

Chapter Two

Competitiveness: Theory and Methodology

The aim of this chapter is to provide the reader with a background on the foundations and pillars of JNCT research and analysis.

This chapter is essentially divided into two main parts. The first part defines competitiveness at the firm level, the industry level, and the national level, highlights the importance of competitiveness, and identifies the eight imperatives for creating change— steps toward building competitiveness and productivity. The second part describes the analytical tools developed by Michael E. Porter. Such tools include the diamond hypothesis, value chain analysis, the five-force analysis and the cluster map.

Introducing *Competitiveness*:

Competitiveness Theory:

The world economy has entered an era of total competition. Traditional barriers have begun to fall, new-sophisticated competitors have emerged, and global rivalry has increased in severity. There are many examples around the world where the traditional sources of comparative advantage are less valuable than initially perceived for the development of a strong, competitive economy.

The new development paradigm is one that involves the whole market and all institutions in the economy. Productivity is that component which creates a competitive advantage rather than a comparative advantage; the latter addresses only the supply side of the market system and ignores demand, historical chance and the role of the government. Indeed, the model of competitive advantage addresses the question of development today.

Competitiveness Concept:

Competitiveness can be defined at firm level, industry level, and national level.

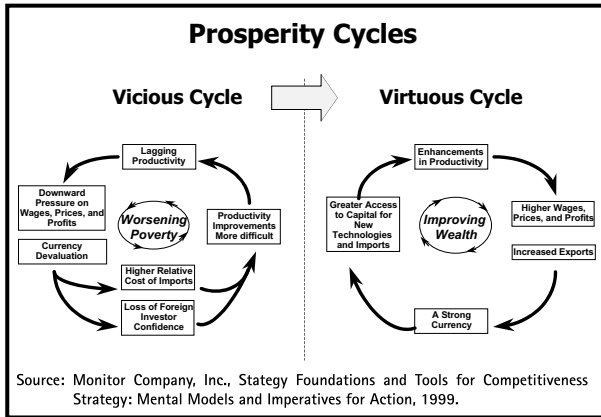
At the firm level, competitiveness is the ability to provide products and services more effectively and efficiently than relevant competitors. This means sustained success in international markets without protection or subsidies. Measures of competitiveness at the firm level include firm profitability and measures of cost and quality, the exports or foreign sales of the company divided by output, and regional or global market share. Performance in the international marketplace provides a direct measure of the competitiveness of the firm.

At the industry level¹, competitiveness is the ability of the nation's firms to achieve sustained success versus foreign competitors, without protection or subsidies. Measures of competitiveness at the industry level include the overall profitability of the nation's firms in the industrial sector, the trade balance in the industry, the balance of outbound and inbound foreign direct investment, and direct measures of cost and quality at industry level.

¹ Competitiveness at industry level is often a better indicator of the economic health of the nation than Competitiveness at firm level.

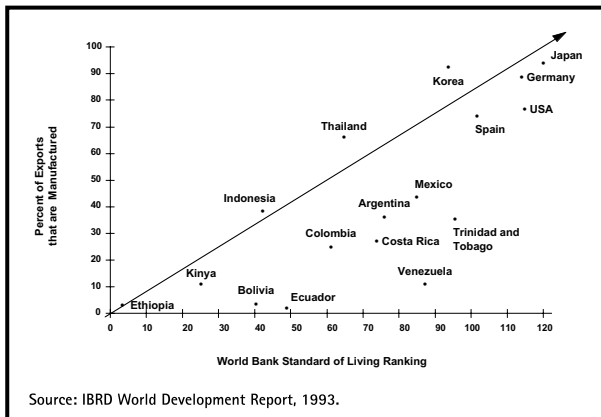
At the national level, competitiveness means citizens' ability to achieve a high, and constantly rising, standard of living. In most countries, the standard of living is determined by productivity, which deploys national resources and the output of the economy per unit of labor and/or capital employed. A high and rising standard of living for all nationals can be sustained only by the continuous improvement of productivity, either through achieving higher productivity in existing businesses or through successful entry into higher productivity businesses.

