove illiquid mortgage-backed assets from the financial system) were deployed to avert an apocalyptic collapse of global finance.

The GFC is a useful reference point to mark a decade of enormous change in real estate markets. Over this time, demand dynamics have witnessed seismic changes and businesses are requiring new approaches to real estate. It is probably no exaggeration to state that the commercial property market faces a more uncertain future than at any time in its modern history.

This is not to imply a negative prognosis but simply to recognise that we are entering an era in which the old certainties no longer apply, in which political, economic, social and technological forces demand new approaches to the design, delivery, occupation and ownership of real estate. Indeed, the current times resonate with an observation by the twentieth century geneticist JBS Haldane:

> *I have no doubt that in reality the future will be vastly more surprising than anything I can imagine. Now my own suspicion is that the Universe is not only queerer than we suppose, but queerer than we <u>can</u> suppose.*[1]

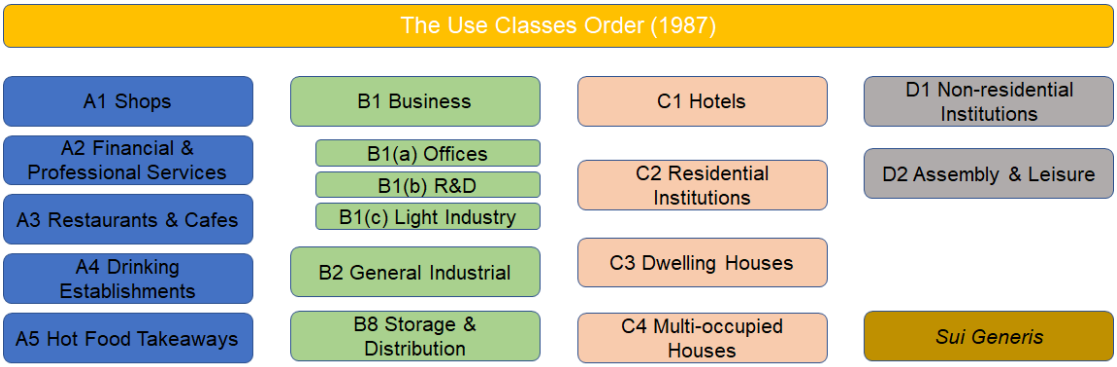
1.1. Planning for change

Haldane was pointing to the one thing that spooks investment markets more than any other: uncertainty. And real estate investment is hard wired to the *status quo*: long leases, secure income and the crystal clarity of "shops, offices and industrials". All feed an increasingly illusory sense of stability and certainty.

Similarly, land use planning in the UK adheres to the Use Classes Order (Figure 1), a system that has not been fundamentally revised since 1987, the year in which work began on the Channel Tunnel; Sir Clive Sinclair launched his Z88 Portable Computer; The Simpsons was broadcast for the first time and London Docklands Airport opened for business. A key objective of the Use Classes Order (UCO) was to define which land uses were, or were not, compatible with one another, in terms of amenity, noise, pollution and so on.

Despite the chimera of stability, the traditional property investment categories and the UCO are being severely challenged by emerging, radical new demand profiles. As long ago as 2002, and focussing on the leisure sector, Sayce & McIntosh referred to the inflexibility of the planning system, finding a strong view among stakeholders that "*it is regarded as out of date and stultifying to occupiers*".[2] This paper goes further, and argues (with a focus on the 'A' and 'B' classes illustrated in Figure 1) that the scale of change over the past decade has made such simplified nomenclature obsolete.

Figure 1 The Use Classes Order, 1987 (as amended)



Now is the time for investment markets and land use planning to adopt a more sophisticated approach to property and land use typology. Such an approach – referred to here as activity-based planning – would recognise the enormous changes that have occurred in the economy and the fact that premises needs are more varied than existing approaches allow for. It would be less constrained by out-dated and simplified conceptions of land use and property sectors. Investment and planning will have to adapt to an increasingly complex and constantly changing world in which the certainties of the past no longer apply.

Six decades ago, urban activist and author Jane Jacobs published her first major critique of established approaches to urban planning. In *Downtown is for People*, Jacobs highlighted the importance of small blocks and the need for diversity in building types, ages and affordability; and she emphasised the need to focus on people and activities, rather than idealised architectural or planning diagrams.

> *There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans.*[3]

In other words, planning must reflect the activities that it is seeking to manage; not impose its own image of them upon them. It is difficult to think of a more apposite theme for this paper than Jacobs' comments in an essay that proved to be the catalyst for the publication three years later of her seminal work, *The Death and Life of Great American Cities*.

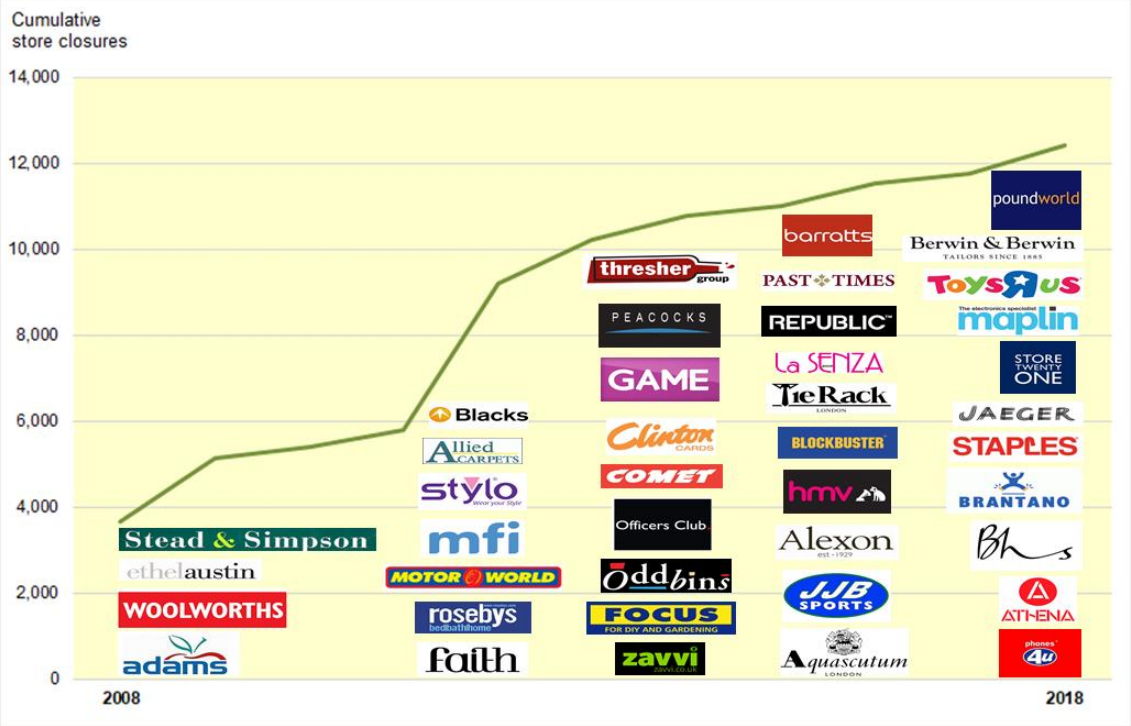
2. The high street: back to the future

The high street has begun to resemble something of a horror story over the past decade. Barely a week seems to pass without news of another retail failure; vacancy rates are rising and 'value outlets' are expanding. Once mighty brand names such as

Woolworths and HMV fail with alarming regularity, while others such as Debenhams, House of Fraser and Marks & Spencer limp along towards what seems an inevitable fate. Figure 2 shows a graphic of the larger retailers that have gone into administration since 2008 and the resulting store closures.

It is difficult to be precise because some firms enter administration more than once and not all administrations mean that all stores close. However, the chart shows that over the past decade these larger retail failures have resulted in over 12,000 store closures, along with over 150,000 jobs.

Figure 2 Selected retail administrations and store closures since 2008



Source: Ramidus Consulting Limited

It should also be emphasised that the chart does not include the many examples of store rationalisation programmes. As this paper was being written in June 2018, three large UK retailers announced major store closure programmes.

- **Mothercare** confirmed that it would be closing 60 stores by June 2019 as part of a rescue plan, putting over 800 jobs at risk. The baby products retailer was reported to be in a perilous financial position. The closures will leave 77 outlets, having already nearly halved in number over the past five years.
- **Carpetright** announced 92 store closures (a quarter of its portfolio). The company said it was taking the “tough but necessary action”, resulting in the loss of 300 jobs - to give the business a chance of returning to the black.
- **House of Fraser** announced plans to close 31 of its 59 shops as part of a rescue deal. If the plan is approved 2,000 House of Fraser jobs will go, along with 4,000 brand and concession roles.

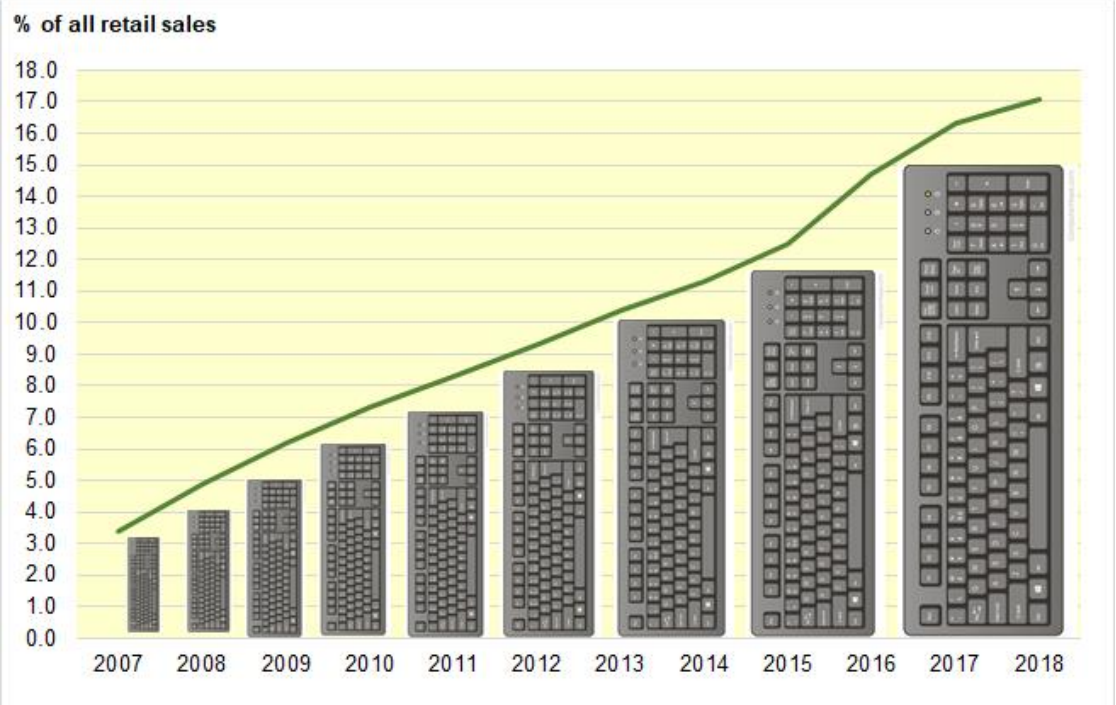
Many reasons have been advanced for failing high streets. There are perhaps six specific causes that account for the greater part of the decline.

