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Introduction



It has often been said that those who can, *do*, those who can't, teach, and that those who can't *do* or teach, consult and manage (that is, tell the *doers* and the teachers *how-to-do* or teach).

That intangible force, to which we sometimes refer as "human nature", ever spurs us on to finding easier ways of achieving a given result. In other words, finding the path of least resistance between our current state and the state in which we would like to find ourselves. It is not surprising, therefore, that because telling others "*how-to-do*" is generally considerably easier than "*doing*", the 19th and 20th Centuries bore witness to a gradual progression from *doers* to teachers to consultants and managers.

During the course of the 20th Century, used-car salesmen metamorphosed into marketing consultants; secretaries transformed themselves into clerks, then office administrators and office managers; managers, in turn, became directors, chairmen, presidents and chief executive officers (CEOs); directors became executive directors and presidents became executive presidents; book-keepers became accountants and financial comptrollers; airline ticket salesmen were transformed into travel consultants and so on. The chain of command between the *doers* and the "*how-to-doers*" became ever longer because, it was said, we were heading towards a "knowledge-based" society.

In a larger sense, however, it is not the nomenclature that should concern us but, rather, the transition from a physical-product-oriented society to a service or knowledge-oriented society. More specifically, the transition has been away from traditional manufactured products (houses, cars, etc.) to less tangible products and services. This is not a phenomenon that has been restricted to Western society but one which is symptomatic of developed countries. The sequence of development is shown in Figure 1.1.

In essence, there is nothing really wrong with defining services and knowledge as products, as long as we understand where they fit in to the overall scheme of society's needs, and the ability of industries to fulfil those needs at a competitive cost.

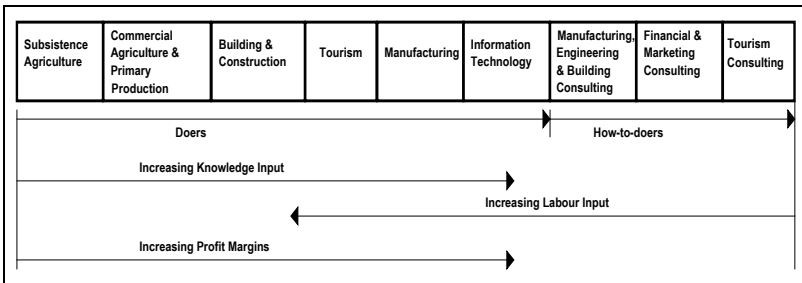


Figure 1.1 - Sequence of Industry Development

There is an old adage that the most successful companies are those whose business interests coincide with basic human needs - that is, "*feed the people, clothe the people, house the people and entertain the people*". Some of the most successful companies of the 20th Century tended to fall into one of these basic categories. However, in the decades following the Second World War, developed societies, in places such as Australia, Britain, Europe, New Zealand and North America, found it increasingly difficult to maintain industries that were focused on basic needs and, so, there was a movement towards service or knowledge-based industries, that were less-closely aligned with human needs. The expectation was that such a transition would maintain economic activity and employment and stave off decline.

The problem with staving off economic decline, in any one country, was that decline in the manufacturing base was rarely fully compensated with an increase in service/knowledge-based industries. For example, profit margins in service/knowledge-based organisations were generally higher than those in manufacturing but manufacturing employed a far greater number of people. On the surface, it appeared that service/knowledge-based companies were more efficient and, in a localised sense, they were. In a larger sense, however, a country filled with low-employment service/knowledge-based organisations was not necessarily more efficient than one with a large manufacturing base.

Nearly all developed countries provide social-welfare for those who are unable, or unwilling, to obtain employment and, hence, those who are not directly employed by industry are indirectly subsidised through contributions to the taxation system. This is only a portion of the problem associated with significant levels of unemployment and, perhaps, the only one which can be

readily costed. The remainder of the indirect costs, to industry (and society), are more difficult to assess and are associated with chronic social problems, such as increased crime, drug dependence and so on. These costs are funded through the taxation system and, also, through increased property and health insurance costs and policing/security costs.

Rather innocently, perhaps, many economic theorists postulated that the decline in manufacturing employment, in developed countries, could be offset by low-level service industries such as cleaning, gardening, tourism and so on. The basic premise was quite logical. Although many of the new service/knowledge-based industries employed fewer staff than traditional manufacturing industries, those staff were at a much higher level, typically technocratic or professional, and those higher-level staff could be capable of employing lower-level service staff.