Figure 2.1: Prosperity Cycles



Competitiveness for a nation does not mean export success in every industry, or even in most industries. Clearly, no nation can sustain a trade surplus in every sector of the economy. Indeed, the very specialization required to achieve international success in some industries implies that other industries are less successful in terms of their export performance. Competitiveness in some industrial segments allows productivity improvement through higher specialization in the respective industries and segments; consequently exports volume will increase for that specific segment in which firms are relatively more productive than firms in other countries. As for industries that are relatively less productive, imports will be favored over domestic production. In all nations, even the most advanced and economically successful, substantial sectors of the economy are uncompetitive.

Figure 2.2: Relationship Between Manufactured Exports and Standard of Living, 1996



It is noteworthy that a country with low living standards depends mainly on the export of its natural resources and, despite the belief that it is on its way to prosperity, is in fact entering a vicious cycle. (See figure 2.1) This is driven by constant downward pressure on wages to keep costs at the lowest possible level as well as lower prices to meet fluctuating world prices for raw materials, thereby leading to narrower margins of profit and currency devaluation. Accordingly, it is difficult to enhance the productivity of employees or increase wages. Consequently, investors in these countries are hesitant about making investments. All these factors have adverse effects on the country triggering a vicious cycle.

Conversely, a country, which is exporting high value added products, is automatically improving the living standards of its people. (See figure 2.2) This condition is evident in the productive cycle that leads to prosperity. (See figure 2.1) It is driven by an increase in wages, as well as productivity, profits, and the subsequent rise

in shares of exports. This all reflects positively on the country's exchange rate, and consequently on the capability of introducing capital to absorb technology transfer. With the introduction of new technology, the productivity scale will proceed forward; thus, a productive cycle headed towards prosperity is formed.

A nation is not competitive if its labor costs are low, has a favorable exchange rate, or borrows its standard of living. Low wages can help a nation's firms penetrate international markets. Ultimately, however, the national goal should be the achievement of productivity that supports high wages. Competitiveness based exclusively on low wages will ultimately be self-limiting unless productivity is increased through the development of higher skill levels, incorporation of more advanced technology, or institutionalization of better management techniques. Similarly, the nation's goal should be productivity that supports a strong currency. Devaluation in order to gain export competitiveness provides advantages that are short-lived at best. Truly competitive nations are those whose firms compete successfully in international markets with a strong national currency. Finally, competitiveness refers to performance that is earned rather than borrowed. Performance that is fueled by deficit spending and borrowing, rather than by increases in productivity cannot be sustained indefinitely. Debts eventually have to be repaid. Unless the debt is related to investments that result in higher returns than the interest rate, the debt will ultimately lower, rather than raise, the nation's standard of living.

Finally, figure (2.3) demonstrates that there is a positive correlation between country competitiveness rankings and standards of living. Similarly, there is a positive correlation between country competitiveness rankings and foreign direct investment levels.

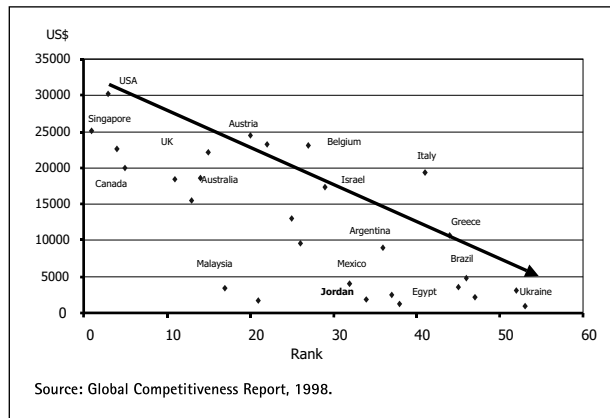


Figure 2.3: Countries Competitiveness Rankings and Standards of Living, 1998

The Importance of Competitiveness:

A nation's standard of living is increasingly dependent on the competitiveness of its firms. Competitiveness is vital if the nation's firms are to take advantage of the opportunities opened up in the international arena. World trade and foreign investment have grown faster than world output in the last several decades.