The rise of the mall Competition for the high streets is not a new phenomenon. For well over two decades, they have faced a threat from sprawling shopping malls and, to a lesser extent, out-of-town shopping centres. Put simply, why go to a wet and windswept high street with limited and expensive car parking when you can drive twenty minutes to a temperature-controlled mall, with a cornucopia of retail offerings and leisure, complete with free parking?

Property costs There is little doubt that fixed real estate costs have caused major problems for retailers. First, the Government's approach to Business Rates is not sensitive to many retail business models and, some would argue, the tax is excessively high, especially for retailers with a high street presence. The 2017 revaluation hit London and the South East particularly hard. Then there is rent: owners have sought to maximise returns and retail lease structures leave very little room for flexibility. Online retailers operate from buildings with lower rents and rates per sq m: perhaps it is time to move to turnover or throughput rents and rates?

Online retail sales growth Retailers face growing competition from online sales. The UK's adoption of online shopping is one of the most rapid in the world and, according to official statistics[4] internet sales as a proportion of total retail sales have grown from little more than 3% in 2007 to over 17% today (Figure 3). The impact on the bricks and mortar economy is obvious, especially for commoditised goods.

Figure 3 Internet sales as a proportion of all retail sales



Source: Office for National Statistics (2018

Economic malaise Since the GFC, zero-hour contracts have affected certainty of household income and credit ratings, wages have been under pressure and economic growth has been fragile. Inflation has been at historic low levels and the pound has suffered in terms of exchange rates. Thus, for almost a decade the retail sector has been experiencing a low growth, low spend economy, placing inevitable and terminal pressure on many businesses.

The National Minimum Living Wage The Budget of July 2015 included a statement that all employees aged over 25 years should be paid a 'Living Wage', defined as a minimum of £7.20/hour in 2016, rising to 'at least' £9.00/hour by 2020. The 2016 hike represented a 10.8% rise on the 2015 National Minimum Wage of £6.50/hour and a 3.8% rise by 2020. At a time of sustained minimal inflation, and irrespective of the social benefits, there is a major cost implication for retailers. The Centre for Retail Research suggested that in 2020 the increase will: cost retailers £3.36bn per year in extra pay, national insurance and pensions; increase inflation by 1.1% per year to 2020, and lead to 42,000 job losses and 6,274 store closures by 2020.[5]

Market disruptors The sustained economic malaise has been accompanied by a growth in discount stores and restructuring of food retailing with vertical mergers such as that between Sainsbury's and Booker. The UK discount retail market is expected to grow strongly in the short- to medium-term. One estimate has suggested that the market could grow by £9bn or 36.1%, from £23.9bn to £32.5bn by 2022. This forecast follows a 75.1% growth in discount retail between 2012 and 2017.[6] In the food sector, the combined market share of Aldi and Lidl is already larger than Morrisons (12.6% and 10.4%, respectively) and will soon be passing Sainsbury's (at 15.8%).

2.1. Not dying …. just changing

The rapidly changing circumstances of the retail sector have led to a cottage industry for generating ideas on rejuvenating the high street. Reducing the rates burden; improving public realm, providing free car parking, introducing more leisure and small-scale production linked to a sales outlets and so on are among many remedies constantly offered. While all helpful, such strategies ignore the need for a fundamental re-think.

Despite the 'death of the high street' narrative, the retail sector has performed relatively well. For example,

- the number of retail businesses has remained relatively stable since 2008, rather than gone into sharp decline;

- despite the widespread closure of stores since 2008, the number of rateable retail properties has actually *increased* since the GFC: from 504,870 in 2008 to 511,130 in 2016,[7] and
- a similar number of businesses with more outlets is getting by with just 100,000 fewer jobs – a fall of only 3.4% to a total of c2.8m since 2008.

The data suggest that the larger, arguably less nimble firms have suffered most, and the recent travails of department stores is clear evidence of such.

The retail sector is not collapsing: it is evolving rapidly. And, as with any such evolutionary pulse, there will be 'casualties'. The overriding conclusion is that retailing, like so many other parts of the economy, is undergoing structural change. Fundamental changes in shopping habits, including greater spend on leisure activities rather than goods; more purchases online and a desire for a more experiential retail environment are unlikely to be addressed by providing more of the same. Some business models are, quite simply, obsolete to the new environment. Equally, it might be argued that we have too much retail capacity.

Consumers are prioritising experiences over commodities, engaging directly with product or service brands in return for an enhanced experience that to suits their individual lifestyles and aspirations. Consumer spending on experience rather than acquisition, in areas such as travel, leisure and food are generally predicted to rise sharply over the coming decade. More people are selling and buying goods, many direct from producers, through markets. Smaller homes in denser urban environments will reinforce such trends. High streets must embrace the experience economy, whether for shopping, dining, relaxing, working or living.

There is also the question that high streets have come to be defined by retail and at the same time have lost their wider job creation role. A recent report from the Centre for Cities[8] warned that some struggling high streets have too many shops and not enough demand for commercial space from other businesses or from other uses such as housing and leisure. It recommended a reduced reliance on retail and a greater focus on creating a better environment for other firms (especially exporting firms in sectors such as ICT, legal services, insurance and marketing, which are increasingly important for boosting productivity and wages), as well as making city centres better places to live and work.

The seismic shifts in the sector throw into uncomfortable light the inherent conflict between, on the one hand, the short-term nature of retail business planning (and its need to meet the needs of customers by re-inventing the role of stores, tracking customers' spending behaviour, providing more customised products and re-engineering supply chains) and, on the other hand, the much longer-term nature of the property investment sector: protected by long leases and upward-only rent reviews, and insulated from short-term ebbs and flows of trade with inflexible leases.

Moreover, much 'prime' retail is owned by large, institutional investors who believe they have a vested interest in leasing space to national and international brands (aka strong covenants) rather than to local and start-up retailers and other businesses, whose inherent 'weaker covenants' will damage capital value. But (as shown in Figure 2) the very notion of a strong covenant is being challenged in an era of rapid

technological disruption. Investors will have to adapt to new forms of investment appraisal and modelling.

2.2. Time for radical thinking

The property industry will have to come to terms with radical change to its traditional approach to retail leases. In an era when new ventures can be launched online from the kitchen table, leases will have to shorten and be more flexible; new leases will need to be outside of the Landlord & Tenant Act so that they can offer less onerous terms and simpler exit routes, and more rents will need to be turnover-based in order to reflect the retail spending patterns.

In land use planning terms, town centres and high streets must evolve from the typical monoculture of ground floor retail units and mostly vacant upper levels to a far more mixed economy model, including residential and commercial activities. The idea of large, stand-alone department stores continuing to anchor high streets is looking increasingly fanciful: as they have lost their attraction to shopping malls, discounters and the internet. In short, high streets must re-invent their role and provide a wider set of reasons for visiting them.

The challenge is to maintain and improve the design quality of high streets, while reintroducing a wider range of uses. High streets will have to provide for work, including business centres, offices, light industry, studios and so forth. They must offer a range of food and beverage outlets, culture and leisure and health and wellbeing. They must provide genuinely mixed-use buildings and restore the role of community functions such as open space, meeting places, leisure centres, places of worship, markets and public transport hubs. They must seek multi-generational appeal, recognising the demographic and cultural diversity, and cater for working families. The shops themselves must become more experiential rather than simply transactional. Customers will place growing value on expert dialogue, advice, demonstration and testing.

If any of this sounds familiar, that might be because the model for the future is, essentially, one based on the past. Rather than compete with Amazon and Google, retailers must play a different game. The problem with this vision is that it is ‘messy’. It does not make for good, clean, vanilla investment; it crosses local authority service delivery boundaries (planning, housing, education, leisure, environment) and plays havoc with the increasingly out-dated UCO.

As this paper was being written, the Government announced plans for a taskforce and public consultation on the future of UK high streets. Yet over the past decade every kind of solution has been proposed and debated. Another taskforce simply postpones the inevitable need for action.

We are not facing a cyclical problem that will somehow recover at some ill-defined point: it is a structural one that will not go away. Some bold and radical thinking will be required, both from investors and planning authorities. This will require a fresh approach by investors to mixed use buildings and places, and will not be achieved within the straightjacket of the thirty-year-old UCO. New housing in town centres has a multitude of social and environmental benefits, but Government policy will be critical if it is to grow. Fragmented ownership means that tax policy will need to encourage

smaller owners and investors to redevelop and intensify the use of their properties. It might also be time to bring retail-to-residential conversion under the umbrella of Permitted Development Rights in order to encourage new residential development.

3. Industrial: servicing the services

Over the past three decades the economy has become dominated by the service sector; amply demonstrated by the fact that manufacturing (industrial) employment shrank by almost four-fifths between 1984 and 2014, while financial and business services jobs more than doubled. The situation is well-illustrated in London, where the central area is a vast and complex economy that draws upon an extraordinary array of support activities. The financial and business services sectors are fundamental to London's World City role, but it also has great strengths in the creative and media, life sciences, digital-technology, higher education and other sectors. In addition, there is the backdrop of culture and entertainment (including museums, galleries and theatres) as well as the tourist and leisure industry which generates many thousands of jobs in entertainment, shops, restaurants and hotels.

This great weight of activity itself draws upon a vast range of support activities. To take one small example, consider the diversity of services and products consumed by the average office building each day: catering; cleaning; furniture; maintenance and fit out; office equipment and supplies; print and copy; security; waste disposal, and many others. Multiplied across the city economy, the sheer scale of demand for supporting activities becomes evident. This activity is referred to generically as 'servicing the services'.[9]

The key point here is that much of this activity is situated on land designated in planning policy as 'industrial' or 'employment' land, but which is not 'industrial' in the commonly-understood sense of firms making goods. A 2016 study by Aecom[10] found that almost half of all employment on designated industrial land is in fact of a non-industrial nature: 129,400 (or 43%) of a total 301,000 jobs. In many cases, buildings have been adapted and re-used by businesses that are not 'making things', but rather are involved in servicing the services. There is a need for a subtler understanding of what activities occur on so-called industrial land.

Moreover, many of the activities in these buildings use a blend of production, storage, office, creative and sales space. In other words, they are occupying 'hybrid' space, undertaking activities that do not fit neatly into one of the traditional Use Classes. Certainly, the Use Classes definitions fail to recognise the breadth of activities taking place. This causes problems when, for example, policies seek to release 'industrial' land that is, in fact, meeting the demands of a much richer, and economically critical, demand profile.

