"Investigating why Kuwaiti Contractors have failed to penetrate the large and complex project market in Kuwait, despite having access to Technology/Knowledge Transfer through the use of Joint Ventures and Sub-Contracting."

By

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Abstract

Kuwait is currently experiencing economic boom due to high oil prices, leaving it in the fortunate position of surplus cash being available for major infrastructure and building developments. However, many of these large and complex projects can only be completed by transnational corporations (TNCs). The report investigates why, despite there having been TNC presence in Kuwait for decades, and that many projects have been undertaken through joint ventures and sub-contracting agreements, there still is very little competition from Kuwaiti contractors in the large and complex project market. The lack of managerial and technical capabilities of Kuwaiti contractors is highlighted as a major factor. The report goes on to consider why therefore little technology transfer has occurred between TNCs and Kuwaiti contractors, despite the potential for such transfer having long been available. A number of factors are indicated: The Kuwaiti government's role towards giving generous benefits to nationals is seen to reduce effort, which is vital for a technology transfer strategy. This is further compounded by the fact that Arab culture is typically risk averse, yet transfer technology requires significant investment. From the expatriate's perspective, current labour law, where long term job security is crucial for residency, discourages dissemination of their knowledge.[1]

Keywords: Technology Transfer, Government Policies, Culture, Incentives.

Word Count: 10962

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1. Background

1.1: Kuwait

(Map 1, http://www.cia.gov/cia/publications/factbook/, **(2006))**

With the Persian Gulf lying to the east of Kuwait, as shown in Map1, the country is locked by Saudi Arabia and Iraq. Kuwait has been ruled by the Al-Sabah dynasty since 1756, protected by the British between 1899 until independence in 1961 (www.amideast.org, 2006). Although ruled by the Al- Sabah family, there is a national assembly, where debates take place in parliament on major events or laws regarding Kuwait.

Before the Second World War, the chief economic activities that took place in the country were pearl trading, fishing and the local ports, which served as transport hubs. The decline in world trade in the 30s meant that the ports were not required and an economic decline began in Kuwait. It was only after the Second World War that the country struck oil, thereby changing the whole economic climate in Kuwait, turning it into a prosperous state with one of the highest income per capita, in the space of only a few years (www.amideast.org, 2006).

Today, Kuwait has 10% of the world's proven oil reserves and 1% of the world's gas reserves, thus making Kuwait a resource rich country (http://www.cia.gov/cia/publications/factbook/, 2006). After the deposition of Saddam Hussein and years of high oil prices, many of the Gulf States, in particular Kuwait, have surpluses of cash deposits for upgrading and developing their countries. Dubai is the most publicised example of this, where new infrastructure and development activity has gripped the city. Meanwhile, Kuwait too is preparing itself for large investments in the country. Data indicates that the nominal GDP growth in 2005 was

19% with predicted GDP growth in 2006 & 2007 of 10%. What is more, the upsurge in investments will be immensely beneficial for the Kuwaiti construction industry in particular. Such sustained growth is necessary to ensure continuity of work for local Kuwaiti contractors alongside transnational corporations (TNCs).

1.2. Kuwaiti Construction Sector

Over 98% of all Kuwaiti contractors are private or family run businesses. The Kuwaiti construction sector represents 2-3% of the Gross Domestic Product (GDP) of Kuwait (Kartam and Kartam, 2001), as most of the GDP is dominated by the oil sector. There are two categories of clients; the public and private sectors. Most of the work in the past decade has been through the public sector clients. All public sector contracts (Construction, Maintenance, Power Water and Electricity) are given to the lowest bidder through the Central Tender Committee (CTC). The CTC invites contractors depending on their Grade Classification; the largest contractors are classified as grade one and the smallest being classified as grade four. In total there are approximately 60-70 grade 1 & 2 contractors that undertake most of the larger value projects in the country (the oil and gas industry follows a very similar tendering procedure but uses different classifications, for example Grades X, Y and Z). Although the large firms generally have plenty of resources, as do some of the medium sized contractors, one of the major constraints facing the local contractors is the shortage of a high standard of the technical and expert abilities required for large and complex projects. This weakness is evident from the large number of foreign contractors operating in Kuwait, who have been operating and undertaking many of the large and complex projects for over three decades with very little competition from local contractors.

1.3. Kuwaiti Commercial and Tax Laws

Nevertheless, Kuwait law currently restricts trans-national contractors (TNC) from assuming any work without a local partner or agent. In fact, the most basic relationship between the TNC and a Kuwaiti contractor (KC) is known as the agency agreement. Here the KC acts as the interface between the client and the TNC, and the KC embarks on administrative work and ensures the payments are paid for the TNC at a percentage of the contract price, typically between 2%-4%.

At present there is no income and corporation tax on local individuals and companies. However, that is not the case for the trans-national corporations (TNC), where corporation tax can reach up to 55%. Furthermore a certain amount of their profit has to be re-invested back into the country (The Off-Set Programme). Fortunately, there is a tax incentive for trans-national corporations (TNC) to undertake a joint venture (JV) or a sub-contract agreement (SCA) as their corporation tax is reduced (particularly in a JV) and in such an agreement, the Off-Set Programme costs could be eliminated. There is not a fixed amount of tax deductions on the profit of the TNCs, because depending on the type of projects, the taxes deducted generally

can be negotiable. However, one can make the valid assumption that tax deductions on solely an agency agreement are considerably higher than on a JV or SCA. This should in turn encourage TNCs to work more closely with the KCs.