Competitiveness in industries subject to international trade and foreign direct investment can therefore provide substantial leverage for economic growth. This is especially true for small nations, where competitiveness can allow firms to overcome the limitations of their small home markets in order to achieve their maximum potential.

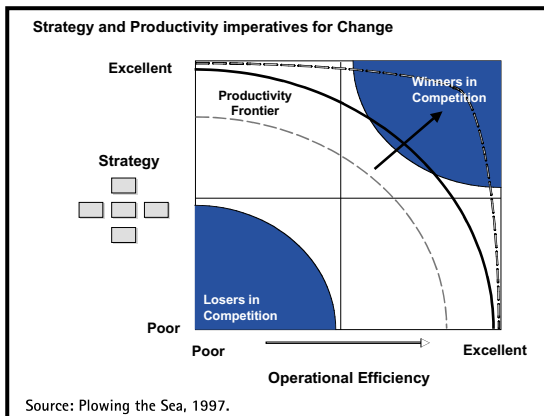
Competitiveness is also vital if a nation's firms are to guard against the threats posed by the international economy. International competition has become fiercer than ever before. Lower costs for transportation and communication, reduced trade barriers, and the spread of technology have fused to sharpen international competition. This competition has put unprecedented pressure on all national economic actors, including

management, labor, and government. In an environment in which the nation's firms must improve continually in order to meet the threat from an ever-widening array of competitors, the failure of management, labor, or government to rise up to the challenge can spell out disaster for the nation's firms.

There is a growing realization that nations cannot avoid the rigors of international competition. No nation is totally self-sufficient. Nations are linked to the international economy through trade in goods and services, through international capital flows, and through commodity prices. The experience of developing nations in the 1980s has indicated that attempts to isolate an economy can have lasting detrimental effects. In the modern world, nations can try to run away from the world economy, but they cannot hide. This is particularly true for small nations, in which the costs generated by economic isolation in terms of rent seeking and losses in efficiency can be substantial, and for developing nations, in which any loss of efficiency often means higher levels of poverty.

Eight Imperatives for Competitiveness:

Figure 2.4: Strategy and Productivity Imperatives for Change



In order to effect change (figure 2.4) we need to implement eight imperatives;

1. Defining and making explicit our moral goal: a high and rising standard of living.
2. Understanding that the world has changed dramatically: political boundaries have disappeared, costs of communications, transportation and learning are declining rapidly.
3. Acknowledging that we are over-dependent on the basic advantages of location, and the wealth of natural resources.
4. Understanding that wealth in the future is based on insight, sophisticated human capital, cultural attitudes advocating competition, learning, trust, cooperation and investment in intricate edges.
5. Understanding that economic growth and social equity is one and the same thing.
6. Understanding that competitiveness is productivity; and productivity is where we choose to compete and how we choose to compete.
7. Acknowledging that the government must do everything it can to assist the private sector, without impeding competition, invest in people, infrastructure, learning organizations and assure a non-defensive dialogue between the public and the private sectors.
8. Understanding that the private sector needs to invest more in identifying customer preferences, its position relative to its competition, possibilities of changing the distribution channels, and upgrading products.

Theoretical Framework

A. The National Diamond:

Figure (2.5) illustrating the diamond model is used to analyze the business environment of the selected cluster. It covers:

