

RESEARCH REPORT

2018-2020

“The Roadmap of Design Strategy for Hong Kong Manufacturing SMEs”

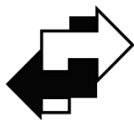
Organiser



Research Team



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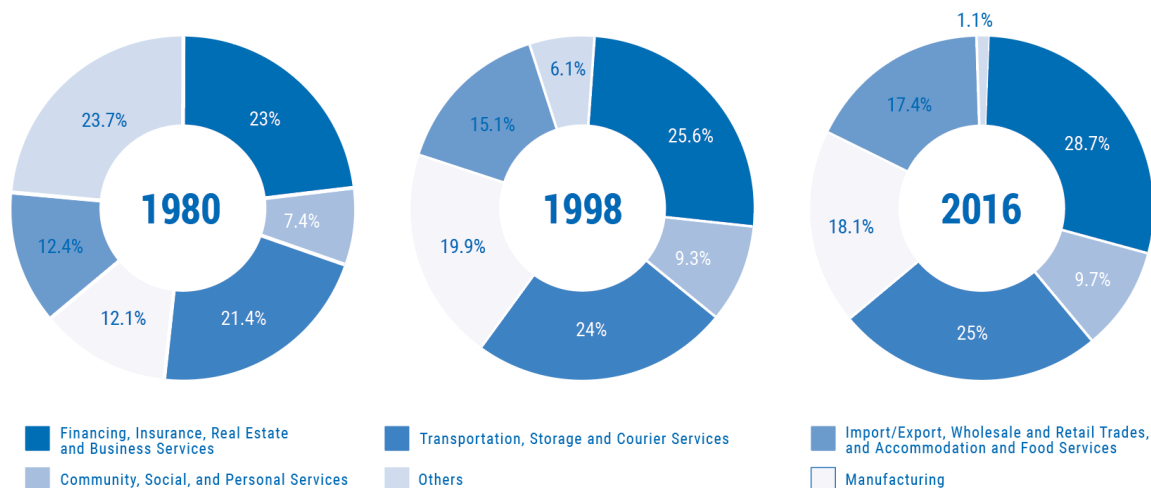
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Foreword: An Overview of Hong Kong’s Re-industrialisation

“Hong Kong industry” may sound dated to younger readers. To many, “industry” connotes either a family diligently making plastic flowers in a narrow greasy space, or hundreds of workers gathering along the production lines in a factory filled with machines. These images probably match well with the legacy photos of Hong Kong’s industrial past.

Similar scenes were commonly found in the 1950s-60s, especially in the mould, plastic, textile, garment, electronic and toy industries. However, many of the established factories were moved northwards to the Mainland following China’s Reform and Opening Up in 1979, leading to 20 years of deindustrialisation in Hong Kong.

In its golden time, taking the year 1980 as an example, the manufacturing industry amounted to 23.7% of the local GDP. However, it plunged to 10% in 1998 and further dropped to 1.1% in 2016 (see left figures). There were once nearly 1 million factory workers; but by 2019, the workforce had shrunk to just around 88,000. Textile, garment, plastic, watch, toys, electronics, mould and other industries were the pillars of Hong Kong’s manufacturing sector, yet they are close to non-existent at present.



Source: Census and Statistics Department

The official narrative describes the change as follows: Hong Kong’s manufacturing industry was once dubbed one of the “Four Asian Dragons”, but the labour-intensive, low value-added Original Equipment Manufacturing (OEM) entities focussing on parts assembly were then appealed by the Reform and Opening Up policy of China. They moved their production lines to the Mainland (especially the Pearl River Delta of the Guangdong province) to benefit from the low rent and labour costs, expanding Hong Kong’s industry

through low-technology and labour-intensive production methods. This industrial model had practically matured by the 1990s, which academics describe as a “front shop, back factory” approach – the manufacturing processes were moved to the Pearl River Delta, leaving Hong Kong as a shop front responsible for sales, taking orders and distributing goods to overseas markets.

As we recollect the past, we cannot help but wonder: how has deindustrialisation really impacted the local industry and economy?

The positive viewpoint regards the development as a step towards “producer services”. Factories were relocated to Mainland China while Hong Kong’s companies shifted their focus to high-end commercial services, such as design, order-processing, information management, logistics and financing. The change in manufacturers’ role also brought about the growth of related sectors, fostering an ecosystem of producer services. As seen in the charts above, the expanding service industries (e.g. finance, commercial services, transport, wholesale and retail, import and export) witnessed the formation of this new economic model.