However, there has been significant discussion about changing the tax law regarding the corporation taxes on local firms and reducing the corporation tax on the TNCs, in order to make corporation taxes equal across the board. This will have the effect of placing the TNCs and the KCs on a more level playing field, in terms of financial incentives or bargaining power. The local firms may not have taxes that can be used as a form of leverage in bargaining power; therefore the industry becomes more competitive for locals firms. Yet KCs do have an advantage, in that when competing against TNCs, the KCs will still be awarded the contract as long as they are within 10% of the TNCs tender price.

1.4. Kuwaiti labour laws

Only in very rare cases can an expatriate obtain a permanent residency or become a Kuwaiti national. The visa is only a work permit sponsored by the employees' companies that they work for. Thus if an employee loses his job visa he/she must leave the country within a stated period. This does not encourage skilled foreign workers to share their knowledge with fellow employees since for them, knowledge may be well considered to be a tool for protecting their residency.

1.5. Kuwaiti benefits for nationals

The government has sponsored many social welfare, public works and development plans; all financed with oil and investment revenues. Among the benefits for Kuwaiti citizens are retirement income, marriage bonuses, housing loans, virtually guaranteed employment, free medical services, personal loans are written off and education at all levels. Foreign nationals residing in Kuwait do not have access to these welfare services. The right to own stock in publicly traded companies, real estate, and banks or a majority interest in a business is all limited to Kuwaiti citizens, and citizens of GCC states under limited circumstances. (http://www.state.gov)

1.6. The Research Objective

Although Kuwait is currently experiencing an economic boom, unfortunately, from the perspective of the local contractor (problem owner), the local construction industry is not maximizing this opportunity. The sector often finds itself dwarfed by TNCs when attempting to bid for large and complex projects.

A key factor in the inability of the local construction industry to compete with TNCs in this field is the lack of technical and management capabilities in the industry. This is despite the fact that TNCs have been in Kuwait for many decades, yet knowledge transfer has not been effective. If local construction firms had been able to use JVs and SCAs as a mechanism for harnessing knowledge/technology transfer, they would now be in a far better position to gain a competitive advantage and to truly

benefit from the growth that is available from upbeat market conditions. However it is clear they have not yet been able to transfer these capabilities. This report investigates why this has been the case and how the situation could potentially be improved.

Research objectives will seek therefore to address the following questions concerning the lack of transfer of these capabilities: **Firstly, is it purely a Kuwaiti governmental problem that there is lack of technology transfer? Or is the problem deeper than that, in the sense there is a cultural barrier towards risks, from the Kuwaiti business owner's perspective, which will then impede technology transfer? From the expatriates view, have Kuwaiti labour/commercial laws been the primary impediment on the dissemination of knowledge transferred, since dissemination could lead to the feeling of job insecurity?**

Initially, the report would have concentrated on the growth of the construction firm using joint ventures and sub-contracting arrangements with TNCs to transfer technology. However, after doing the interviews in Kuwait, there was a fundamental problem that there might not be the correct environment for any effective technology transfer.

This research project is not aimed solely at the Kuwaiti construction industry, but instead, it is hoped other countries of the Gulf Co-operation Council (GCC) (including UAE, Saudi Arabia, Bahrain, Qatar and Oman), countries which are similar politically, culturally and economically, will also benefit from its findings.

1.7. Methodology

The primary sources were obtained through the use of interviews. A semi-structured interview approach was used as the primary information source since the problem that existed was in Kuwait, and the opportunity arose to interview employees who were working there for a minimum period of three years in an informal manner. For TNC's a more structured questionnaire was used, since location and time constrained the possibility of face-to-face interviews.

Secondary sources were obtained from journals and books. Most of the literature came from research on technology transfer, labour economics, organisational behaviour and Singapore.

1.8. Research Outline

The second section consists of a literature review of knowledge transfer and labour economic incentive theory, after which the third section provides an analysis of the experiences of Singapore - a country which has gone through a similar process of upgrading the competencies of its construction sector to enable it to compete with TNCs. The fourth section discusses the results of interviews conducted with KCs and TNCs and evaluates any correlation with the literature in previous sections. The fifth section will go on to develop a framework suggesting how the local construction industry may establish a more effective knowledge transfer in Kuwait, before proceeding to concluding the report.

2. Literature Review

The literature review will be split into two main sections; firstly, it will discuss the issues regarding technology and knowledge transfer which will include how technology/knowledge is transferred and subsequently dissipated within the industry. Secondly, the literature review will go on to discuss the issues of labour economics regarding incentives, work productivity and innovation. These two areas of literature may seem different but the literature will go on to show their strong correlation.

2.1. Technology/ Knowledge

Knowledge has recently come to be seen by many as key to organisational growth and competitiveness. Penrose (1995) writes that "*the firm's rate of growth is limited by the growth of knowledge within it*". Furthermore, Argote and Ingram (2000) and Blumentritt and Johnston (1999) describe how knowledge in a firm is the basis of competitive advantage, and Lane et al. (2001) state that organisational learning is the key to organisational survival. Steensma and Lyles (2000) support the knowledge based perspective which combines the resource-based view, organisational learning and organisational competencies. They describe the knowledge based perspective as " *at the core of the view, is the belief that an organisation's idiosyncratic know-how and its ability to replicate and exploit knowledge are fundamentally responsible for organisational success.*" Conner and Prahald (1996) take this view a step further by stating that the knowledge-based view of the firm focuses on knowledge as the most strategically significant resource of the firm. Collinson (1999) says that learning gives the firm a certain set of capabilities that are suited to a particular operating environment, sometimes providing, at least temporarily, advantages over other firms. He goes on to describe the advantages of such an approach, firstly, that it improves the knowledge and expertise of employees, and secondly, it better motivates and empowers employees at different levels to use their knowledge to pursue a firm's objectives.