The argument for a "trickle-down" effect in jobs was also strengthened by a number of social changes in developed countries. For example, in the earlier decades of the 20th Century, much ado was made about the 40-hour working week. However, by the close of the 20th Century, it became evident that those who were employed in high-level knowledge-based activities were generally working longer hours than ever before. This was a result of the increased demands on professionals; the belief that one person could often do two jobs better than two people and, also, because of the increased opportunities for high-calibre professionals to simultaneously undertake several different contracts. Moreover, the movement of women into the "paid-employment" work-force created a need for a "paid-domestic-duties" work-force. The assumption, therefore, was that the increased technocratic/professional class in society could have a far greater need for labour-intensive services, such as gardening, cleaning and so on. Hence, it was felt that these services could offset the net employment loss, occurring as a result of a loss of jobs in traditional "doing" sectors such as manufacturing.

There were, however, several problems with the idea of maintaining a servile class, in a democratic society, to support a technocratic/professional base. The first was that there was a natural inclination for people to improve themselves educationally. Hence, there should have been a recognition that, within the early decades of the 21st Century, somewhere in the order of 80% of the school-age population in Australia, Britain, Europe, New Zealand and North America would endeavour to achieve a university (or, at least, tertiary) qualification. It was unlikely that these highly qualified members of society

would be content to spend their lives gardening and cleaning for other professionals with similar qualifications. Secondly, even if a sufficiently large "working" class remained, no-one had any realistic concept of whether or not the technocratic/professional base would have enough income to gainfully employ the remainder of the population in such activities. Thirdly, the labour content of many low-level services was also diminishing as a result of automation. For example, an automated car-wash could achieve in 10 minutes the work of a human manually cleaning a car for an hour, and so on.

All of these problems lead one to suggest that we need to create new industries that can employ people. For example, "leisure" industries, such as tourism, information services, etc. to "entertain" the people. Many new industries have also naturally arisen as a result of new technology - for example, robots replaced humans at manual-repetitive tasks, but a new industry in designing and implementing robotic systems naturally emerged; the software industry arose to support computers, and the software-text-book industry arose to support the software industry, and so on.

On the positive side, therefore, there is a convincing precedent for the notion that the loss of low-level jobs can be compensated by jobs which add more value at a higher level. After all, humans evolved from cavemen, to a relatively sophisticated technocratic society, while still retaining a high degree of employment. But is this likely to be a perpetual phenomenon?

The answer to the above question is really one of the key issues to be resolved over the coming century and it can only be resolved in a global context. Unless the world undergoes some dramatic change in circumstances, the Earth's population could reach ten billion people early within the 21st Century. Leaving aside the issue of whether the planet could environmentally support such a population, most countries now have to face the question of whether or not they could gainfully employ the enormous number of people that have emerged.

Centuries ago, the bulk of humans spent their lives feeding, clothing and sheltering themselves. However, by the middle of the 20th Century, an efficient farm in Australia, Canada or the United States, employing several people, could feed hundreds or thousands of people. Similarly, factories, producing clothing and textiles, could employ several hundred people and produce clothing for tens of thousands. Housing and construction also became much more efficient during the course of the 20th Century. A multi-

storey apartment block could be built, within months, to house hundreds, or thousands, of people and remain serviceable for 30 to 40 years.

Again, leaving aside environmental factors, one could "guesstimate" that a society of ten billion people, in the 21st Century, might require as few as 500 million workers to "*feed the people, clothe the people and house the people*". What then would the world do with the remaining nine and a half billion?

A number of factors generally help to minimise unemployment by reducing the potential working age of the population. The most obvious one is education. Whereas individuals in undeveloped countries might leave school at the age of 11 or 12, and work until their death, those in the developed world are, increasingly, remaining at university until the age of 22 or 24 and are retiring at an earlier and earlier age. Of course, in developed societies, people also tend to live much longer than they do in undeveloped societies, so the employment gains are only marginal. Nevertheless, as educational requirements increase, and development spreads throughout the undeveloped nations, there is a possibility of a net reduction in working years.

Needless to say, there are also a large number of new industries that have emerged, since the stone-age, to offset the increased population levels and the introduction of newer production methods. These have helped to maintain employment. In the 20th Century alone, a number of very large new industries emerged, including automotive and aerospace production; semiconductors and electronics; telecommunications and information technology and so on. And, by the end of the 20th Century, it was becoming increasingly evident that one of the larger new industry areas to emerge would be in recycling and repairing the environmental mess that had been created since the beginning of the industrial revolution. However, the question remains, can the world gainfully employ nine and a half billion people in these new activities - particularly, when the focus of most industries is in the minimisation of labour-intensive activities through automation.