On the other hand, the negative view considers the socio-economic conditions a worrying passage to the post-industrial society. In contrast to highly developed countries, Hong Kong’s transition did not give rise to high-tech and high value-added Research and Development (R&D) activities. The overall local engagement in R&D was still lower than Europe, America, Singapore and Mainland China. Hong Kong’s industry therefore saw little progress in innovation, design, and knowledge of IT management, and was unable to undergo upward transformation. However, we do not agree with this statement and will elaborate more on our reasons soon.

Another perspective points to the recent return of manufacturing processes from the Mainland to Hong Kong. Apart from traditional industries like watch, mould, jewellery, food and medicine, the returnees also include emerging fields such as bio-technology, artificial intelligence, and digital technology. The returning and prospective manufacturers focus on high value-added production processes, namely R&D, product design, brand management, road-mapping of automated production systems and so on.

The changing macro environment was found to be the catalyst of the re-industrialisation. Operating costs have been increasing in Mainland China over the last few years, which essentially removes the past competitive advantages of cheap land and labour. In addition, the national policy now aims to develop high value-added sectors as well as encourage the transformation and upgrade of the Guangdong industry. Labour-intensive, polluting, and inefficient industries have been gradually replaced or forced to move away from the region. The changing factors make us keen to reassess the role and position of Hong Kong’s manufacturers in the Pearl River Delta and Greater Bay Area.

If the reversing of deindustrialisation is seen as a budding trend, where should Hong Kong's re-industrialisation be headed? This has been an ongoing discussion between the Government and the businesses, with the industrial sector actively contributing opinions and suggestions. As a result, the Committee on Innovation, Technology and Re-industrialisation was established in 2017; the 2018-19 and 2019-20 Budgets have also allocated an addition fund of 4 billion Hong Kong dollars to push forward policies of re-industrialisation (e.g. the Re-industrialisation Funding Scheme). It will take more time to observe the effectiveness of these measures; but without a doubt, businesses and the public are taking the discussion more seriously, exploring possibilities and pathing the way for Hong Kong's new industrial development.

How has the manufacturing industry evolved to this day in the 21st century? What we can be certain of is that it has become vastly different from the images first mentioned in the Foreword. In the era of digitalisation and elaborate division of labour, the journey from assembly of parts to distribution to markets is an interlinked flow. The Federation of Hong Kong Industries sums this up: "The modern industry does not stop at manufacturing, but also includes the preceding technological innovation and creative design, as well as succeeding steps such as brand management, sales and marketing, and supply chain management." Moreover, production processes can be carried out simultaneously in different departments and locations. One working procedure does not have to be carried out in Hong Kong either; it can be coordinated and completed by production departments in different regions. "Modular", "networked", "collaborated" – these are some of the keywords used to describe the new industrial model in Hong Kong.

Local industrialists seize the chance to redesign their production processes and workflows as the networked model emerges. They rethink the role and position of entrepreneurship, going through trials and errors in order to adapt to the new industrial development. In fact, many of them have had a grasp of the new commercial environment and opportunities amid the rapid change, and have been endeavouring to restructure their business operations accordingly.

This report has a clear goal of showcasing how Hong Kong industrialists create and reform their production processes through over 40 case studies. Their practices and experiences can provide some pointers on rebuilding the local industry. As the team dedicated to this research project and the dear readers who have witnessed the industrial transformation, we must depart from dated stereotypes of the manufacturing industry, so as to open-mindedly explore the potentials of Hong Kong's re-industrialisation.

34 of these accounts are compiled with primary data from interviews as well as secondary information from relevant literature; the rest are organised collections of materials from existing publications. The case studies aim to outline the journeys taken by local enterprises, featuring how industrialists create value, redesign their operations and business models, reform their production processes and procedures, branding

themselves, or expanding sales channels. We examine the changes through the lens of “design strategy”, which is yet another characteristic of the report.

The whole research comprises the garment and fashion, watch, electric tool, homeware, and integrated goods industries. When people talk about industrial development, these are often seen as the representatives of Hong Kong’s old industry. This is, of course, just a popular opinion. There is actually a wide spectrum of industries in Hong Kong – furniture, jewellery, printing, and Chinese food are some other examples of traditional industries in Hong Kong, which have also gone through various changes throughout the local industrial history. Therefore, these sectors under-represented by mass media and the lesser-known technology industry will be discussed in detail in the next part.