Knowledge transfer can also be seen to play an important role in the long term growth of a national economy. Although Kuwait is not currently a fully liberalised trading state it does posses the resources to attract TNCs, due to its abundant resources. Thirwall (2006) describes three ways in which trade liberalisation may influence the long-term growth rate of an economy. Firstly, more trade encourages investment which confers externalities on an economy particularly if the investment goods come from abroad. Secondly, greater trade means larger volume of output and greater scope for specialisation, leading to learning by doing. Finally, trade leads to technology transfer and the prospect of faster total productivity growth. Thirwall's principles can be altered and applied to the growth and development of the construction industry in Kuwait, through enabling KCs to be involved in the large and complex projects markets. In upgrading the construction industry, the "technical quality of inputs" (Ganesan, 2006)) are upgraded and thus the output product/service also becomes upgraded.

TNCs have the capabilities of undertaking complex projects in Kuwait and are able to bring their technologies/knowledge into the construction industry. However in order for the Kuwaiti construction industry to be upgraded, there has to be the absorptive capacity in the industry to use such new technology for future projects.

Although G.C.C. contractors do not appear to have accumulated knowledge over the decades and do not currently have all the necessary foundations of developing knowledge, such a situation is not unique. Pitelis (2002) writes about the 'socialisation of innovation where firms all float in a sea of knowledge'. Nelson (1992) calls seas of knowledge the "*public element of technology*" and illustrates four aspects: "*inter-company knowledge flows have increased, there is a growing role of governments in knowledge development and transfers, the importance of science for technology has risen and there has been a tendency towards more rapid codification and spreading of professional and scientific communities*". There is clearly an abundance of knowledge that could be obtained from the market place, so one must ask why this knowledge is not being absorbed by the Kuwaiti construction industry?

Thirwall and Nelson emphasise the importance of technology transfer in being able to obtain knowledge within a firm. Therefore technology transfer is one of the methods that may enhance the development of the Kuwaiti construction industry. Dichter et al. (1988, cited in Carillo 1994) argued that T.T. can be defined as the "*process whereby knowledge in some of the form is transferred from a person or organisation who posses it (the transferor) to another person or organisation who arranges to receive it (the transferee).*"

There are two types of technology/ knowledge, firstly explicit knowledge and secondly tacit knowledge. Explicit knowledge can be formally articulated and is easily documented, transferred and shared (as mentioned by Nelson), but tacit knowledge is difficult to articulate, is gained through experience and is very difficult to codify and transfer. Tacit knowledge, which was first applied to business by Nonaka and Takeuchi (1995), is best transferred through the interaction of people, and thus requires a strong personal tie (Riusala and Suutari, 2004). The types of explicit and tacit knowledge associated with construction are typically: "*design knowledge and skills, embodied technologies in building materials and components, construction techniques and equipment, organisation know-how and management systems*" (Ganeson, 2006).

There are various mechanisms for T.T. such as: licencing, patents, copyright, franchising, mergers& acquisitions, joint ventures (J.V.), sub-contracting arrangements (SCA) and partnerships (Le Goc, 2002). As illustrated in the background chapter, this report is based on J.V and S.C.A. because of government regulations that state foreign firms may only enter a market by partnering with a domestic individual or company (Le Goc, 2002). In a J.V. the local firm will have more involvement in the project than in an S.C.A. but both types of agreement however present similar opportunities and constraints (Ganeson 2006). A successful T.T. in construction requires "*staff from both organisations to share their knowledge and responsibility for the execution of assigned tasks in both design and construction*" (Ganeson and Devapriya, 2002). These sorts of characteristics are particularly evident in joint ventures as they "*tend to promote intimate collaboration between the parties*"

(Le Goc, 2002). Furthermore Le Goc (2002) continues, stating that "*joint ventures are unique in that they involve contributions from each of the participants.*" Through intimate collaboration of different organisations, the transfer of tacit knowledge becomes more successful.

The sign of a successful T.T is a strong collaborative relationship, so the nature of the relationship can also have an adverse effect on its effectiveness. Riusala and Suutari (2004) describe Kostova's (1999) three factors that can affect T.T. on an international level. Firstly, *relational context* - if the transferee and the receiver of the technology have a bad relationship then the T.T. will be unsuccessful. Secondly, *organisational culture* towards "learning, innovation and change" is extremely important in the effectiveness of T.T., therefore if the local culture is unfavourable towards change then the likelihood will be that T.T will not succeed. Finally, the *social context* describes how a nation's culture and laws affect the success of T.T. Effecting factors include laws and rules, frames of thought and values and norms. Although two of the three contexts might be suitable, if the third is not then the whole T.T could fail.