3.1. Activities and buildings

The relevant question here is whether the properties typically available to such occupiers are suitable for their needs. To be able to answer this question, we need to examine the businesses and the activities that they undertake in their buildings, rather than their traditional Standard Industrial Classification (SIC) or their UCO category.

Figure 4 illustrates the breadth of company types undertaking non-industrial activities in industrial buildings. The list is partial, and intended only for illustrative purposes, but it is quite clear that many of the occupier types and their activities cannot be described as 'industrial' in the traditional sense of the term.

Figure 4 Occupier types in industrial buildings

Occupier Types	
Art production and sale	Graphic design
Audio-visual equipment	Hospitality
Building materials & services	ICT support & infrastructure
Business services	Import & export
Cash and carry	Interior design
Clothing and fashion	Joinery
Computers & peripherals	Landscape services
Craftwork	Mail management
Data services	Maintenance contracting
Design	Marketing & media
Dry cleaning	Packaging supplies
E-commerce	Photography
Electrical services	Printing
Engineering	Publishing
Event management	Recording equipment repair
Film & sound production	Retail & wholesale sales
Food and drink production	Security
Freight forwarding	Sign making
Furniture & equipment	Software support
Graphic design	Training

Source: Ramidus Consulting

Figure 5 then takes the analysis to the next level and describes the range of activities taking place in the buildings occupied by the business types listed in Figure 4. Many do not involve 'things' at all, for example, customer support, design, sales, software and training. The key point here is that the diversity of activities listed implies a demand for a range of working environments, from office space, to production space, to warehousing, to customer interface space.

Furthermore, the range of activities implies something about the nature of the workers employed within the buildings. For example, many are professional, skilled and technical staff. Such workers have higher expectations of their workplace and its locale than perhaps is the case with the generally perceived staff profile of a traditional industrial estate. Many are not involved in 'making things traditionally', but rather in assembly, customisation, customer relations, design, maintenance, repair, storage and value-adding.

Figure 5 Activities in multi-use buildings

Activities	
Assembly	Production & manufacture
Customer & technical support	Renting & leasing
Customisation & repair	Sales & marketing
Design	Showroom & demonstration
Distribution	Software development
Management & administration	Storage & consolidation
Packaging & printing	Wholesale & retail

Source: Ramidus Consulting

Also hinted at in Figures 3 and 4 is a mix of traditional (e.g. manufacture, assembly, maintenance and storage) and modern businesses and activities (e.g. e-commerce and software). This is an important point, suggesting that industrial and employment land and buildings continue to evolve and cater for both traditional and emerging employment uses.

Some activities that might be considered as traditional activities have themselves undergone dramatic change – often involving a switch from mass production to niche production. For example, printing no longer implies vats of ink and large mechanical printing presses: it is now digitised.

Indeed, much advanced manufacturing is based not on large scale, linear production of mass market goods, but much shorter run production of specialist, fast-changing products. The growth of 3D printing is a case in point. As noted by Marsh, many workers in such tech-based manufacturing firms "*will not work in manual occupations … but in jobs such as research and customer support, which are more like service sector jobs*". Such firms want to "*bring together design, workshop, product development and customer service space – lab, studio, factory floor and shopfront*".[11] The same dynamics hold in the clothing, food and furniture sectors, where 'artisan' and small-scale manufacturers are increasingly common.

The very wide variety of businesses and activities described here suggests that the conventional understanding of 'industrial' property needs to be developed in order that spatial policy can be more sensitive to the dynamics of demand on industrial and employment land, which is under intense pressure for conversion to residential uses, potentially undermining the viability of activities that are vitally important to larger urban economies. One example of such thinking is hybrid buildings.

3.2. Hybrid buildings

One of the defining features of servicing the services activity is its seeming inability to be neatly defined. The activities, as we have seen, are broad and widely varying. It is almost pointless referring to 'sectors' of 'industry' in this context; which is why this paper prefers to use the term 'activities': to reflect what happens inside the buildings, rather than how businesses are defined in government statistics. It is also why we use the term 'hybrid buildings' to refer to the building type most appropriate response to the trends described here.

Hybrid buildings typify the demand of 'servicing the services' occupiers because they can be adapted to accommodate different activities within the same building shell. Figure 6 summarises the main features of a hybrid building. The buildings should be simple and functional in design, and available in a range of sizes. Ideally, they should be provided on integrated estates with on-site facilities, intensive management and flexible terms. Accessibility is paramount both in terms of getting to clients efficiently and in terms of access and turning space for delivery vehicles.

Because the spectrum of companies occupying hybrid buildings is very wide, there is no typical premises size requirement. However, it is possible to narrow down options. Thus, there are very small units of, say, less than 100 sq m, suitable for micro businesses and in multi-let buildings and 'business centres'. At the other end of the scale, a large building might be described as one larger than 3,000 sq m. There will be requirements for space much larger that this; but in terms of typical market activity, anything over 3,000 sq m would be considered a large unit. Between these two extremes, two size bands, 100-1,000 sq m and 1,000-3,000 sq m, are helpful to distinguish smaller and larger requirements.

Figure 6 Basic features of a hybrid building

Space that combines economy and quality
A basic, low specification that can be upgraded
A fit out that allows adaptation to specific needs
The ability to erect and dismantle partitions to suit changing needs
Better designed environmental control systems
A menu of options available over fit out
A management regime sensitive to business dynamics
Flexible terms and support services

Source: Ramidus Consulting

The number of floors in hybrid buildings normally varies between one and three, with two being typical. Many purpose-built buildings are constructed as single-storey, double height space with the capability of accommodating a mezzanine floor. Ideally, a mix of single and double height space also permits different kinds of uses. Proportions will vary, but for generic guidance, perhaps, two-thirds of the space at 4.5m high, and a third at 6-8m for storage, studios, production, and so on. The higher dimensions allow pallets to be racked six high.

A depth of 13-18m is adequate to cater for most needs, allowing reasonably deep

open plan areas, while also giving sufficient depth to allow different configurations of sub-division. The ability to erect and dismantle partitions to suit changing needs as product lines and volumes change is important.

Temperature control systems and energy management are important factors. While partitions and temperature control systems are often in conflict, the key is a creative solution to the configuration of single and double height space. Lighting is generally less of an issue, so long as natural lighting is good: a basic lighting system can be inexpensively supplemented by the occupier to suit specific needs. Secure power supply and data linkages are increasingly important to occupiers.

The need for 'white van' access for goods and materials has led to a market norm whereby occupiers are not normally 'stacked' across multiple floors, although there are many examples of 'business centres' where occupiers with minimal such need occupy two and three level developments, with access to a shared goods lift.

An overriding concern of occupiers is to find space that combines economy and quality. A basic (low specification) fit out that allows occupiers to adapt to their specific requirements is the core need.

The key to a more appropriate fit out solution would appear to be a menu of options available over the shell and core provision, allowing occupiers to meet budgetary constraints, whilst securing a solution that suits their needs.

Despite the enormous variety of potential occupiers and activities of hybrid buildings, it is possible to prepare a typology of activities and their appropriate key specification features (Figure 7). The table shows four generic demand functions, each reflecting a slightly different use profile and specification requirements.

The four generic types are not exhaustive, but illustrative of a principle, and can overlap within a single occupation. The proportions of each type of space will vary according to the occupier, emphasising the need for building flexibility, and for a sympathetic ownership/management approach.

Building security, access and parking are, unsurprisingly, all important issues. Attention to detail in these areas would make a very significant impact on a building's attractiveness to potential occupiers. Accessibility is important for all four categories.

Figure 7 Four categories of use and their specification priorities

Occupier priorities			
Production	**Client-facing**	**Workshop**	**Goods handling**
Power supply	Quality image	Natural light	Eaves height
Fire protection	Comfort	Comfort	Loading bays
24-hour operation	Accessibility	Security	Column free
Security	Security	Car parking	Secure yard
Retail trade	Car parking	Local amenities	Turning space
Parking & access	Local amenities	Power supply	Parking
Management regime: short leases; flexible terms (easy-in, easy-out); customer focus; support with change; support services; focus on public realm			

Source: Ramidus Consulting

The industrial property market does not have a particularly innovative history when it comes to property management. Yet there is now a major opportunity to respond to the rise in servicing the services with a new approach to management. As shown in the chart, there is potential to reflect what is happening in the flexible space market (Section 6.) and provide a far more intensive, customer-facing and supportive service. Serviced and managed office space could be replicated on industrial or employment estates to provide a range of work environments within a flexible shell under a fully-serviced business model.

3.3. Need for product diversification

The SIC system (by which official statistics record business types) contains 136 groups covering agriculture, fisheries, manufacturing mining, utilities, waste and construction. It has just 43 to cover wholesale, retail, transport, storage, accommodation and food; and it has a further 41 to cover information and communications, finance and insurance, real estate and professional, scientific and technical enterprises.

Given the weight of each, in terms of their contribution to today's economy, there seems to be an imbalance. We continue to use a legacy system that was designed for a different economic era. Moreover, the imbalance is reflected in our approach to land use: planning and investment have fallen behind changes in the real economy, and the consequent evolution in demand for real estate.

Over the past couple of decades there has been little innovation in 'shed' design, beyond the specific case of the logistics market (Section 4). Elsewhere, little has changed in terms of the nature of the product: the property sector continues to shoe-horn businesses into one type of property when they could greatly benefit from some product diversification.

One reason for this lack of innovation is building economics – in that there is perceived to be limited scope to create a higher cost product. Another possible reason is the standard model of the UK institutional lease, which can be slow to respond to shifts in market demand. As a result, there are significant gaps between

the nature and demands of businesses and the property that is generally available to them.

Now is the time for bold and creative thinking in our approach to buildings that accommodate *servicing the services* activities. This will require new approaches from both investors and land use planners. One approach could be to create a new designation – commercial zones or commerce parks – to reflect the fact that such land uses are neither traditional industrial nor employment nor office parks, but a hybrid.

4. Logistics: the rise of mega sheds

In line with many other developed economies, consumer spending has been one of the main drivers of the UK's economic growth in the years since the GFC. However, as we saw above, the high street has not been a major beneficiary. Rather, technology is driving profound change in consumer behaviour as online shopping takes a relentlessly growing share of total retail spend. A key outcome of the switch to online shopping has been a rapid growth in demand for logistics facilities.

A car journey from the M25 along the A1 to Peterborough, before turning west towards Birmingham via Leicester, and then the M6 to Rugby, before turning south along the M1 via Northampton, Milton Keynes and Hemel Hempstead, finally returning to the M25, will show the uninformed traveller the importance of distribution to our modern economy. This region is the heart of 'shedland' where hundreds of very large, box-like structures, most lacking any architectural merit whatsoever, pepper the landscape.