Design Thinking in Hong Kong's Industry

A lot of people associate the transformation and upgrade of industry to the transition from Original Equipment Manufacturing (OEM) to Original Design Manufacturing (ODM) or Original Brand Manufacturing (OBM).¹ A strong value judgment is embedded in this progression model – OEM is thought to be at the low end of the value chain (which is based on the product's selling price), while the client's design and brand bring in much more value. Foxconn, the company engaging in OEM for Apple, is an epitome of this aspect. It is estimated Foxconn gained just about 9 or 9.5 US dollars from each iPhoneXS Max it manufactures, even though the product sold for 1,478 US dollars when it was first launched. Apple profits the most with its own technology and brand; on the contrary, the OEM Foxconn earns less than 0.65% of each phone's selling price.

The profit calculation of OEM's is simple: simply subtract the material costs from the OEM fee, then you would be left with a small profit on each piece of manufactured goods. This formula strengthens the notion of OEM being a low-value mode of production. It is not our aim to defend OEM or to attest the good and bad of any industrial model. But rather, we seek to reason that imposing an idealistic framework to the evaluation of Hong Kong's industrial development, or basing an industrial model's merits on its "production value" would only amount to prescriptive thinking, not "industry thinking".

What, then, is industry thinking? Industrial activities are complex production processes – the course from raw materials to finished goods involves a large variety of decisions, strategies, procedures, resources and technologies. Moreover, the coordinations between people and people as well as people, machines, and the environment are also important considerations in the workflow. The product or service can only be produced by these interlinked factors. Academics name this process the "Manufacturing Value Chain". There is room for improvement and reform in each of the chain's elements along with the relations between them. The industry thinking manifests itself as manufacturers continuously reflect on their transformations in order to overcome the challenges brought by the environment and market's changes over time.

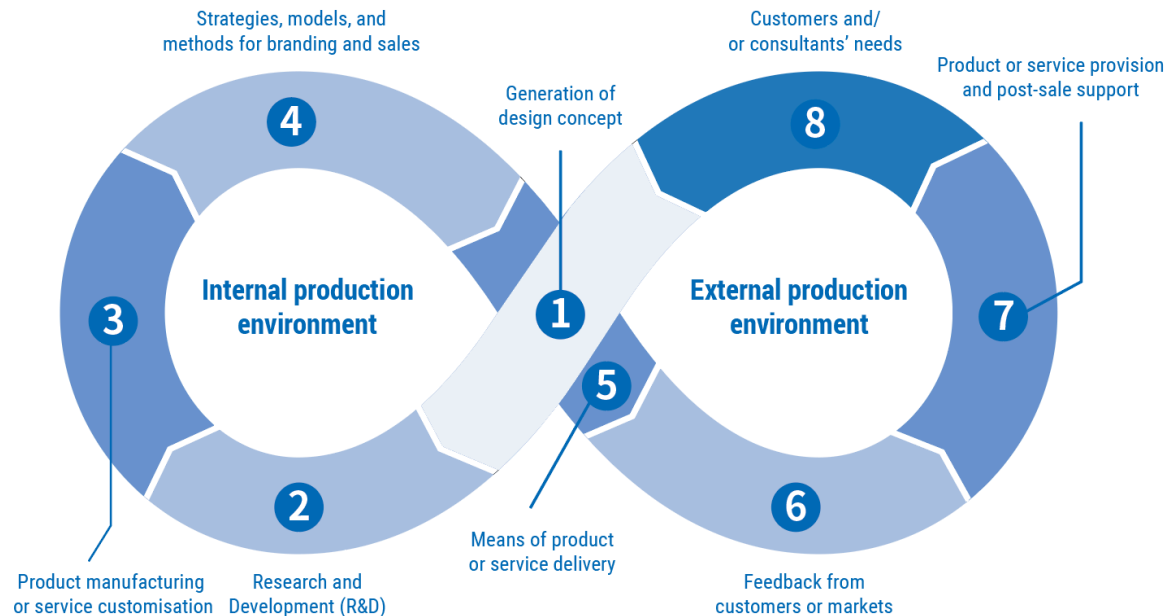
¹ *Original Equipment Manufacturing (OEM) refers to a production model which does not involve product development as the design and manufacturing recipe are provided by the client.*

Original Design Manufacturing (ODM) refers to a model where the recipe and design belong to the manufacturer while the client owns the brand license.