Assuming that T.T. is successful, the next step is that there must be the capacity to absorb the new knowledge in the firms, in order for the whole industry to develop. Ruisala and Suutari's (2004) results indicated that in the tacit knowledge transfer, communication is very important and found that rigid communication and authoritative style management stops the spread of knowledge in a firm. Cohen (2004) states that recipients of technology/knowledge are required to devote resources in adapting, assimilating and improving upon original technology ;knowledge adopted from the developed world does nor necessarily fully fit the developing worlds working environment. This obviously means the receiver is taking a risk in investing resources into the applicability of the product into the local market. Cohen (2004) gives three factors on the effectiveness of absorption. Firstly, the technology must be accepted in that mentally by the local people and physically with the environment. Secondly, the motivation to make the technology succeed therefore this includes appropriate government policies such as regulation for incentives for development. Finally, ability to support the technology locally, in that local people being able to adapt technologies to the local environment. In a more detailed table Kakabadse et al. (2001) describes four categories of knowledge barriers across Europe, as shown in **Table 1** below.

People:
Inertia to Change
Too Busy, no time to learn
No discipline to act
Motivation
Constant Staff Turnover
Transferring Knowledge to New People
Teaching Older Employees New Ideas
Management:
The fear of giving up power
The difficulties of passing on power
Challenging traditional company style
Imposed Constraints
Lack of understanding about formal approaches
Structure:
Inflexible Company Structures
Fragmented Organisations
Functional Silos
Failure to invest in systems
Knowledge:
Extracting knowledge
Categorising knowledge
Rewarding knowledge
Understanding knowledge management
Sharing between key knowledge groups
Making knowledge widely available.

Table 1: Four Categories to Knowledge Barriers (Kakabadse et al. (2001))

2.2. Personnel Economics

At this point it seems sensible to examine the relevance of personnel economics to knowledge transfer since the core of transfer knowledge is people. Personnel economics applies labour economic principles and relates them to the business environment. Personnel economics is defined as "the use of economics to understand the internal workings of the firm" (Lazear 1999). An important part of personnel economics is the study of incentive based pay as a motivation tool to increase productivity of an employee, or vice versa, where too much pay can have the adverse effect. There has been a debate between economists, particularly between neo-classical and behaviourist economists and psychologists as to the effectiveness of incentive based pay. The need to use both economic perspectives is that many of the business owners' posses not only some of the profit-seeking business attributes, but also those of working proprietors. Therefore the need to look at both the behaviour of the firm and the behaviour of the individual worker is a valid approach.

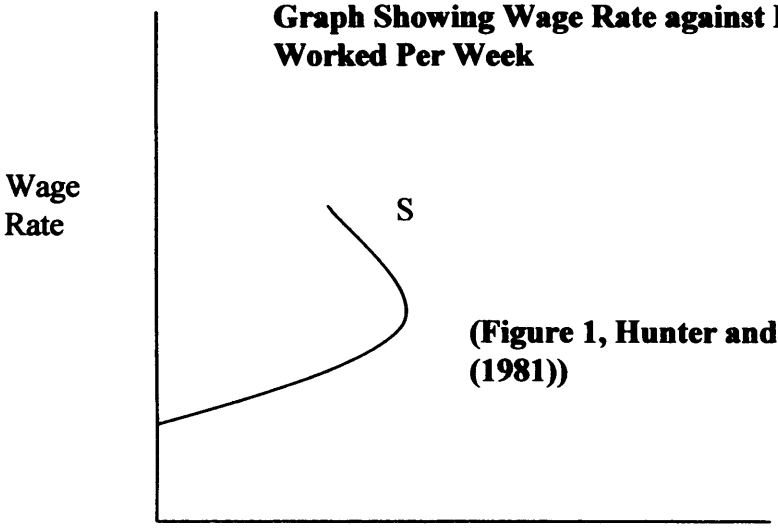
The assumption made by this paper is that employees in Kuwaiti contractors and contractors around the world have similar salary structures, but the difference comes from national commercial and labour laws.

Penrose (1995) states "*there are many businessmen, and very efficient ones too, who are not trying always to make more profits if to do so would involve them in increased effort, risk or investment. In many industries and areas there are a considerable number of firms which have been operating successfully for several decades under competent and even imaginative management, but have refrained from taking full advantage of opportunities for expansion. Many of these are family firms whose owners have been content with comfortable profits and have been unwilling to exert themselves to make more money.*" This statement seems to correlate with the construction industry in Kuwait, as mentioned in the background. There does not seem to be the necessary incentive to motivate many business owners (Kuwaiti nationals) to go for growth in the uncompetitive large and complex project market, because of extra risk and effort incurred by having the required management and technical skills. Baket et al. (1988) state that incentives determine to a large extent how individuals inside an organisation behave; this can be moulded from the perspective of the government. If we assume that the government is the organisation and the construction firms are individuals, then government policies will affect the way these firms behave.

From the perspective of the Kuwaiti national, if we use Penrose's (1995) above statement, we assume that to expand into the large and complex project market requires more effort. Borjas (2000) states that there are usually three actors in labour economics: Government, Firm and workers. It is assumed that workers seek to maximize their well being and that firms maximise profits. Government influences the decision of workers and firms by imposing taxes and granting subsidies, and by regulating the rules in the labour market (Borjas, 2000). The business owner of a construction firm will have a preference on the time he/she wishes to work and spend on leisure. The business owner will need to earn £X in order to have Y hours of

leisure. Thus he/she will put in the required effort in order to gain the £X. However, if the government gives out benefits, then the business owner will need to earn less from the business because of the non-employment income he/she is receiving from the government. This means that the business owner can be less productive and still have the same leisure time. The **figure 1** taken from Hunter and Mulvey (1981) below illustrates the supply of hours worked per week depending on the wage of the employee. **Figure 1** shows how beyond a certain income level the effort begins to decrease. If using the principle from **figure 1** then it becomes apparent that if the Kuwaiti government were to reduce the benefits it gives its citizens, it will lower the wage rate thus giving citizens an incentive to work for more hours a week to reach the required living standards.