4.1. Size matters

A recent survey by Savills & UKWA[12] surveyed all warehouses in the UK over c10,000 sq m. The results showed 1,500 units, with a total floorspace of almost 40 million sq m. Of this total, 20% was used by retailers, 15% by food retailers and 18% by third party logistics firms.

Where once 30,000 sq m (broadly, seven full-sized football pitches) was considered to be a large footprint, today it is the average. Sheds often now reach towards 100,000 sq m, and in recent times have far exceeded even this size. These large logistics facilities are often fully automated with high bay racking, sometimes in total darkness with only the whirring of environmental systems and robotic machines.

As an example, in March 2018, specialist developer Gazeley launched its latest speculative development, the Altitude building at Magna Park, near Milton Keynes. At 53,300 sq m and 21m clear eaves height, the building is both the largest and tallest speculative logistics facility in England. The building has sufficient height for ground plus ten rack levels, and a floor loading of 80 KN per sq m. It has 117 dock levellers, with double deck loading doors in every position, at a ratio of one door per 450 sq m, reducing time as well as financial and environmental operating costs for occupiers.

There is parking for 100 HGVs and 380 cars. The building also includes several innovative sustainability features such as LED lighting, solar thermal heating, rainwater harvesting, power charging stations for electric vehicles and strengthened steel to incorporate Solar PV across the whole roof.

In cities, and in response to the growth of online retailing referred to above, there is also a growing demand for final stage logistics. Retailers are starting to acquire smaller, urban warehouses, in order to reduce delivery times. For example, Amazon has developed a network of smaller urban centres to supplement its fulfilment centres in the UK, allowing the retailer to carry out same day deliveries. Amazon's 'Prime Now' service offers deliveries in as little as one hour. The service is made possible by smaller, local 'urban' warehouses that are stocked with the 25,000 items made available on the Prime Now mobile application.

4.2. Multi-storey distribution centres

Perhaps of even greater interest has been the recent interest in multi-storey warehouses. Rising land values and land shortages (in some areas) are leading developers and operators to consider vertical schemes. Multi-storey warehouses are well-established in Asian cities such as Hong Kong and Singapore where land values have justified the investment, but they have been less favoured in European real estate markets. Luxembourg-headquartered private property investor Compagnie des Parcs has developed several multi-storey buildings in Switzerland; and UK-based SEGRO is delivering three. The first is a 15,000 sq m, two-storey spiral-ramp warehouse in central Munich for an unnamed internet retailer. The other two, via subsidiary Vailog, involve a 64,000 sq m, multi-storey facility, with a straight two-way ramp, Gennevilliers, near Paris and a 67,000 sq m building in Amsterdam, near Schiphol airport, built over three levels. But such schemes are rare.

The first, and for some while, only example in the UK, was the two-storey, 22,000 sq m scheme at Heathrow, known as X2, developed by Brixton Estates (now part of SEGRO). Timing was difficult – with completion in the maelstrom of the GFC in 2008 – and the scheme struggled to find occupiers, before being fully let in 2016.

Since this time, Amazon has been leading the way on multi-storey facilities. Its first such deal was at London Distribution Park in Essex, where it leased the largest and tallest distribution centre in the UK, a 200,000 sq m facility over 21m high, stretching to 370m in length and nearly 140m wide, with four c55,000 sq m floors.

Unlike X2 at Heathrow, the building is designed to provide freight lifts to the upper floors rather than ramp access for lorries. The ground floor provides the main processing area for deliveries, with 61 loading doors for incoming and outgoing goods. The scheme includes a 10,000 sq m office building, car park for 94 delivery trucks and 1,900 cars, and will employ around 3,900 staff. The building will contain Amazon's

most cutting-edge technology and will be operated by its Kiva robots – the robotic business that it bought in 2012. Kivas are square, orange machines which run on wheels. They are about 40cm tall, move at 8k/hr and can carry parcels weighing up to c320 kg – the weight of a small car.

Since the Essex deal, Amazon has: committed to self-developing a 200,000 sq m facility at Central Park, Avonmouth; agreed a deal with SEGRO near Castle Donnington for a 130,000 sq m building and announced a requirement for a 200,000 sq m fulfilment centre in the Midlands.

Amazon's preference for freight lifts rather than ramp access boils down to whether the land value equation can cope with the additional costs and reduced footprint associated with ramp access to the upper levels built to take 44-tonne HGVs. Ramp-up buildings have greater capacity and throughput, but this is at the expense of a lower area efficiency as some of the site area is used by the ramp itself.

Cargo-lift buildings are cheaper to build and can be constructed in smaller site areas; but this is at the cost of all goods on the upper floors having to be transported via elevators. Whatever the preference of individual operators, there can be little doubt that more multi-level warehouses will be built in the UK.

In spring 2018, developer Gazeley announced its acquisition of a six-acre site in London Docklands to speculatively develop the UK's first three-storey distribution centre to utilise platforms to allow HGVs and other vehicles to access each level.

To be called G Park London Docklands, the site in Silvertown will provide a 40,000 sq m facility spread across three levels, allowing for either sole or multiple occupation. The building is designed to provide a 'last mile' logistics hub for London, targeting e-commerce, distribution and logistics customers. Each storey will comprise nearly 14,000 sq m of space with 26 dock doors and four access doors on each level. The site will contain 350 car parking spaces and around 7,000 sq m of ancillary office space. Gazeley expects the development to be completed by the end of 2019, subject to planning permission.

In 2014, freight distributor Uniserve received planning consent for a multi-storey structure at Clickett Hill Road, near the port of Felixstowe. The building will be 40 metres high and will include a bottling operation, general merchandise, chilled and frozen foods, clothing distribution and e-fulfilment operations. The structure is designed as a multi-user facility, covering c137,000 sq m over four floors providing more than 150,000 racked pallet positions. It is designed around flexibility and efficiency. The ground floor services all vehicles and products arriving and departing. There is specialist equipment and locations to handle drinks, foodstuffs, fashion, electricals, pharmaceuticals, high value and frozen products, with a comprehensive range of pick and pack, assembly, filling, processing, e-fulfilment and returns services. It will operate multi user and dedicated services to clients' distribution centres, stores and customers.

As so often with innovation in the property sector, a key hurdle to general acceptance will be how to value such buildings so that they can be traded. In land use terms, logistics facilities form part of the B8 'warehousing and storage' Use Class, but they are neither warehouses nor storage facilities. Their evolution over the past decade

reflects a broader economic transition which traditional property valuation has yet to recognise.

It is not only on major arterial routeways that demand for logistics property is evolving rapidly. Changes to consumer and business buying patterns are also leading to a new kind of urban logistics market.

4.3. Urban logistics

SEGRO points out that city logistics is a critical issue in the overall functioning of a place like London, ensuring that the goods required by the capital's businesses and residents are fulfilled and met in ever decreasing timescales.[13] They highlight the diversity of activities served by city logistics, from retail to hospitality, construction to manufacturing and finance to banking. The report then identifies a number of operational responses to growing demand.

- **Hub and spoke** where depots serving a sub-region of the London market are provided with goods from a larger hub location outside London.
- **Consolidation centres** which enable deliveries from a variety of firms to be amalgamated into fewer vans in outer London before despatch.
- **Last mile solutions** which focus on the final point of delivery. This includes narrow delivery timeframes and rapid delivery responses such as one hour or same day delivery.
- **Click and collect** which enables online consumers to place an order for a good online and collect from a local store or alternative pick up point.
- **Reverse logistics and returns processing** where vans are filled in their return journey with waste products and other goods for delivery to the store or depot.

These operational responses are driving significant new demand for logistics property in and around London. Jones Lang LaSalle[14] envisages growing demand for a range of different types of premises.

JLL argues that, while still in their infancy, interest in consolidation centres is growing particularly among town and city planning authorities because they are proven to reduce traffic. They can also provide a range of logistics benefits, such as better inventory control, product availability and customer service as well as the opportunity to carry out value adding activities. UK consolidation centres serving destinations owned by a single landlord include the following.

- Operated by DHL for Heathrow Airport, which is a mandatory scheme.
- At Sheffield, run by Clipper Logistics, to service retailers in the Meadowhall shopping centre in Sheffield, owned by Land Securities.
- At Enfield in north London, also operated by Clipper Logistics, to service retailers on Regent Street in central London for the Crown Estate.

Research by Colliers[15] suggests that the last mile of the logistics chain accounts for a large proportion of shipment costs and complexity of operations, and is often the most inefficient, due to low load factors, long dwell times at loading and unloading points and a high number of delivery requirements within a short time. The same research highlights Amazon's strategy to complement its national fulfilment centres (described above) with smaller urban facilities in order to shorten delivery routes and be able to

provide quick delivery services to online customers. The main features of these centres are described below.

- They are located in inner city locations to serve dense populations within a narrow time window.
- They are smaller, and carry fewer stock lines. Typical size: 5,000 to 7,500 sq m.
- They are manual rather than automated with hand-picking of goods.
- They are cross-docked and must be vehicle and cycle friendly for goods dispatch. They still need traditional truck docks to received goods but at much lower frequencies.

Click and collect facilities and parcel lockers are also likely to grow rapidly over the coming years, suggesting further blurring of demarcations between commercial, retail and residential uses.

4.4. From storage to supply chain management

The same causes of the malaise in the high street over the past decade are driving demand for logistics activities. The economy is such that we now require a huge amount of physical space from which to distribute goods with incredible speed and efficiency. There has been a fundamental shift from warehouses (where goods were stored) to logistics facilities (where goods are transhipped). The two building types – covered by the same UCO category – are entirely different, as are their traffic impacts.

Continuing technological innovation will lead to sophisticated methods for understanding customer demand at a highly granular level, leading to far more responsive supply chains, inventory management and product tracking. The nature of the innovation will continue to force building design to evolve.

Very large, multi-storey logistics facilities will spread rapidly, particularly along key road arteries and at inter-modal transport nodes. They will also be in demand around the periphery of larger conurbations, where they will present challenges for local planners. Also in urban areas, there will be rapid growth in demand for 'last mile' logistics facilities and for click and collect services, possibly with secure drop off facilities within residential buildings. It might be that the former could be a natural evolution of the retail park, where the building structures are already capable of accepting 'white van economy' vehicles, that do not need full dock-levelled loading, for last mile deliveries.

5. Corporate office: paper factory to knowledge factory

Over recent decades fundamental economic restructuring has seen the emergence of what is widely referred to as the 'knowledge economy', typified by knowledge and technology-intensive jobs and economic activity; and investment in knowledge-based assets or 'intangibles' that are enabled by "*powerful and cheap computers and the 'general purpose' information and communication technologies*".[16] The rise of the knowledge economy has been responsible for nearly 40% of all economic growth in the UK since 1970, and almost one-third of the UK workforce – around ten million people – now work in what is usually classified as an office.