1. **Factor conditions (inputs):** The nation's status, in terms of its factors of production, such as skilled labor or infrastructure, which are paramount to compete in any given industry. To increase productivity, factor inputs must improve in efficiency, quality, and ultimately specialization in particular cluster areas. Specialized factors, in particular those integral to innovation and upgrading (e.g. a university specialized research institute), are not only necessary to attain high levels of productivity but tend to be less available, or tradable, from elsewhere.
2. **Demand conditions:** The nature of home-market demand for the respective product or service. Home demand for an industry is essential for global competitive advantage. It gives domestic firms a clearer and earlier picture of emerging buyer needs, and pressures firms to innovate, which in turn provides a competitive edge over foreign rivals in the global market.
3. **Related and supporting industries (the cluster):** The presence or absence in a nation of internationally competitive suppliers and other related industries. The presence of internationally competitive related and supporting industries helps create advantages for the core industry. In addition to providing cost-effective inputs in an efficient, rapid, and sometimes preferential way, close working relationships between industries promote innovation and upgrading to sustain the competitive advantage.
4. **Firm strategy and rivalry:** The conditions governing how firms are created, organized and managed within the nation, as well as the nature of domestic rivalry. The context for firm strategy and rivalry refers to the rules, incentives, and norms governing the type and intensity of local rivalry. Economies with low productivity are characterized by insignificant local rivalry. Most competition, if present at all, comes from imports. Local rivalry, if it occurs at all, involves imitation. Price is the sole competitive variable, and firms hold down wages in order to compete in local and foreign markets. Competition involves minimal investment.

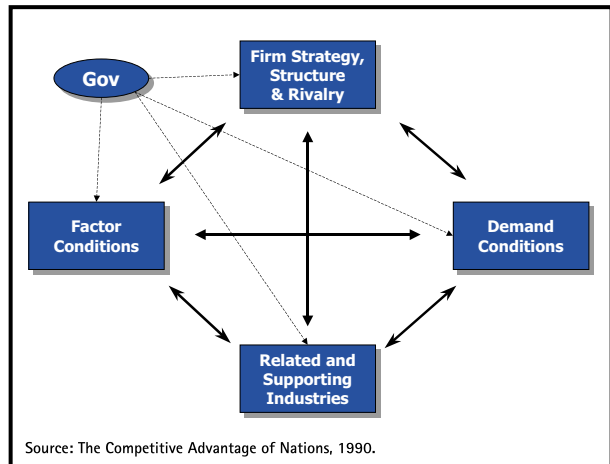


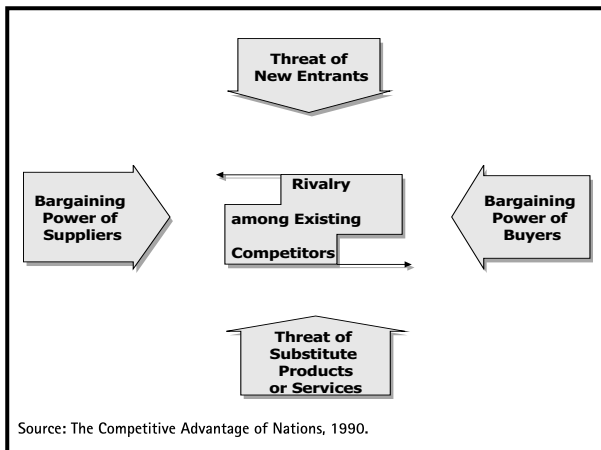
Figure 2.5: Diamond Model

5. **The role of the government:** The government ideally plays the role of a catalyst and challenger. It should encourage firms to raise their aspirations and move to higher levels of competitive performance, even though this process may be inherently unpleasant and difficult. The government cannot create competitive industries; only firms can do that. The government plays a role that is inherently partial and succeeds only when working in tandem with favorable underlying conditions in the diamond. Still the role of the government in transmitting and amplifying the force of the diamond is a powerful one. Government policies that succeed are those that create an environment in which firms can gain competitive advantage rather than those that involve the government directly in the process, except for nations, which are in the very beginning of their development process. It is an indirect rather than a direct role.

These determinants, taken individually and as a system, create a context in which a nation's firm is born and competes. The occurrence of any weakness in any one of the determinants constrains the industry's potential for upgrading and gaining competitive advantages.