There is a trivial solution to the problem of unemployment and that is to have everyone working fewer hours. Assuming that our unemployment guesstimate was correct, if everyone reduced their working week from, say, 40 hours to 4 hours, then it is possible that a good proportion of the world's population could remain gainfully employed. Unfortunately, in a competitive world, in which the teams are all countries, this solution would only work if

all countries simultaneously agreed to reduce their working hours. The fundamental problem in maintaining a large global population, in gainful employment, is therefore the imbalance between the economic status and aspirations of the various competitor countries. This results in a circular argument that needs to be addressed:

- In order to attract employment to a country, the country needs to have a competitive infrastructure and industrial base
- In order to maintain a competitive infrastructure and industrial base, companies need to have high levels of automation, competitive working hours and labour costs
- Neither of the above two needs are in line with the objective of increasing employment within existing industries and, so, any new industries, that are attracted to a country, need to take up the slack in the work-force
- New companies, attracted to a country, focus on high levels of automation and competitive working hours in order to themselves remain competitive.

The competition for employment is made more complex by the fact that developed countries are competing against developing (and, sometimes, undeveloped) countries for jobs. However, the work agendas in undeveloped, developing and developed countries are all very different. People in undeveloped countries have simple and fundamental aspirations, based upon the need to survive in a subsistence culture. Those in developing countries strive to improve their lot in life by moving from an agricultural existence to a manufacturing-based economy. In relative terms, individuals moving from subsistence farms to manufacturing can make significant gains in their financial status, provided that they are prepared to endure long working hours and poor working conditions. In developed countries, on the other hand, social-welfare "safety-nets" provide a minimum living standard and the concept of work is less attuned to survival than it is to self-fulfilment. In the developed world, people seek employment that complements lifestyle ambitions and, in general, this means limited working hours and a pleasant working environment. Hence, there has been a transition from manufacturing (which is perceived as an "unclean" activity) to knowledge-based services,

involved with information processing, consulting, management and marketing.

The difference between developing and developed countries is not just in their thirst for work. One of the attributes of a developed country is that it has well-developed administrative and governance structures that place restrictions on the way in which financial and industrial organisations can operate. Environmental, health and safety issues become more and more stringent as a country develops. Employment conditions and salaries naturally increase as an economy develops. Hence, there is a tendency to shift "difficult" organisations (such as manufacturing) to developing countries, where labour costs are lower and environmental restrictions are less stringent. Over and above these factors is the tendency for manufacturers, in developed countries, to resolve labour-cost, health and safety issues by increased levels of automation and technology.

In the short term, increased levels of automation, combined with the migration of manufacturing from developed to developing countries, produce a displacement of "*doing*" jobs and create high levels of unemployment. This was symptomatic of economies in Australia, Britain, Europe, New Zealand and North America through the latter decades of the 20th Century. In those countries, the longer-term result, as the "*doing*" workers aged and left the work-force, was an enormous increase in demand for tertiary education from their children, eager to avoid the same fate that beset their parents. Unfortunately, the diminishment of manufacturing-based employment was not fully compensated by knowledge-based industries and the long-term trend was an increase in highly-qualified unemployed people.

The other factor that affects developed countries is that, by moving the bulk of their core manufacturing activities to developing countries, they also remove the activities most closely linked to basic human needs - that is, physical products (food, clothing, footwear, household appliances, etc.). What remains is an economy based on largely non-essential elements, such as tourism, marketing, consulting and so on. Many of the non-essential elements are based on *how-to-doers* rather than *doers*. However, people can live without marketing or management consulting, when recessions occur, but they cannot live without food, clothing and shelter and, so, the *how-to-doers* are the first to suffer in economic down-turns, simply because *how-to-doers* are non-essential.

In the final analysis, regardless of the advancement of a society and its economy, and the importance of non-basic service and knowledge industries, those countries that cannot feed, clothe and shelter themselves without importation will always be at the mercy of their trading partners. It is of little value to be able to export a microprocessor, worth 100 dollars, if one is forced to import a carrot, worth 200 dollars, to feed oneself.

Economists have often dismissed the significance of many commodity items because there has always tended to be a surplus. The focus of the 1980s and 1990s was therefore on "value-added" products and services. However, with the exception of food, clothing and shelter, very few products or services have any real value other than that which we arbitrarily ascribe for some transient period. So, a kilogram of carrots will always be worth more to a starving man than a kilogram of microprocessors, and a fur coat and an igloo will always be of greater value, to an Eskimo, than an hour of a management consultant's time.

Most developed countries have become so self-engrossed in the transient value-added service and knowledge industries that they have neglected the core industries that are basic to human life. Food production, manufacturing, building and construction are all fundamental to the independence and security of a country and, yet, they have often been ascribed secondary importance because, at a given instant in time, their value has been lower than that of some other non-basic items.