The shift to the knowledge economy has changed demand for corporate office space. The traditional bedrock of demand – large, relatively unchanging and predictable

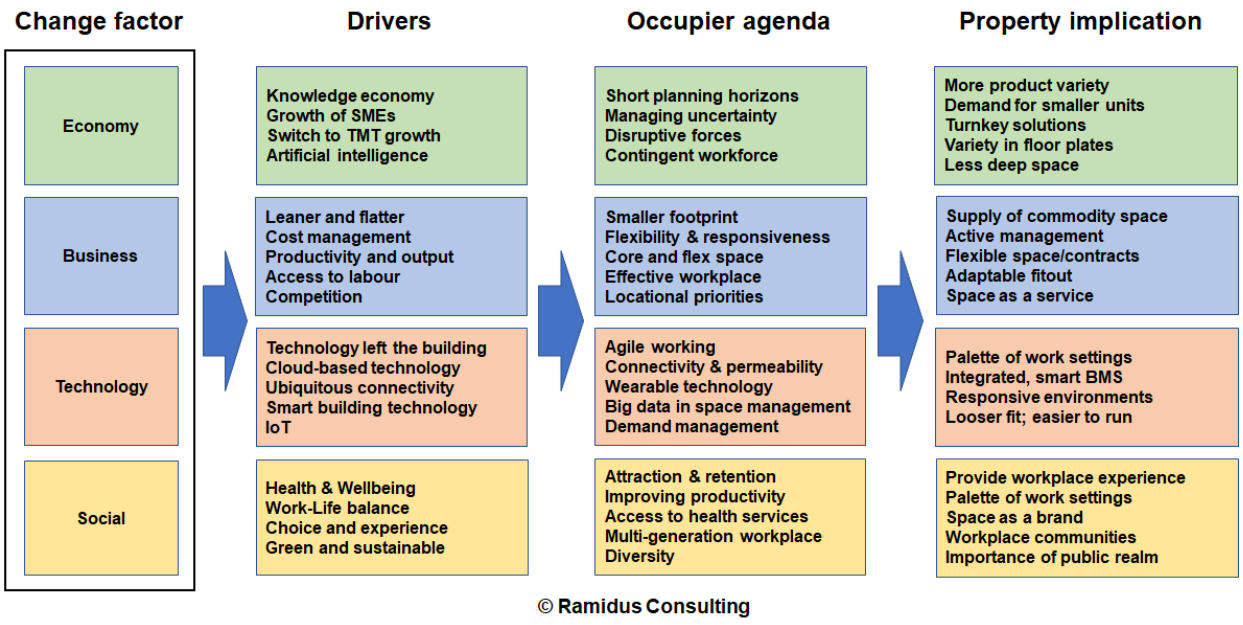
'corporate islands' that were largely process-based and which could plan ahead with a comparatively high degree of certainty – are giving way to occupiers who operate within short-term planning horizons, responding to an ever-changing economic landscape and seeking to maximize their flexibility to adapt. All this means a different approach to real estate: to minimize the commitment and cost, and to maximize the flexibility.

As organisations retreat from the 'corporate island' model, the power of networks, involving collaborative production and multi-disciplinary skills, is coming to be realised. More commoditised and non-core activities are being undertaken by specialists; more work is being undertaken collaboratively, and more work is being undertaken by small companies and contingent workers, often in flexible/hybrid workspace.

Further, the traditionally 'hard' boundaries between sectors are softening, partly driven by the reliance on technology skills to provide competitive advantage in a wide range of sectors. For example, financial services organisations now employ growing numbers of technology workers, and there is the fast growing 'FinTech' sector, which comprises firms applying technology specifically to financial services. Similarly, some management consultants have established specialist advisory practices for the technology sector. Should these new firms be classified as Financial, Professional or TMT? This convergence is also having an impact on the nature of the fitout and management of space.

Figure 8 seeks to summarise the main change factors of economy, business, technology and social, and then the drivers of demand, the occupier response and the property implications.

Figure 8 Change factors, drivers, occupier needs and property implications



Because of these change dynamics, the nature of work itself is changing. For example, connectivity and access to knowledge have become defining features of

knowledge work over the past decade. Heerwagen *et al* [17] describe how changes in business are causing work to become:

- more cognitively complex;
- more team-based and collaborative;
- more dependent on social skills;
- more dependent on technological competence;
- more time pressured, and
- more mobile and less dependent on geography.

Knowledge workers do not feel tied to a single or limited number of employers as was the case in the past; they have transferable skills. Consequently, they are more demanding in terms of choice and quality in the workplace. Similarly, as work, home and leisure become increasingly blurred in terms of when, where and how they are undertaken, so the workplace will have to provide workers with greater flexibility, particularly the ability to work in an agile manner.

In short, the workplace will have to work harder to attract and retain skilled workers: it will have to provide an experience and choice rather than simply a place to go to 'do work'.

5.1. Building design

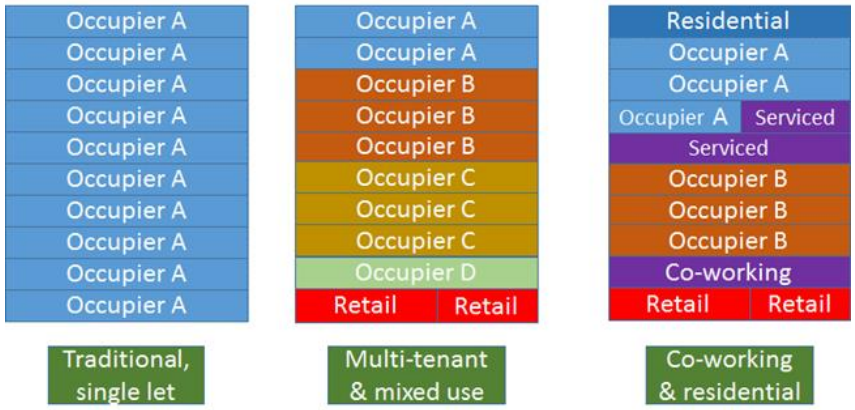
As corporate organisations discard their 'corporate island' approach in favour of a more agile, networked approach, buildings will become 'less generic' and less single purpose; they will instead provide choice and flexibility.

During the past three decades, office buildings were designed to cope with enormous amounts of ICT hardware – physical space and voids to cope with cables and kit; together with M&E systems to cope with power demands and heat output. Buildings were designed with 'deep' space to accommodate technology, with raised floors and drop ceilings, and generally over-engineered systems and infrastructure.

Such assumptions have been challenged during the past decade. Office design will increasingly be about simpler, 'loose fit' buildings. Centralised computing power and thin client terminals have already begun to cede to cloud-based technology; with smart phones, laptops and tablets, together with wireless technology such as 4G and Wi-Fi, removing all the physical limitations of the past. The technology has left the building: people now connect with each other, rather than with a physical space. As a result, buildings will become simpler. Shallower floorplates, lower structural heights, natural ventilation and natural light will all grow in importance. And as the office 'hardware' declines in importance, so the fitout and 'software' (management, services, concierge) will assume ever greater import.

Buildings will be designed for greater divisibility, with implications for base building design in areas such as depth, configuration and servicing (Figure 9). As the occupier market evolves, the property supply industry is beginning to adapt its approach to leasing buildings. For example, owners are becoming more accepting of multi-let buildings, with more lettings to small occupiers. This will mean, for example, designing buildings for greater divisibility, with implications for base building design in areas such as building depth, configuration and servicing.

Figure 9 The changing occupier profile



There is also growing acceptance of mixing retail and office space within single buildings, and owners are also beginning to offer public access to the uppermost levels of some new buildings. These trends suggest that buildings are becoming less 'monolithic', more integrated with their locale and more 'permeable'.

It is also worth highlighting that tomorrow's workplaces will not be limited to new buildings. As the 'tech revolution' has shown in many parts of the South East, most extremely in Shoreditch, older stock – both office and industrial – can be brought back into contemporary usage. Many older buildings are ideal for refurbishment and occupation by smaller organisations for whom being 'within a community of shared interest' is a critical requirement. Some providers now specialise in providing such space. For example, Workspace PLC has 68 properties spread across 3.5m sq ft and over 4,000 occupiers.

In city centres, large office buildings will increasingly become 'vertical villages'. For example, in the City of London, 22 Bishopsgate is currently under construction. As well as providing 120,000 sq m of office space, the tower will also provide over c10,000 sq m of space which will be dedicated to supporting people and businesses with a variety of environments and services that enhance working life and productivity.

5.2. Work enablement and experience

The trends described above suggest that designers, developers and owners have been undergoing a major shift in emphasis over the past decade. In the past, *building performance* has been the priority: lift speed; air handling; occupancy density; cost per square foot, and so on. Tomorrow's workforce will take these factors as givens. As a recent RICS report noted:

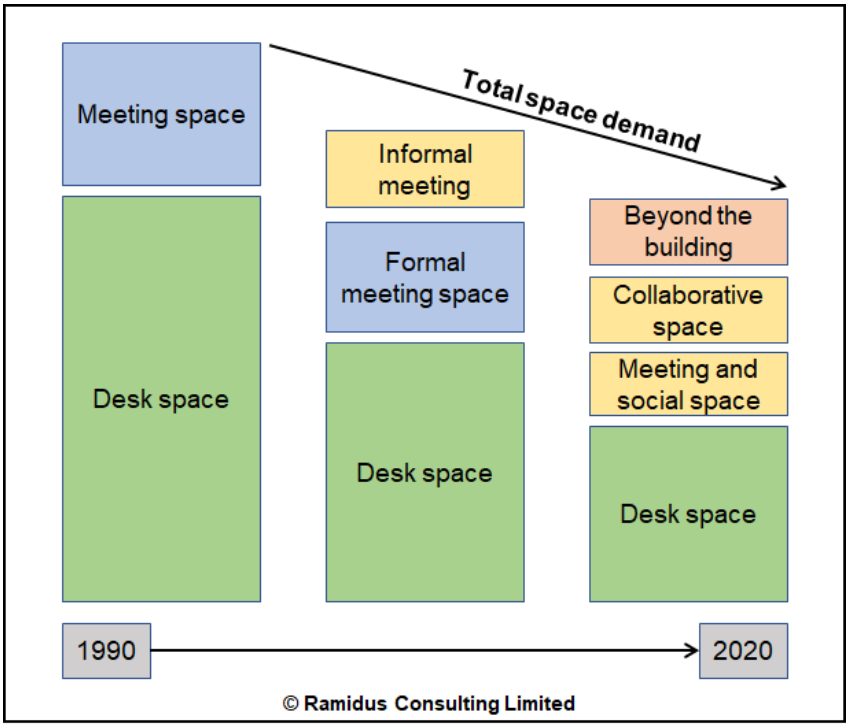
we consider the delivery of a consistent, high-quality, cost-effective built environment and associated services as 'table stakes' in today's economy. Whether facilities are managed in-house or by a contracted service provider, they are a strategic business resource, and must be managed as such.[18]

Instead the focus is now on *workplace experience*, in which the workplace becomes a hub for the organisation; and its qualities in terms of design and services offered will assist in recruitment and retention, it will be a tool to improve productivity and wellbeing, and will provide the setting for interaction, collaboration and innovation.