Original Brand Manufacturing (OBM) is a model where the manufacturer owns and develops the brand and sell its own line of products.

To better illustrate the above approach, we divide the industrial production process into eight parts (see below figure):

Eight Parts to Industrial Production



1. Generation and proposition of a new concept and value
2. Exploration and R&D of prototypes
3. Processes and workflow in product manufacturing or service provision
4. Strategies, models, and methods for branding and sales
5. System and workflow for product or service delivery
6. Feedback from end users or markets and the analysis thereof
7. Post-sale management and support
8. Analysis of current and potential needs of clients or customers

The eight units constitute the value chain in the production process. Businesses reform one or a few of these eight with the aim of increasing both the profit margin and various other values – namely efficiency, management, technology, aesthetics, user experience and so on. The concept map does not focus on listing out all elements of the value chain in an exhaustive or definitive manner. It proposes the perspective which places the focal point back to the actual industrial processes, instead of debating the winners and losers among production modes on paper.

Although changes in industrial processes vary along with factors like the time, location, people, and historical background, their essence lies in how “design” is understood and interpreted.

From the following quote from an advertisement of Hong Kong Products Expo, we can have a glimpse of how local industrialists viewed design decades ago:

“Nationally pioneering, artistic designs by experts and scientific production methods are the saviour for a declining market, a powerful instrument in product promotion.” (an advertisement in the brochure of the third Exhibition of Chinese Products, held by the Chinese Manufacturers’ Association of Hong Kong in 1939)

At that time, design was equated to the appearance, visual composition, and manufacturing or production technology of a product. Following the post-war economic boom and the northward expansion of Hong Kong industry in the 1980s, the local industrialists now see design as a more diversified and broader concept. The Commission of the European Communities has summarised the following three points on the definition of design:

“Design is a process, an activity, and not only the results of that activity. ...design is an activity that follows a certain methodology and a number of steps — such as research, conceptualising, modelling, testing and re-design — and not only the results of that activity. ... As such, it is considered as the bridge between for example creativity and innovation, technology and the user, scientific and commercial disciplines.”

“Design is a holistic approach which allows a range of considerations beyond aesthetics to be taken into account, including functionality, ergonomics, usability, accessibility, product safety, sustainability, cost and intangibles such as brand and culture. ... User considerations are at the core of design activities, and balanced against other considerations such as cost and environmental impact “

“Design is about products, services, systems, environments and communication.”

The industrialists in Hong Kong may not have come across the above conclusions by the Commission or the new definitions of design in the creative and academic sectors. However, they have long stepped beyond the limits on design with their own experiences and endeavours.

We deeply respect the local industrialists for their wisdom and experiences. Their practices demonstrate various innovative means of transforming the production process. This report looks into how entrepreneurs

have modified one or more parts of the Manufacturing Value Chain, what external factors catalysed the reforms, and how industrial processes can be redesigned and transformed.

Through examining the changes which have taken place, we hope our dear readers will gain a better understanding of Hong Kong's design thinking and see the local industry at present in a new light.

Reform and innovation of the value chain of industrial production

The term “Industria” has a Latin root, meaning “the business of manufacturing goods”, it evolves to represent the modern “industry” in English, which generally refers to “some form of economic activity, processing raw materials into commodities in factories”. Obviously, this simple statement does not sound sufficient. We believe that “the industries” should contain more features in order to meet its impression in our minds. For example, the industries should include ingredients with the use of “new materials” (such as iron and steel), “new energy” (such as electricity), and “new equipment invention”. The equipment can increase output with less manpower; and “new work organisation systems” (such as production lines, factory systems), or “increasing application of science in manufacturing” and other methods should also be included. These descriptions about the characteristics of industries originate from the understanding and comprehension of the Industrial Revolution in the 18th century. The essence within is that the industries are regarded as economic activities to produce things via processes of mechanisation and mass production, which are themselves the products created from technological changes and scientific applications.