Human inventiveness has provided a remarkable buffer against the ravages of an almost exponential population growth. Far from starving to death, as predicted by economists and theoreticians centuries ago, humans have managed to maintain food prices at an affordable level (at least in developed and developing countries) through technological advancements in agriculture and food production. However, as most engineers and scientists are aware, these advancements yield diminishing returns as the limits of global production are reached.

As we approach the limits of global food production, and face the challenges of an unprecedented population level, there is little doubt that the real value of basic items will increase considerably. Moreover, as each year passes, developing countries improve their economies to the extent where they become the developed countries that, in turn, push their low-value-added industries to still lower developing nations. If the current industrialisation

trends continue, the world will discover that, within the early decades of the 21st Century, even the undeveloped countries (of the 20th Century), such as those in Africa, will be in a similar position to that enjoyed by the so-called "tiger economies" of Asia during the 1980s.

As each country develops, its labour costs increase and so do the costs of its products. The irony, for the pre-war-developed countries, that have placed a high transient value on knowledge and service based products, is that by the early part of the 21st Century, there simply may not be enough poor people, in the world, to make the items which the currently-wealthy feel are too far beneath their dignity to produce. So, a carrot that is now worth less than ten cents may take on a value of several dollars. A toaster, currently produced in a developing country, may increase 20-fold in value, when produced in a newly-developed African country in the early part of the 21st Century, and so on.

Knowledge, on the other hand, has a very short shelf-life and only has value while other people don't have it. So, management consulting advice, which is initially valued at \$1000 per hour, may be worthless once that knowledge becomes commonplace. The ability of a knowledge-oriented society to generate wealth is, therefore, based on the assumption that that society will always be the first to acquire new knowledge. Unfortunately, for knowledge-based societies, much of the existing "valuable" knowledge has come from *doing*, rather than telling others *how-to-do*. The less that a society actually "does", the less opportunity it will have to acquire valuable new knowledge. For example, a manufacturing consultant who has acquired theoretical knowledge, without ever having had direct involvement in a manufacturing company, is of far less value than one who has acquired practical knowledge and then supplemented it with theoretical knowledge.

In a quest to remain at the forefront of new knowledge, there has been a naive arrogance that has emerged in pre-war-developed countries and has caused them to believe that undeveloped countries will always remain poor and unknowledgeable. People's opinions of Japan in the 1930s; South Korea and Singapore in the 1960s and China in the 1970s confirm this sort of view. Few could have imagined the meteoric economic growth that occurred in those countries and there are many others that will follow in their footsteps.

A newly-developed country is not just a competitor - it is a nation with a competitive advantage. Such a country generally has government and corporate management structures that represent a "green-fields" approach - that is, an economic environment which is fresh and relevant, and founded upon the best-practices from around the world. Those in long-developed countries, by contrast, have corporate structures that tend to be far less relevant, with both management and work-place practices that are deeply entrenched and difficult to change in synchronism with emerging competition.

Most of the world's currently-undeveloped countries face massive problems in terms of high population levels, poor soil and climate, etc. There is no guarantee that they will ever be rid of their poverty. However, one of the benefits of technology is that developed countries can readily transfer many production activities to underdeveloped countries, despite the problems of poor infrastructure, low education levels, etc. So, there is every possibility that, by the early decades of the 21st Century, even the poorest countries will have developed to an unprecedented extent and so will have their knowledge base. Fortunately for the world's environment, economic development and knowledge also leads to a decline in the population growth rate and, hence, there will inevitably be some tapering off of the massive rates that we have experienced over the past two centuries.

John F. Kennedy once said that "*the rising tide lifts all the boats*". And, so, if many of the now, poor nations become both developed and knowledgeable, then the 21st Century will create an enormous number of new challenges for the currently-wealthy (developed) nations. Who will be the poorer cousins, when the world is divided into "*doers*", that are sharply focused on essential products, and "*how-to-doers*" that are focused on non-essential services?

In a sense, the world is facing an imminent economic tug-of-war between the *doers* and the *how-to-doers*, and the spoils of victory will ultimately go to those whose end-products are perceived to have the greatest value to society. In a world approaching ten billion people, it may be that there will be far greater value in those individuals who can actually grow a carrot than there will be in those who are carrot-growing consultants.

For the self-confessed "*how-to-doers*", the prospect of a future, in which the *doers* regain much of their real value, should be immensely intriguing and important and, hence, we come to the purpose of this book. It

is to be hoped that it will not be viewed as just as another "*how-to-do*" book but, rather, as a "*how-not-to-how-to-do*" book that might assist other *how-to-doers* to recognise that we still need to be able to *do*, if we are to have competitive industries in the future, and if we are to sustain businesses and industries based on the creation and commercialisation of new knowledge. It may also convince the *doers* that they are of immense value to any society, regardless of that society's determination to move away from the "doing" philosophy.