In short, the workplace is becoming a 'strategic resource' to be managed less as a chunk of real estate and more as a tool for work enablement. The future office will provide a blend of business and domestic design features in a pleasant, welcoming atmosphere in which to collaborate, socialise and learn. The workplace will be greener and healthier and will provide an experience rather than simply a static backdrop to work. A richer palette of work settings, tailored to individual requirements and available 'on demand', will be provided in a highly connected environment, with a far more sophisticated, or smarter, management regime.

Figure 10 illustrates the changing nature of space within office workplaces. Where there was once a binary choice of desk spaces and formal meeting rooms, agile working first led to more informal meeting space and then to collaborative space and working beyond the building. At the same time, the total appetite for space has shrunk as space is used far more efficiently.

Figure 10 The changing space budget



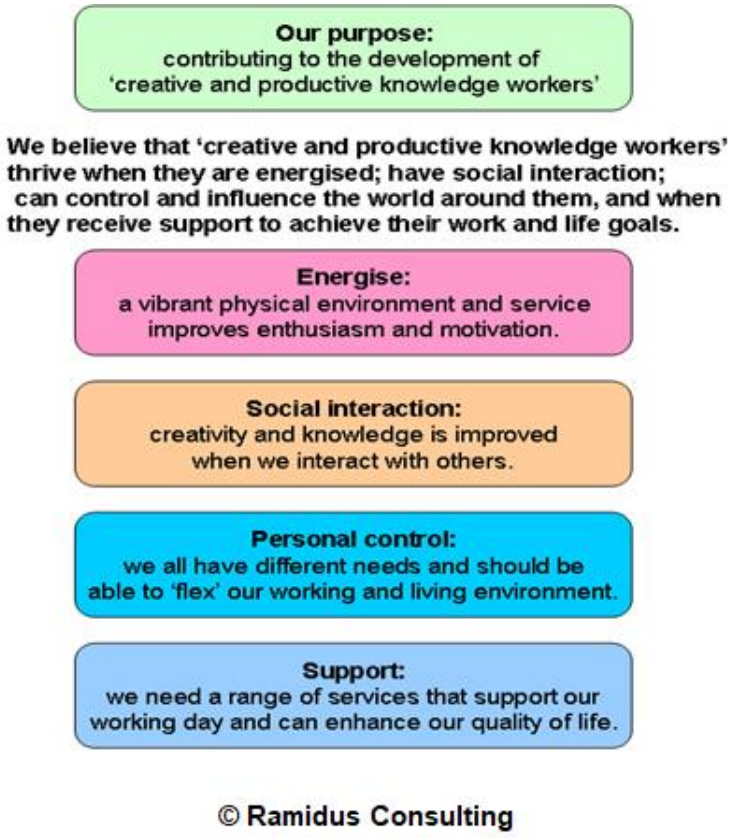
The fitout increasingly enables and encourages collaboration and promotes the free flow of ideas. It also presents an organisation's values to customers and the public, and it acts as a hub for the business, rather than a place for task-based work. Workplaces are more adaptable, allowing spaces to be configured and reconfigured to meet the changing needs of a more open, and more social workforce.

Knoll make the point that while the first-generation office was about paper and manual processes, and "*Office 2.0*" was about technology, especially the personal computer, email, and emerging mobile devices, "*Office 3.0"* will take account of the possibilities and benefits of the current generation of technology and the flexibility being demanded by corporations, and exploit them to create people-centred, productive spaces.[19]

Workplace design over the past decade has begun to integrate technology, place and people in a more seamless manner. Increasingly, it will use this integration to energise and motivate people and make them productive and effective; provide for social interaction and knowledge transfer; provide workers with more personal control and provide a wide range of support services. It will provide settings where colleagues can meet to collaborate and share knowledge. From the employers' perspective, it will be the means of providing a common purpose and for ensuring governance business continuity. Figure 11 illustrates the nature of the shift taking place.

Workplaces will become ever more stylised, attractive (in the sense of attracting workers to them) and experiential. They will increasingly provide concierge-type services for employees; and spaces that transition from daytime to evening activity. They are moving, inexorably, towards *a space as service* model, becoming curated environments, managed more like hotels than traditional offices, with a high level of experience for 'guests'.

Figure 11 The future role of the office



In the decade since the GFC, growing numbers of developers and landlords have begun to offer '*next-generation, experiential workplaces*'. The landlord–occupier relationship is shifting from a transactional one, to one more focused on business and worker requirements. Occupiers are looking for turnkey, flexible, amenity rich and experience-driven workplace solutions. And this will have a growing impact on the design of tomorrow's offices, which will need to seamlessly integrate physical space, services and technology to create an enhanced user experience.

5.3. Rise of the smart workplace

Building design will increasingly involve the integration of intelligent building management systems and the Internet of Things (IoT), connecting all the devices in a building, providing faster connectivity and cloud computing, and enabling the detection and tracking of presence, light levels, temperature or humidity. Workspace enabled by the IoT will connect people directly, promoting social and professional networks, enhancing communications, increasing encounters, and encouraging innovation, thereby enhancing competitive advantage.

The nature of corporate office buildings has been transformed over the past three decades. The rise of office technology has not only changed the nature of buildings, but also the nature of work. As space, services and technology are further integrated, so we will see the emergence of the 'smart building'.

Elements of smart buildings are already evident in new buildings (for example, intelligent building management systems, sensors that interact with mobile apps and intelligent lifts). However, these are the first stages of much more fundamental advances in which intelligent building management systems bring different systems and services together into a single, converged network, with open-source protocols allowing them to be programmed to talk to each other.

Smart buildings will increasingly exploit this integration of systems to support a wide range of corporate priorities, including attraction and retention of workers, workplace wellbeing and productivity, market innovation, corporate brand and occupancy costs. The building will become an integrator and controller; it will anticipate the needs of its occupiers: it will connect and integrate them in a network of on-demand space and services monitoring their changing requirements to provide them with access to digital services that transform the workplace experience.

Simonetti & Braseth predict that residents within smart buildings will not only be able to access and consume personalised work-life-play services and amenities, on-demand and under one roof, but the operating platform will learn and better predict these needs over time.[20]

5.4. Planning for diversity

Just as with warehouses and logistics, and with industrial and commerce, so too has the office market evolved into several distinct demand channels. Yet the B1(a) Use Class encompasses everything from a 100,000 sq m Canary Wharf tower to a 100 sq m unit above a shop. So, when a local authority creates spatial policy to attract B1(a) employment to its district, what exactly is it trying to achieve? The range of activities taking place in offices today is far more diverse than in the past.

There is a need for a more refined approach, in which an understanding of business *activities*, rather than their SIC code or UCO category, is called for, in order that planners and investors can be smarter in their efforts to support and attract appropriate businesses. Such an approach should also encourage more creative management of secondary space: often ignored in policy terms but a vital component for nurturing SMEs and other businesses onto the first steps of commercial space and business growth.

6. Flexible workspace: from outré to mainstream

Three decades ago, the property industry offered, essentially, two contractual options to occupier businesses: freehold or long (25 year) leasehold, complete with onerous obligations (such as, upward-only rent reviews, dilapidations and inflexibility (for example, restrictions on sub-letting). However, in response to the recession of the early-1990s, when vacancy levels rocketed, average lease lengths shortened, and serviced offices arrived from the US as an alternative to long-term commitments.

Since the turn of the century average lease lengths have shortened further and, particularly since the GFC, incubators, accelerators and the coworking space market have emerged. Together, these new products comprise the flexible workspace market.

Traditionally landlords shunned the flexible workspace market because it ran counter to the principles of prudent and secure property investment (long leases with upward-only rent reviews and guaranteed income). It was considered that having such occupiers in buildings would negatively impact cash flow and valuations. It is also the case that traditional landlords are simply not set up for the day-to-day business of managing occupiers and providing services. They are however increasingly aware of the benefits to cashflow of reducing voids on re-letting.

6.1. The commoditisation of space

The flexible workspace market is playing an increasingly important role in the wider real estate market. Catering both for small, modern, knowledge-based businesses which increasingly interact with large businesses in a complex web of supply chain relationships, and for larger organisations seeking to supplement their footprint with ‘flex-space’ to meet short-term fluctuations in demand.

A 2014 study across the UK, estimated the business centre market (serviced and managed offices) as comprising c2,100 centres, accommodating over 80,000 businesses, employing over 400,000 people and occupying almost 70 million square feet.[21] Most of the centres have opened since 2005. A more recent, 2018 study, has estimated that there are now 5,320 flexible office centres across the UK (a growth of nearly 10% just over the previous year).[22] The rate of growth is expected to continue in response to wider economic changes.

In the period since the GFC landlords, as a community, have turned from shunning the flexible workspace market to embracing it. A recent survey of over one hundred landlords by CBRE[23] reported that 92% of landlords surveyed agreed that “*flexible office space is on the brink of becoming mainstream*”, and that three-quarters are considering some form of flexible provision, mostly within the next 12 months.

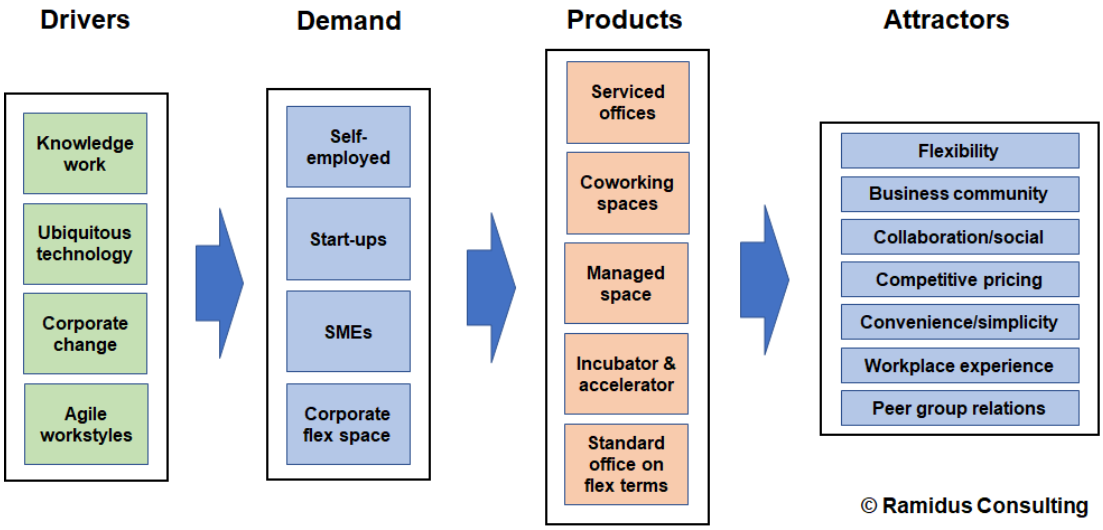
However, while the supply process might be creating a market bubble, the fundamentals of the flexible space market represent a structural rather than cyclical shift in demand. The changes to workstyles outlined in the previous section provide the evidence for this conclusion. Further, according to recent research from JLL, upwards of 30% of all commercial office space might be consumed as "flexible space" by 2030.[24] They predict that, by this time, most companies' real estate requirements will be outsourced and consumed on-demand while only 20% taken via traditional long-term obligations.