Graph Showing Wage Rate against Hours Worked Per Week



(Figure 1, Hunter and Mulvey (1981))

Penrose (1995) also suggested that risk might prohibit a business-owner from aiming for business growth. If risk can be averted away from the business-owner to another party (for example the government), then this will increase the chance for the business-owner to attempt growth strategy. The government can take on this risk and increase such incentive by giving subsidies. The subsidies will help to increase production and consumption of some goods and services (Allsopp, 1995); therefore if subsidies are aimed at helping to develop the management and technological capabilities of the local construction sector they will be more able to participate in more complex projects.

From the view of the expatriates working for Kuwaiti firms, existing labour laws can often result in them not having a sense of belonging within the country, thus often causing uncertainty in terms of job security. In turn, this could stop the dissipation of the knowledge from the knowledge holder (since often expatriates are knowledge holders within a Kuwaiti company). Such a role is called "knowledge gatekeeper", where the person has control on the movement of knowledge. From the literature review above, firms with superior knowledge seem to have a competitive advantage, thus the same principle can be applied to people within

the firm. Yet Greenberg and Baron (2003) state ".... *There is a tendency for employees to be afraid of expressing their ideas (for the fear of giving people in other parts of the company an advantage over them)*".

Maslow, a clinical psychologist, writes about the "*need hierarchy theory*". The theory argues that unless people get their needs met on the job, they will only function as effectively as they can (Greenberg and Baron 2003). **Figure 2** (Edited from Greenberg and Baron 2003) illustrates the hierarchy of needs, where the most basic needs are physiological needs and the most advanced need is the self-actualisation need.

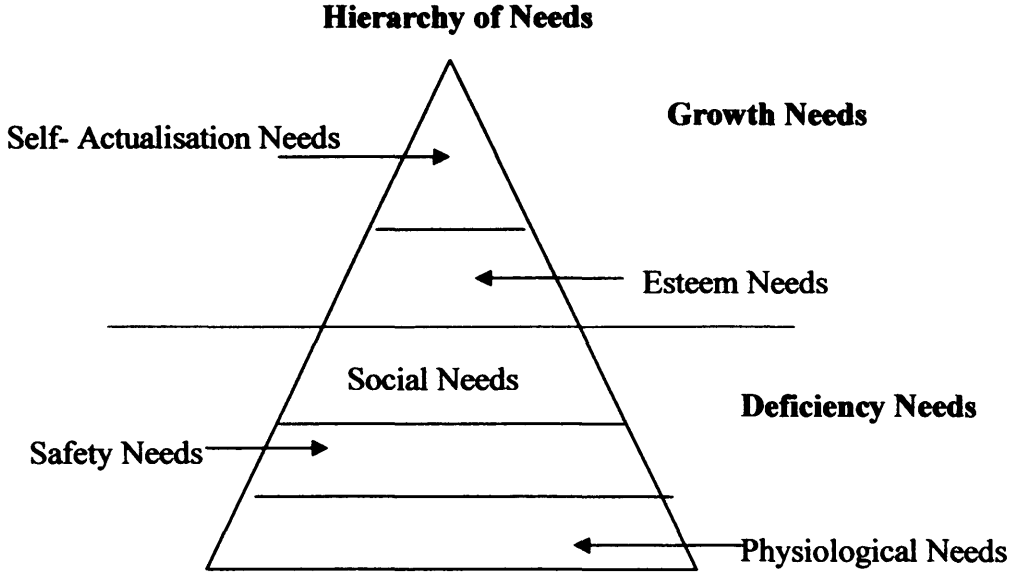


Figure 2 (Edited from Greenberg & Baron (2003))

The two basic needs, physiological and safety needs, can summarized as the needs for food, air, water, shelter, a secure environment and no threat of physical and psychological harm. If people feel that by giving away information, there is chances of being overtaken by others, and in turn could lead to job loss, then there is no motivation to exchange ideas. This point becomes even worse or exaggerated when a loss of job means that you may have to leave the country because your permit to stay is a work permit (the fate suffered by expatriates). If the country of work has no social benefits and very temporary visa durations, then the simplest needs such as a secure environment and shelter become under threat. This means that people are motivated to keep their jobs through not sharing knowledge, as losing it is very costly.

Further developing from the human behaviour aspect to the effects of motivation in undertaking T.T., Hofstede's four cultural values have to be discussed. Hofstede illustrates four cultural values that countries possess; uncertainty avoidance - cultural tolerance of uncertainty; power distance - the tendency to accept hierarchy or inequalities across individuals; masculinity - the cultural tendency to value assertiveness and personal achievement over interpersonal relationships and nurturing behaviours; and individualism - the cultural tendency to value the individual over the collective (Barr and Glynn, 2004). In Barr and Glynn's research paper, they found

that uncertainty avoidance had a larger impact then the other values on the issue of controllability and its effects on interpreting strategic issues. This means that in order to ensure the sense of control, societal structures and rules are enforced to create controllability. It seems that even when the correct incentives to encourage risk taking are in place, cultural characteristics may stop the decision maker from pushing their risk boundaries.