B. Five Competitive Forces:

As can be seen in figure (2.6), five competitive forces determine industry profitability and attractiveness. These forces are important in shaping the prices that firms can charge, the costs they have to bear, and the required investment to compete in the industry. The nature of competition is embodied in:



1. **Threat of new entrants:** The threat posed by new entrants depends on the height of barriers to entry, such as brand loyalty, economies of scale, or the need to penetrate distribution channels. The threat of new entrants restricts the overall profit potential in the industry, by bringing in new capacity and seeking market share, thus pushing margins down.

2. **Threat of substitute products or services:** The availability of new substitutes forces a firm to lower its price and its profits or exit the market. The firm must therefore always strive to be a leader by making its product unique and difficult to copy.

3. **Bargaining power of suppliers:** The higher the bargaining power of the suppliers, the smaller the bargaining power of the firm. Because of such cases, the need arises to access international inputs, labor, and capital markets, and increase outsourcing. In addition, it is recommended that new technologies be used to replace supplier control or find other suppliers.

4. **Bargaining power of buyers:** The firm must avoid having just one or a few buyers. However, increasing

customer power and sophistication makes the customer demand better products from producers, which brings about positive gains to the firm and the economy. This requires also redefining the customer valuation system, more distribution channels, more exports and increasing the importance of international customers in the valuation of products, and greater dependence on complementary products.

5. *Rivalry among existing competitors:* The higher the number of rivals, the greater the competition. Fierce competitive rivalry erodes profits by requiring higher costs (e.g. advertising, sales expense, or research and development, or by passing on profits to customers in the form of lower prices). Therefore, the productivity of the firm must be high relevant to its competitors to ensure its survival.

C. Value Chain Analysis:

Competitive advantage grows out of the way firms organize and perform discrete activities. The activities performed when competing in a particular industry can be grouped into categories illustrated in figure (2.7). These activities can be divided broadly into primary activities and support activities. Primary activities are those involved in the ongoing production, marketing, delivery, and servicing of the product. Whereas support activities are those that provide purchased inputs, technology, human resources or overall infrastructure functions supporting the other activities. Every activity employs purchased inputs, human resources, some combination of technologies, and draws on firm infrastructure such as general management and finance. Activities vary in their importance vis-à-vis competitive advantages from industry to industry.