Under the influence of this concept, we take it for granted that those “home-based workshops”, “front-shop-back-home” furniture shops, printing factories of “lower level of mechanised/ automated applications”, Chinese food factories, as well as jewellery stores with “small batches” and “handicraft” as the main production mode, do not fit our ideas of the modern industries. These industries had developed rapidly during the long period before and after the war, their shops and workshops were scattered throughout Hong Kong, Kowloon, and the New Territories, displaying full vitality. However, due to the traditional industrial concept, people would neither take these industries seriously nor would they consider the role they played in the economic history of Hong Kong. Compared with the production model of factories that focus on mechanised manufacturing, they have almost equally important developments and contributions.

In fact, as stated in this report, the furniture, jewellery, paper & print products, and Chinese food industries have each experienced ups and downs in the history of Hong Kong’s economic development, and their forms have continued to change until today. If we wish to understand the changes of these industries now and then, it is impossible for us to analyse their forms only by using industrial concepts that focus too much on “mechanised production” or “batch production” mode.

As stated in this report of the Roadmap of Design Strategies for Manufacturing SMEs, we should examine the forms and changes of industries in a broader perspective. Industrial activities are complex process of production. The “production value chain” involved in different industries is linked together. The main value chain is similar to an “Eight-Front Strategy of industrial production”

The changes in the history of Hong Kong industries are reflected in how industrialists and enterprises continually think about and transform different parts of the production value chain in order to fight for survival, adapt to market changes, update and create new products and services.

We have adopted the above understanding of the industrial “production value chain” to review industries considered to be traditional and less industrialised in the past, such as furniture, jewellery, paper & print products, and Chinese food. Other than the four traditional industries, we have also added the “technology industry” - an industry that is considered to focus on scientific research and applied scientific knowledge - so that readers can compare how industrial enterprises of these five groups create their “production value chains”, and how they present their own characteristics and development.

A synthesis of the 27 cases study results although the industries to which the enterprises belong are different, their transformation of the “production value chain” is not limited to the design and manufacturing of products. Many updates or innovate also areas including business strategies and models, scientific research & development, process design, presentation of new ideas, and even marketing or branding strategies. The transformation of different parts of the value chain does not necessarily involve the application of mechanisation or new technology, and creative activities are also not bound to be related to the development of new technologies or mass production. The diagram shows that different enterprises carry out innovations and reforms more to adapt to changes in the market and business environment, or as strategic steps for long-term development and market expansion. The value chains of different industries and corporate reforms also have different priorities; the furniture, printing, and food industries that focus on the home or commercial retail market, more attention would be paid to improving retail channels, methods and models, and technology enterprises would focus more on R&D , design, and business model innovation.

The Hong Kong industry revealed in the overview diagram has reformed the industrial production process from various aspects, embodying the extensive meanings of industrial design thinking. Industrial design thinking is not limited to the design of product appearance and brand image in a narrow sense, nor is it limited to the introduction of new machinery and equipment or narrowly defined technical applications. In the 21st century, the industries of Hong Kong also need to focus on the design of business models, strategic designs, production processes, team mix and sales models. These forms of design thinking and capability are, all parts of the hard work from learning and improvements of various industries and enterprises, as is the traditional practice, so is the technology enterprises.

List of Cases

- 3Ds Technology Limited
- Aaron Shum Jewelry Group
- Amenpapa Limited
- Arredamenti Company Limited (Giormani)
- Asia Animation Limited
- Asia One Communications Group
- Aussco Hong Kong Limited
- Café de Coral Holdings Limited
- Chen Hsong Holdings Limited
- Chun Au Knitting Factory Limited
- Dunwell Group
- Funderful Creations Limited
- German Pool (Hong Kong) Limited
- Gold Peak Industries (Holdings) Limited
- Hung Fook Tong Group Holdings Limited
- Icycle Group Holdings Limited
- Konstar Industries Limited
- Lee Kum Kee Company Limited
- Memorigin Watch Company Limited
- POSH (Hong Kong) Limited
- Prince Jewellery and Watch Company Limited
- Print-Rite Holdings Limited
- Profilia of West Germany (Far East) Limited
- ProVista Group
- Qeelin
- Renley Group Limited
- Roborn Dynamics Limited
- S&C Furniture Limited
- Shing Hing Group (The Darts Factory)
- Star Industrial Company Limited
- Starlite Holdings Limited
- Sweda Limited
- SwissTech Limited
- Team Green
- Techtronic Industries Company Limited
- The China Paint Mfg. Co. (1932) Limited
- TML Apparel Limited (member of Grandion Group)
- Tung Hing Automation Investment Limited
- Yan Chim Kee Hong Kong Company Limited
- Yuen Shing Group

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