2.3. Summary

The foundation to any technology transfer involves placing humans at the core of the T.T. mechanism. This means that the way the employees or the business-owners behave will impact on the effectiveness of the T.T. The most obvious example of this is if the business owner believes that there is too much financial risk in developing an effective T.T. strategy, then government subsidies could increase incentive to undertake T.T. Furthermore, dissemination of knowledge, particularly tacit knowledge, requires people to be secure with sharing knowledge. The correct incentives are essential to encourage the feeling of security.

3. Singapore Construction Industry Development & Joint Venture Experience with TNCs

Currently, Singapore is an open, land-scarce, high per-capita income economy in Asia (Cuervo and Pheng, 2003). One of the main reason for choosing Singapore as a comparative case study with the development of the Kuwaiti construction industry is that both countries became independent from the British at similar times, their cultural dimensions (Hofstede) are similar, and both countries have small populations (Singapore has 4 million and Kuwait has 2.8 million people). However, the two countries' construction management and technical capacities vary enormously.

Singapore gained independence in 1959 and has been ruled by the People's Action Party (PAP). Some analysts regard Singapore as a single government state, similar to Kuwait which is ruled by the royal family.

Much like Kuwait, which has Arabs with different ethnic origins, Singapore has different Asian ethnicities that all live in a small country where the Chinese ethnicity dominates around 75% of the population and the Malay nearing 13% (Wilkepedia, 2006). The biggest difference between the two countries is that Kuwait is nearly all Muslim, while in Singapore there are a few big groups of different religious backgrounds.

Economically Singapore does not have the natural resources that Kuwait possesses, but however currently 30% of GDP is contributed by its diverse manufacturing industry. Both countries have unemployment rates of below 3%, and the GDP per capita in 2005 for Singapore and Kuwait was $30,000 and $20,000 respectively. Both countries have experienced strong GDP growth in the past five years, and the GDP growth for Kuwait and Singapore is 10% and 7% respectively.

In Singapore there hasn't ever been a protectionist rule, instead the country preferred to maintain their free market policies. There a TNC is not obliged to partner a local contractor, however like Kuwait, a TNC/ Singaporean company joint venture will have a price advantage against a purely TNC bid (Sridharan, 1997). Furthermore, the population has not been given generous "social" benefits as the Kuwaiti government did with its people.

What constitutes a very large part of a nation's culture are the values embedded in the people. Table 2, below illustrates different cultural values researched by Hofstede (2001, 2003). Culturally, relative to Hofstede cultural dimensions, differences between Kuwait and Singapore are slight, except on the uncertainty avoidance dimension. The uncertainty-avoidance factor is a part of culture that can be defined as "*the extent to which the members of a culture feel threatened by uncertain or unknown situations*" (Hofstede, 2003). Thus from table 2 below, this shows that Singapore relative to the G.C.C. is much more willing to go to the unknown and thus is more likely to be more innovative and take more risk to find out new discoveries or products. The Japanese for example, who have a very high score, are more likely to develop the product once it has initially been approved (Hofstede, 2003). However, the GCC countries did not take the Japanese approach, preferring instead to remain

idle. Returning to Singapore, it is interesting to note that within the Chinese and Malay communities, there is a difference in the success of the different ethnicities in their business performances thus there incomes, where the Chinese are more successful (Hefner, 1998). A quote taken from Hefner (1998), states *"But after 50 years I am still not rich, unlike some Chinese after one or two years. They are brave, they take on a job beyond their means, and if they fail they go bankrupt, but if they pull through by borrowing here and there, they get very rich. We Malays guard our name first, but we never get rich."*

Value Dimension	G.C.C	Singapore	Japan	UK
Power Distance	80	74	54	35
Masculinity	53	48	95	66
Uncertainty Avoidance	68	8	92	35
Individualism	38	20	46	89

Table 2 (Hofstede's Cultural Dimensions, 2001 & 2003)

Table 3 (taken from Hodgetts et al., 2006), shows the differences in management styles between the West (including Singapore as they have adapted to Western management techniques over the past generation (Hodgetts et al., 2006)) and Middle Eastern Management styles. To sum up the table below, Middle Eastern communication style is typically very formal and rigid, people are told what to do rather then using their initiative (this avoids including employees in decision making thus does not expose them to risk) and the approach to work is very tribal i.e. family and close friend contacts are used extensively. The policy of most of the Kuwaiti nationals being employed in the public sector is a very tribal act, where they look after their group first irrespective of their capabilities. This is very important to note as in the analysis of the questionnaires these aspects play a big part in technology transfer distribution.

Management Styles

Management Dimensions	Middle Eastern Management	Western Management
Leadership	Highly authoritarian tone, rigid instructions. Too many management directives.	Less emphasis on leader's personality, considerable weight on leader's style and performance.
Organizational Structures	Highly bureaucratic, over-centralized, with power and authority at the top. Vague relationships. Ambiguous and unpredictable organization environments.	Less bureaucratic, more delegation of authority. Relatively decentralized structure.
Decision Making	Ad hoc planning, decisions made at the highest level of management. Unwillingness to take high risk inherent in decision-making.	Sophisticated planning techniques, modern tools of decision making, elaborate management information systems.
Performance Evaluation & Control	Informal control mechanisms, routine checks on performance. Lack of vigorous performance evaluation systems.	Fairly advanced control systems focusing on cost reduction and organizational effectiveness.
Personnel Policies	Heavy reliance on personnel contacts and getting individuals from the right "social origin" to fill major positions.	Sound personnel management policies. Candidates' qualifications are usually the basis of selection basis.
Communication	The tone depends on the communicants. Social position, power, and family influence are ever-present factors. Chain of command must be followed rigidly. People relate to each other tightly and specifically. Friendships are intense and binding.	Stress usually on equality and minimization of difference. People relate to each other loosely and generally. Friendships not intense and binding.