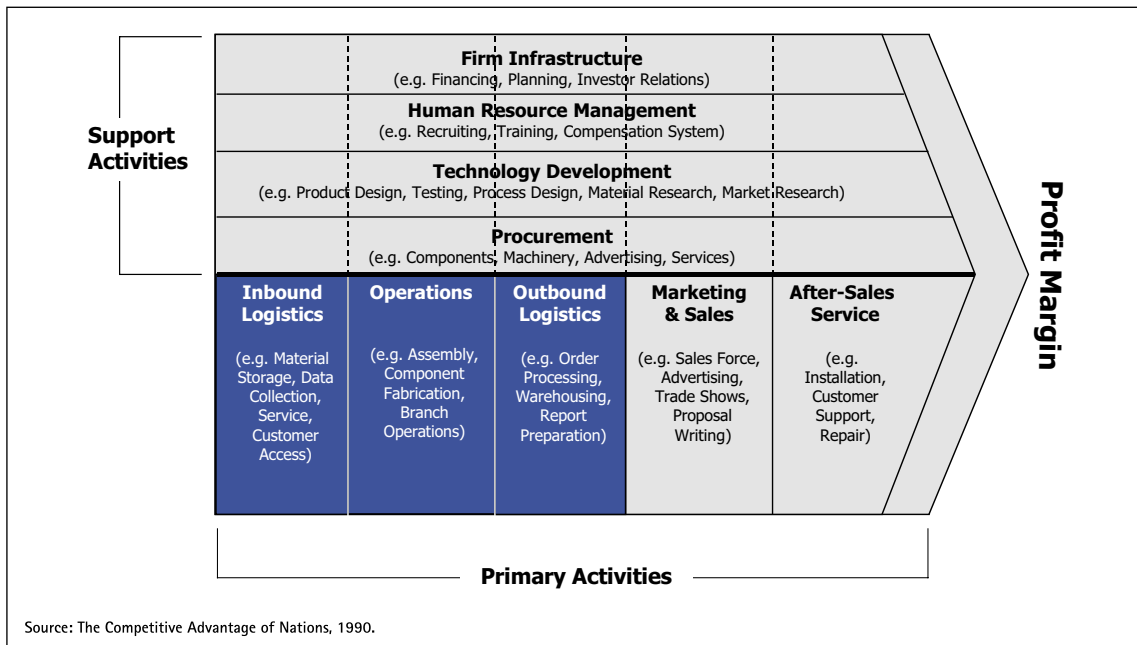


Figure 2.7: Value Chain

All activities contribute to buyer value. Hence, firms create value for their buyers through such activities. The ultimate value a firm creates is measured by the amount buyers are willing to pay for the product or service offered. A firm is profitable if this value exceeds the collective cost of performing the required activities. To gain competitive advantage over its rivals, a firm must either provide comparable buyer value, but perform activities more efficiently than its competitors (lower cost), or perform activities in a unique way that creates greater buyer value and commands a premium price (differentiation).

Firms gain competitive advantage by conceiving of new ways to conduct activities, employing new procedures, new technologies, or different inputs. A firm is more than the sum of its activities. The value chain of a firm is an interdependent system or network of activities, connected by linkages. Linkages occur when the way in which one activity is performed affects the cost or effectiveness of other activities. Linkages often create trade-offs in performing different activities that must be optimized. For example, a more costly product design, more expensive components, and more thorough inspection can reduce after-sale service costs. A firm must resolve such trade-offs, in accordance with its strategy, to achieve competitive advantage. Thus, strategy guides the way a firm performs individual activities and organizes its entire value chain.

Linkages also require that activities are coordinated. The coordination of linked activities reduces transaction costs, allows better information for control purposes, and substitutes costly operations in one action with less costly ones elsewhere. Coordinating linked activities is also an important way to reduce the time required to perform them, which is increasingly important to ensuring competitive advantage. Careful management of linkages can be a decisive source of competitive advantage.

However, it is noteworthy that creating competitive advantage requires the management of the value chain as a system rather than a collection of separate parts. Reconfiguring the value chain by relocating, reordering, regrouping, or even eliminating activities is often at the root of a major improvement in competitive position.

In brief, the value chain provides a tool for understanding the sources of cost advantage. A firm's cost position represents the sum of all costs incurred for performing all the required activities relative to competitors. Cost advantage can occur in any activity. Nevertheless, many managers reveal shortsightedness in viewing costs, and concentrate mostly on manufacturing. Successful cost leaders, however, are often low-cost product developers, low-cost marketers, and low-cost service providers. They draw cost advantage from the entire value chain. Gaining cost advantage usually requires optimizing the linkages among activities, as well as close coordination with suppliers and distribution channels. The value chain also exposes sources of differentiation.

D. Cluster Map (Related and Supporting Industries):

Clusters are geographic concentrations of interconnected firms and institutions in a particular field. Clusters encompass an array of linked industries and other entities that are important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, services, and providers of specialized infrastructure. Quite often, clusters also extend downstream to channels and customers and laterally to manufacturers of complementary products and to firms in industries related by skills, technologies, or

common inputs. Finally, many clusters include governmental and other institutions such as; universities, standards-setting agencies, think tanks, vocational training providers, and trades associations, which provide specialized training, education, information, research, and technical support.

The cluster map specifies all related and supporting elements of major industries. In addition, it illustrates the linkages between such elements, whether strong or weak, and indicates absent industries. The cluster analysis provides a pattern for understanding how major industries conduct their business and the way they compete, whilst simultaneously complementing and supporting one another.