This shift in the relationship between 'landlord and tenant' (or, in 21st century terms, provider and customer) represents the 'commoditisation of space' – no longer a long-term, inflexible commitment, but available as-and-when needed, on flexible terms. This is a direct response to the disruptive impact of the technology-driven, knowledge economy.

Figure 12 summarises the key drivers behind the growth of flexible workspace, the main sources of demand and the various products on offer. For larger occupier businesses, the flexible workspace market provides agility and flexibility. It offers 'easy-in, easy-out' terms, and allows businesses to avoid the capital costs normally associated with establishing a new office, including fit out, furniture and fixings.

For smaller businesses, the model means that they do not need to pay for expansion space which might be needed at a future date, nor for space that is used only occasionally such as large meeting rooms or conference facilities. Businesses in flexible workspace are able to combine their buying power for services such as a reception; ICT; security; telephony and meeting rooms. It gives them flexibility and the opportunity to have a presence at the heart of their market cluster, on terms that suit their business models, in locations and spaces that suit their workforce and clients.

Figure 12 Drivers and products in the flexible workspace market



The Centre for Cities & Cambridge Econometrics[25] noted that many SMEs operating in the creative and digital industries are sole traders or employ a small number of staff, and that they "*often prefer smaller, more flexible premises*", and that increasingly

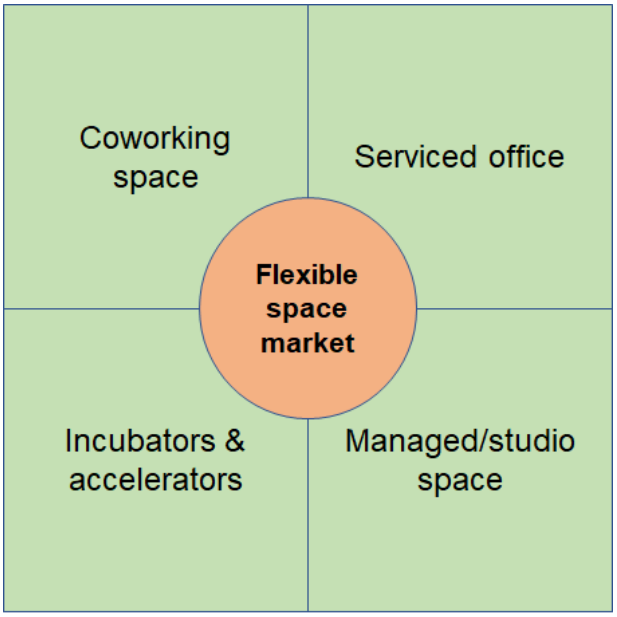
flexible work spaces "*are allowing for co-location, lower overheads and the capacity for businesses to grow quickly*".

Over the next decade, most large, corporate organisations will migrate towards some form of networked, "hub and spoke" model. The largest occupiers will maintain at least one corporate headquarters in a key city to provide a 'corporate hub', to bring employees and clients together, nurture the corporate culture, encourage collaboration and learning, and to instil a sense of 'shared purpose'. Elsewhere, they will occupy flexible workspace which will afford them the ability to change their occupational footprint speedily and cost effectively.

6.2. Flexible workspace typology

Flexible workspace is provided in a number of different formats (Figure 13). The largest and longest established component of the flexible space market is serviced offices. Regus (known by its group name of IWG today) was and remains the largest operator, although the market is highly fragmented – the three largest providers in London (Regus, WS Group and LEO) comprise just 16% of the market.[26]

Figure 13 Flexible workspace typology



Managed workplaces are similar to serviced offices in terms of flexible occupation, but they also provide for larger occupiers, more segregated space and for more specialist users. For example, some occupiers require specialist equipment or support services. These centres provide businesses with flexibility, they reduce start-up costs and they support small scale (technology dependent) manufacturing and product prototyping that is otherwise unaffordable. Incubators and accelerators involve the additional provision of mentoring, advice and business support, and occupiers are encouraged to enrol on formal growth programmes.

Incubators and accelerators provide spaces that are similar to coworking environments, but they involve a far more intensive form of management, often putting start-ups through fixed-term programmes to test their ideas and plans.

The term 'coworking' is generally ascribed to game designer Bernie DeKoven, in 1999, and demand has seen phenomenal recent growth. While the differences with serviced offices are sometimes blurred, coworking spaces provide a 'less corporate' style of space than serviced offices, and respond to "*technology enablement, the growth of the tech, online and creative industries … and an increase in micro businesses and independent workers*".[27] And they provide "*clubs where members can work alone or interact with like-minded people on a pay-as-you-go basis"*.[28] Operators in London include Hoxton Mix, Liquidspace, NearDesk and WeWork. Providers of more traditional serviced/managed office space (such as Regus, The Office Group and Workspace Group) are also allocating more of their buildings to coworking spaces.

Coworking spaces are seeing new work communities develop in which digital-enabled people are working free of the traditional corporation and clustering with others in more radical social space that brings like-minded people together and mentors entrepreneurship. This combination of individual independence and group sharing is what makes coworking so attractive to so many people around the world. Large organisations also use co-working spaces for project teams and ad hoc requirements, as well as for start-up operations.

WeWork is a leading example of the new kind of provider. While only arriving in London in 2014, it has grown to be the city's largest private sector occupier, with c250,000 sq m of space. It has been busy signing-up start-ups and micro-businesses, but its ambitions are much greater. It is now signing up 'Enterprise Customers', providing large chunks of space to corporate customers and providing the WeWork 'experience'. In the USA, WeWork has already signed up large corporates including Bank of America, HSBC, IBM, Mastercard, Microsoft and Salesforce. WeWork started its enterprise product in mid-2016, and it now contributes nearly one-third of its revenue.

Corporate occupiers have also entered the coworking market in London, a move exemplified by the Google Campus in East London and the O2 Workshops in the West End. The scale of this activity in just one city indicates that coworking as a growing global trend is unlikely to be reversed.

6.3. Structural, not cyclical change

While the flexible space market in the UK is now three-decades old, its evolution since the GFC has been particularly rapid, resulting in a growing range of products. Some commentators are anticipating an economic bubble, the bursting of which, in the next economic crisis, will see the sector reduced to 'yesterday's fad'. However, while some growth expectations are unrealistic, and some business models are unlikely to survive severe economic stress, there is no question that flexible workspace represents a long-term change in UK, and global, real estate. It is a structural shift, not a cyclical one; it is here to stay.

Lifestyles and workstyles have moved on. The SME sector is growing. The entry points for establishing new businesses have never been lower. The knowledge economy means that people have far greater choice and control over their career paths, which are no longer constrained by corporate employment. Moreover, technological innovation will continue to create new opportunities.

7. Outlook and implications

This paper has demonstrated how rapid, deep and pervasive change in the economy is driving enormous disruption across the real estate sector. Whether in high streets, on industrial estates, in logistics sheds, in corporate offices or in flexible workspaces, rapid economic and technological changes are leading to new business processes and patterns of work. Change and uncertainty are replacing the traditional, long-term, stable nature of real estate. Moreover, trends in the wider economy and society, such as those listed below, suggest that this is set to continue.

- There is a trend away from 'one-size-fits-all' solutions to far more customised or tailored products and solutions.
- Long-term commitments are yielding to commoditised 'rental-purchasing' and 'on-demand' as attitudes to ownership shift radically.
- Monolithic organisations are morphing into networks of relationships, with core and contingent workers and complex supply chain relationships.
- Fluidity is replacing stability; planning horizons are shrinking and uncertainty is the new norm.
- Technology is disintermediating markets and stripping out layers of cost and inefficiency.
- There is a rapidly expanding sharing economy with innovations such as Airbnb, Deliveroo, eBay and Uber.

The commercial real estate market cannot remain immune from such pressures. Its role as an investment medium has cushioned it for several decades; but the real economy is catching up. With notable exceptions, the era of long-term commitment; of an 'institutional standard' and of lords of the land dictating terms to subservient tenants, is over. The old assumptions about what formed a solid investment, say, ten years ago, are rapidly disappearing.

The traditional investment markets – shops, offices and industrials – are all seeing radical new demand profiles emerging. It is this fuzzy area of change and uncertainty in activities that the institutional investment market and urban planning system have been struggling with for many years. Their neat, immutable and easily understandable 'boxes' simplify the world and make decision-making easier, but they are inflexible and fail to cope with change. The prolonged debate about whether serviced offices are a separate asset class, and how they should be valued, is ample evidence of this struggle. The boundaries of traditional asset classes will need to be re-drawn, and the future investment market will require a far more discerning approach to demand.

Similarly, our established approaches to land use planning and economic development are beginning to look severely dated. The economy has changed dramatically, and accepted methods for understanding jobs (SIC) and buildings (UCO) are increasingly unreliable for conveying how land and buildings are being used. Since 1987, many new and diverse uses have emerged, including: 3D printing, accelerators, click-and-

collect facilities, consolidation centres, co-working centres, dark kitchens, data centres, e-commerce, incubators, laboratories, last mile logistics, robotic manufacturing, serviced offices and virtual reality development.

Office buildings can accommodate high tech manufacturing. Modern industrial sheds are used for retail and older industrial buildings are used by the creative industries. Warehouses perform retail functions. Boutique apart-hotels straddle hotels and residential; while apartments can be Airbnb. Banks are increasingly indistinguishable from DigiTech firms.

The utility of Local Plans that calculate future need for 'Class B-space' based on forecast employment change in traditional economic sectors will look increasingly dated and, potentially, highly misleading.

Whether from an investment or land use perspective, an important step forward will be to think about commercial real estate in terms appropriate to the emerging economy. The simplistic nomenclature of 'shops, offices and industrials' and B-class uses is no longer adequate to describe the use of the commercial built environment. A more sensitive approach is required which recognises the diversity of activities within buildings.

7.1. Towards an activity-based approach

Activities reflect the real economy and, therefore the underpinning of demand. The original inspiration for an activity-based perspective on real estate was provided half a century ago by John Rannells in his 1956 masterpiece on Philadelphia, *The Core of the City.*[29] Rannells placed the spotlight on an activity-based approach to understanding urban form, arguing that the renewal of the built environment should be driven by the changing demands of its occupiers.