(Table 3, Hodgetts et al., (2006), shows the differences in management styles)

However, the biggest difference between Singapore and Kuwait is the strategy that the countries took in industrialisation. Initially, both countries attracted foreign TNCs into their countries in different ways. Kuwait had the capital, through its oil resources, to pay for TNCs to come and build Kuwait's civil and oil & gas infrastructure. Singapore did not have that luxury thus it had to create a business environment that would make Singapore attractive to foreign direct investment. Singapore established the Economic Development Board (EDB) in 1961 in order to assist TNCs with their operations in Singapore (Yeung, 1998). Singapore also implemented strategies such as incentive schemes and industrial estates that provided cheap operating costs for TNCs. But the government could not just allow TNCs to dominate the whole its construction industry and it realised the vulnerability of the penetration of foreign capital in the Singaporean economy after the mid 1980's global recession, thus the government established government -linked corporations (GLCs) in order to take control of some of the domestic industry and begin to export its services to other countries (Yeung, 1998).

However, to export its services abroad the Singaporean firms have had to have had a competitive advantage against other TNCs. Following the recession, the Singaporean government came up with strategies to manage their economy which led to developing their local industries. The construction industry was one of the industries to be aided in development. Since 1986, "*the government effort to support he construction industry development has included tax incentives, outright subsidies and information sourcing*" (Dulaimi and Hwa, 2001). The Ministry of Trade and Industry began helping 100 promising local enterprises to develop, in order to build up the core are of competences in manpower, technology and market information. The Ministry of Finance began to help develop the management team (Dulaimi and Hwa, 2001). Furthermore, to help private contractors export their services, the GLCs joined the privately-owned Singaporean contractors in consortiums to begin tendering and investing abroad. The government assisted programmes helped greatly develop the local Singaporean contractors. In 1986 the top domestic turnover of a local firm was S$200m and, by 1997 it reached S$800m (Ofori and Chan, 2000). In 1992 the average turnover of the top 10 firms was S$100 and by 1997 the turnover reached S$320 (Ofori and Chan, 2000). The amount of projects undertaken abroad by Singaporean contractors in 1984 was S$118, increasing to S$1069 in 1990 and by 19995 it reached S$1600 (Ofori and Chan, 2000). In 2003 a survey by Cuervo and Pheng (2003) showed Singaporean contractors had a competitive advantage over other Southeast Asian Nations with their superior performance in firstly information, technology & knowledge; secondly their management and organisational capability; and finally their firm's name and reputation. The research showed that the capacity of the Singaporean construction industry has increased and is now able to compete against TNCs in the domestic and international construction markets.

Furthermore, in 1999, the Singaporean Government started a new initiative where they believe Singapore can gain competitive advantage globally by increasing its local knowledge capacity and turning itself into the knowledge economy. The government is currently spearheading a programme called the "21st Century" across different industries. The Construction 21 (C21) programme is aiming at creating a world class builder in the knowledge age (Ofori, 2002). The aim is to change the current labour intensive, low cost (through low wages), segregated activities construction industry, into a knowledge industry with low costs that come from high productivity and wealth of knowledge. They seek an industry that has a strong global presence and that can further develop the country's outward foreign direct investment (Ofori, 2003). Although there has not yet been research on the success of the C21 plan, there is evidence that it has been effective. Singaporean contractors not only operate in Asia but have also begun to invest in developments across the Middle East and now run power plants in the UK. Thus the aim of the government to develop the construction industry to a global player can generally be agreed to have been a success, primarily through the implementation of the correct incentives for development.

Although the government played an influential role in the development of the Singaporean construction industry by attracting TNCs through foreign direct investment and the use of preferential bidding procedures with TNC/Singaporean contractor JV, there were lessons learnt from the experiences of working with TNCs. As this report is exploring the link between the T.T. using J.V.s and S.C.A it is important to note the results obtained from the research done by Sridharan (1997) on

the experience of the J.Vs during the execution of the Singapore Mass Rapid Transit project during 1984-1989. Many academics such as Ofori and Chan have used this project to reference joint venture analysis in the region. The research done on the J.V.s involved seven European-Singapore J.V.s, six Japanese- Singapore J.V.s and three newly industrialised countries -Singapore J.V.s. The main conclusions of the research were firstly that the successful J.V.s tended to have both parties exchanging knowledge /technology with each other, rather than being a one sided transfer. Secondly, when TNCs undertook a thorough screening process the J.V. tended to be more successful. Thirdly, moderate management control seemed to be more successful then too much or too little control by the TNC. Fourthly, building of trust was found to be very important and the Japanese J.V. partner showed much more commitment than the rest, thus the Singaporean firm was much more cooperative. This could be strongly related to their extremely high uncertainty avoidance score of the Japanese - because the Singaporean firms have more experience and knowledge in their own markets, the Japanese take their words more seriously thus avoiding unknown territories. Fifthly, cultural differences were found to be a very important factor as they can lead to conflict, communication problems and an unsuccessful J.V.