Clusters encompass one facet of the diamond, but are best seen as a manifestation of the interactions between all four facets. Clusters affect competition in three broad ways: (1) by increasing the productivity of constituent firms or industries; (2) by increasing their capacity for innovation and thus the growth of productivity; and (3) by stimulating new business formation that supports innovation and expands the cluster. Many cluster advantages rest on external economies or spillovers across firms and industries of various sorts. A cluster is thus a system of interconnected firms and institutions whose entirety is more than the sum of its parts.

Normally clustering is revealed in the depth and breadth of clusters, most prominent in advanced economies. In developing economies, greater proportions of industries are locally based or consist largely of foreign subsidiaries serving the local market. Exporting industries tend to be resource-intensive, or those that produce labor-intensive products. Clusters in developing economies tend to be shallow and rely primarily on foreign components, services, and technology. Often firms are forced to integrate vertically. Not only may firms have to produce their own components but they may also have to generate back-up electricity, start their own schools, and build and operate infrastructure.

The development of well-functioning clusters is one of the essential steps in moving towards an advanced economy. Cluster formation in developing economies is impeded by local education and skill levels, weaknesses in technology, lack of access to capital, and poorly developed institutions. In addition, government policy usually works against cluster formation. Industrial location restrictions and subsidies spread firms out artificially. University and technical school curricula are centralized, and fail to meet cluster needs. Finally, the monopolistic behavior of firms protected from competition retards the cluster development.

Box 2.1: A Practical Guide to Analyzing a Cluster

- Prepare a preliminary cluster map (throughout your work, you will have to constantly update your cluster map, show linkages between elements – strong or weak – and mark absent elements).
- Find some theoretical background data (e.g. size of the cluster compared to other industries in Jordan or similar clusters in the region, etc).
- According to the cluster map, identify key persons for interviews (e.g. officials at ministries or trade associations, managers of major companies, key figures in the private and public sectors).
- Set up interviews. It is important that you know exactly what you are trying to find out in your interviews. It might be a good idea to prepare the main points of your presentation, take them with you and discuss them with the interviewee. Try to make the interviewees feel that they are part of the process. You should not ask your interviewees any “yes or no” questions, but rather establish a base for an on-going dialogue. Always keep in mind that, at a later stage, you want to establish a working group in your cluster and that many of the people you are interviewing will become part of this group. They will probably be more helpful, too, if they have the feeling that they are involved in the process of cluster crystallization.
- Do not be afraid of putting information on paper. Do not wait until you feel secure with everything you include in the presentation, instead: let it grow. Over time, you can always make corrections. It is usually easier to discuss the cluster if you have your ideas on paper. It will be easier for your counterpart to understand the goal of the interview.
- Work on the diamond of your cluster. It will be completed only by the end of your cluster analysis; but again, it will only grow by correcting and changing it constantly.
- Work on the presentation. A logical order of the presentation would be:
 - Theoretical background – data, numbers, graphs. Show where the cluster stands in Jordan, in the region, in the world. Show some trends of the last years. Include only relevant information (you should feel that it contributes to the understanding of the rest of the presentation)
 - Cluster map
 - Diamond
 - Current strategy (go into detail)
 - Key issues (difficulties, obstacles, etc.). These issues might sometimes be very trivial. That doesn't matter, just try to include all aspects.
 - Recommendations on three levels: government, industry and firm. Your recommendations might include: potential strategy choices, visions and objectives; ways for upgrading the cluster or specific existing products within the cluster. Show the ideal strategy. What are the possible ways forward (e.g. continue relying on comparative advantage instead of moving to competitive advantage).

Altogether remember:

- Details are interesting.
- Build stories – don't just put all kinds of data together, keep in mind that you want to tell something. Be aware of what you are trying to say.
- Avoid shortcuts – don't forget that these presentations should also be understood by people without insights into the Jordanian economy. Don't take for granted that people will be as smart as you are – most of them are not!
- Don't enter irrelevant slides.
- Add quotations (e.g. for current strategy or key issues).
- Always keep the whole picture of your presentation in mind. Start thinking about recommendations from the very start; don't build your presentation “step-by-step”, there is not enough time.

Source: JNCT practical experience