Rannells made the critical distinction between broad land use changes associated, in classical terms, with utility maximisation, and the influence of operational decisions on the level and structure of final demand for space:

> *It is necessary to take in somewhat more than relates directly to land use, since changes in demand for space or location may come about as secondary results of business decisions or consumer preferences which, in themselves, have no concern with questions of land use*.

He also emphasised the fact that activities within buildings undergo a perpetual process of change, as new assortments of occupiers "*are always being formed by the continually changing ways of doing business which are characteristic of commercial enterprise*." In other words, there is a direct relationship between the changing nature of work and the settings needed to support that work, leading (even in the 1950s) to a constant process of adjustment between supply and demand.

Rannells recognised the importance of suitable accommodation, services and facilities, "*as well as the associated activities of closely linked establishments or 'the market' which their operations require*". He argued that the locational characteristics of activities are: "*visible manifestations of the many systems of activity into which the city's life is organised*", and that:

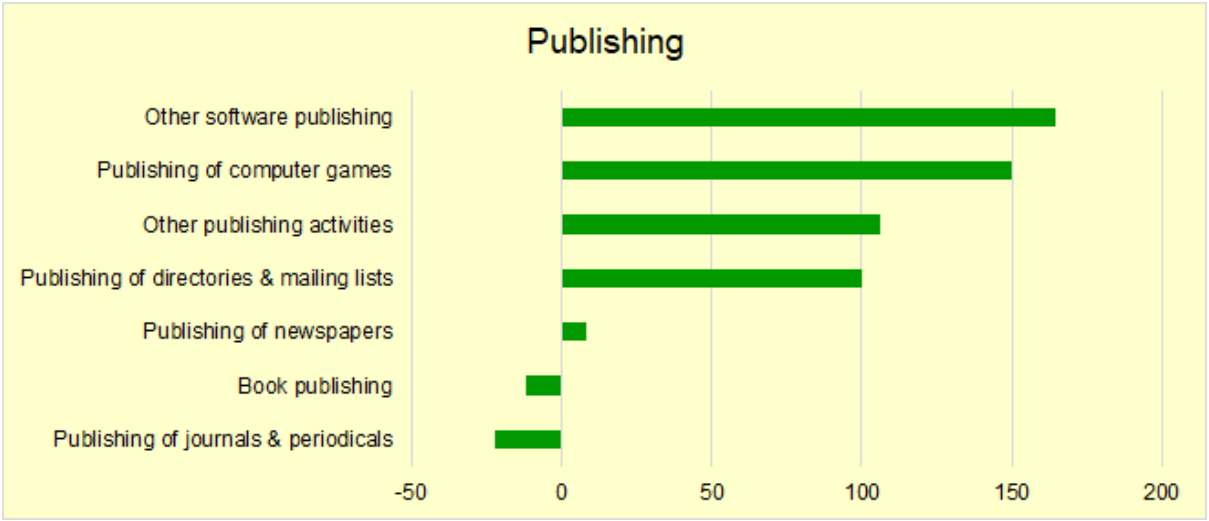
> *Activities carried on within an establishment determine, in general, the quantities and qualities of space used by itself for work, for display, for processing, for storage or for circulation.*

The importance of Rannells' perspective is that it shifts the focus away from spatial and sectoral delimitation, to an examination of the activities that comprise the urban economy, and the interactions between them, in order to explain the process of change over time. This has a contemporary implication for spatial planning.

The sector-level analysis that features in most economic analysis and local planning, whilst helpful, fails to describe important economic dynamics that ultimately express themselves in terms of premises needs. Local plans and policy should be better informed by more detailed local analyses of *activities,* having regard to their workforce, supply chains and routes to markets, clustering benefits, as well as their requirements and expectations for the design and quality of locations, quarters and buildings/space.

Ramidus' high-level analysis of London's economic activities and key changes in London's economy, using the four-digit, Class level of the SIC (2007) has examined *activities* rather than *sectors*.[30] Figure 14 provides just one example from this activity-level analysis – the publishing sector. Here we can clearly see the impact of technology with shrinking jobs in traditional activities (eg (book publishing) and growing jobs in new activities (eg software publishing).

Figure 14 Growing and shrinking publishing jobs



The data analysed covers the period 1998 to 2016, when London's overall jobs market grew from 3.8m to nearly 5.0m. but with enormous variation in terms of growth and shrinkage at the activity level. This analysis hints at changing property requirements and lifestyle/workplace choices that are not yet reflected in local employment-related policies.

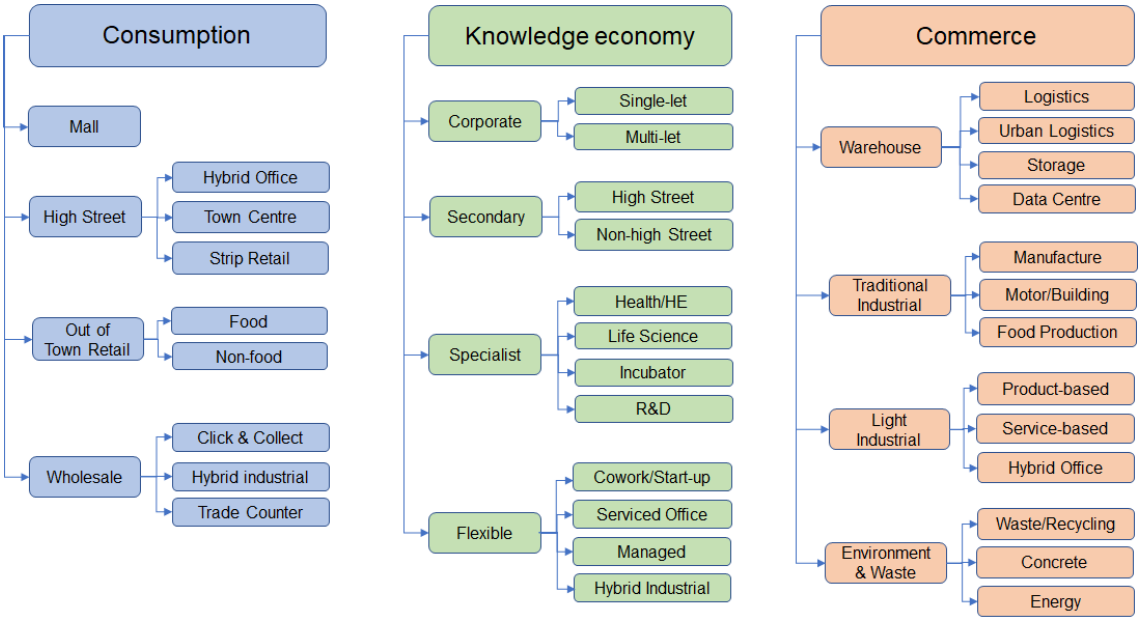
7.2. An activity-based framework

Figure 15 proposes an activity-based approach to investment and land use planning for commercial real estate. It does not claim to be comprehensive or fully developed in

its structure (it does not, for example, address residential uses, higher education, hotels, leisure, food and drink or entertainment). It will need developing in order to become a comprehensive framework but, at this stage, suggests a direction of travel.

The traditional 'shops, offices and industrials' sectors are replaced by the Level One activities of Consumption, Knowledge-economy and Commerce. These reflect contemporary economic linkages and allow, for example, wholesale activities to be grouped with retail as part of consumption (rather than as part of the 'industrial'). Other Level One headings not included here could comprise Leisure (including: cafes, clubs, hotels, gyms, pubs, restaurants and sports facilities) and Living (including: care homes, flats, houses and student accommodation).

Figure 15 A framework for activity-based planning



Each Level One heading is then broken down into Level Two activities to reflect locational and building differences. This encourages a subtler approach to land use planning. Thus, for example, rather than calculating (more often than not with a wide level of uncertainty) how many B1(a) jobs will need to be accommodated, this model encourages spatial planners to take a more differentiated approach to the types and land and buildings they will require. For example, it highlights secondary office space, which is the backbone of the SME and start-up sectors, but rarely given any special attention (such as protection) in land use terms.

Level Three activities then describe the nature of the work that is taking place. The approach discourages overly-simplistic land use designations such as SILs and LSISs, which reinforce perceptions of an outmoded pattern of land use. For example, Light Industrial uses are broken down into product-based and service based activities. Each requires subtly different types of property and employ different worker skill profiles.

Importantly, particularly from an investment perspective, the framework recognises hybrid space. For example, in the Light Industrial element of Commerce, there is a hybrid office category, recognising activities where the work environment resembles an

office rather than a traditional industrial environment. Similarly, there is a hybrid office category for customer-facing activities on high streets.

7.3. Implications

Real estate markets have witnessed profound and pervasive changes in the nature of demand over the past decade. In land use planning terms, can it really be that a classification system – the UCO – that was created three decades ago can remain relevant in today's economy? Do the categories of B1, B2 and B8 adequately describe the range of commercial employment buildings?

- Use Class B1(a), or offices, captures around ten million workers, or one-third of the entire workforce. Can such one use category cover so many workers in buildings ranging from an office above a shop to a Canary Wharf tower?
- Our understanding of 'industrial' activity, captured within categories B1(c) and B2, has been transformed since 1987. Moreover, the imperative to build houses has combined with a widespread misunderstanding of 'industrial decline' to lead to the wholesale 'release' of viable commercial and employment space.
- The warehouse/distribution market (B8) has changed beyond all recognition. It now encompasses everything from a 500 sq m storage unit to a 50,000 sq m multi-storey, fully-automated logistics centre.

All Use Class categories of property have been affected and the nature of change will have a growing impact on the value and utility of existing stock: what might have seemed a rock solid investment before 2008, could be looking a marginal play today. And while some properties might become obsolete to changing demand, so new forms of property and occupation are emerging. The simplistic 'shops, offices and industrials' is looking quaintly historic as a descriptor of the commercial sector. And yet, every Local Plan across the country has an evidence base using precisely these categories to forecast future employment land needs.

High streets and town centres need to be re-invented. Most should no longer be defined by their retail offer (in fact, some should shrink in terms of retail space), but by their ability to attract people with a quality place, workspace, community services, healthcare, leisure and services. Other uses, such as commercial, employment and residential should be nurtured. The latter could be encouraged by extending PDR to retail premises and by encouraging 'densification' – replacing two and three storey buildings with five and six storey buildings. Living and working in town centres has far more attraction than live-work premises on remote estates. Yet our planning system's focus on an out-dated property typology frustrates smarter thinking.

Whether in terms of investment or land use planning considerations, the changes that have taken place in the real economy have made obsolete our traditional approaches to defining and regulating land use and property. Whether seeking to manage 'industrial' and 'employment' land, to provide for the digital economy or to rejuvenate high streets, investors and planners are constrained by the straitjacket of investment criteria and land use categories that no longer reflect underlying demand.

Fresh thinking and new approaches are required.

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