To summarize the Singaporean experience, a combination of a learning culture due to the lack of fear of the unknown, the use of J.V & S.C.A's and proactive government policies were vital factors in making the Singaporean economy self-sustaining and transforming the construction industry into a global player. Importantly, the Singaporean government realised the vulnerability of its local economy to global factors due to heavy foreign direct investment from TNCs. The government then took the initiative to manage its economy to become self-standing economy able to compete on the global scale.

4. Interview Summary & Evaluation

A semi-structured interview approach was used as the primary information source since the problem that existed was in Kuwait, and the opportunity arose to interview employees who were working there for a minimum period of three years in an informal manner. This seemed therefore the most appropriate method to use for the collection of data. For TNC's a more structured questionnaire was used, since location and time constrained the possibility of face-to-face interviews.

As discussed in the Background section, the semi-structured interview introduced a more fundamental problem for investigation than simply discussing the need for use of joint ventures and subcontracting arrangements to transfer knowledge to enable Kuwaiti companies to penetrate the large and complex project market. The research suggested that a cultural and legislative shift was also required to enable a progressive and developing construction industry within Kuwait.

The interviews were structured in a manner in which two sets of questionnaires were prepared, one for employees working for KCs and a different set of questions for employees working in TNCs. The purpose for setting up the questions in such a way, as shown in Appendix A, was firstly to find out the issues encountered by employees in Kuwait and secondly to see if there are overlapping views coming from TNCs. By seeing things from the TNCs perspective one can determine and discuss the problems they typically face, thus hopefully aiding in the creation of part of the framework to help improve the technical and managerial competence of the Kuwaiti construction industry.

Interviews and discussions took place with three KCs, of which there were two civil engineering contractors and one oil & gas company. The civil engineering companies were grade two listed and the oil & gas firm was of a similar grade but using the oil & gas industry classifications. Interviews took place with senior management in the companies and with personnel who have frequent dealings with TNCs. Many of the interviewees were of Middle Eastern origin but two were of European background.

The questionnaires were sent out to TNCs, who were mainly English consultants, who are currently undertaking projects in the Middle East. The interviews were sent by email and a basic answering structure was set up, as meetings were not possible due to time constraints and location of the employees. Unfortunately only one consultant replied to the questionnaire, an English consultant with major projects in the Gulf region.

4.1. Summary of the Kuwaiti Contractors Interviews

From the first question the responses (as shown in table 4 below) to the question as to why there has been a lack of penetration into the large and complex market from KCs, provided three dominant factors. Firstly, it appeared that locals are only interested in short term economic gains, from the perspective that management are satisfied with simply an agency agreement (as mentioned in the background chapter) and that there are typically no long term business development plans. It seemed that the risk involved in taking on large construction projects was too great for many local business owners. The next problem mentioned was that government benefits to the Kuwaiti nationals are seen as too generous, thus reducing the incentive for locals to work hard and pursue innovation. 20% responded that they felt the industry is too bureaucratic in terms of the commercial laws required for doing business, and that labour laws do not make it appealing for ex-patriot entrepreneurs to flourish since their job security is not assured, and the sharing of ideas is perceived as a threat to the influence that that individual carries.

Reasons for lack of Penetration of KCs into large and complex project market	**%**
Interested in Short Term Economic Gains	35
Government Benefits too Generous to local population	25
Commercial & Labour Laws	20

(Table 4)

Table 5 illustrates that in order to enhance Technology Transfer to the Kuwaiti construction industry, the respondents believed that the government should primarily provide more incentives for KCs to innovate (30%) and also to reduce the generous benefits allocated to nationals (25%). 9% believed that there is a major need to change the Lowest Bidder Approach, as this reduces innovation and the use of expensive advanced technology. Furthermore, the Lowest Bidder Approach forces the TNCs to pressurise local sub contractors into reducing their prices further, to the point where it is difficult for these companies to invest in their infrastructure for fear of increasing overheads. 20% of respondents recommended the need for a change in commercial and labour laws in order to create a better business environment, relax non-citizen labour laws regarding residency and ownership of businesses and property. Some argued for the need to increase privatisation of government companies and infrastructure, since 90% of locals are employed by the government which generally does not employ people on ability grounds.

Key strategies the government should take to enhance T.T.:	**%**
Incentives on Local Firms to Innovate from the government	30
Reduce Generous Benefits to Nationals	25
Labour and Commercial Laws to ensure employee security and Friendly Business Environment.	20
Change Lowest Bidder Approach	9
More Privatisation	6

(Table 5)

The third question delved into experiences Kuwaiti companies had of Joint Ventures and Sub Contractor Arrangements. Both the experience and profitability of undertaking such work with TNCs scored very highly (table 6). Around 80% felt they had benefited from new technical and managerial experience from working with TNCs, and furthermore from experiencing new cultures. However, unfortunately it was felt that TNCs often had trust problems with Arabs and this might be linked to the short term profit orientation as stated in table 8. There have also been a few cases of KCs acting in a very opportunistic manner which breaks trust.

J.V.s and S.C.A. Experience of Kuwaiti Contractors	**/10**
Excellent- Disaster Experience Average Score	7.5
Profitable - Unprofitable Average Score	8

(Table 6, J.V. and S.C.A. Ratings)

Positives of J.V.s and S.C.A.s	**%**
New Ways of Management and Technical Skills	53.3
Understanding Different Cultures of People	26.7
New Business Opportunities for the local contractors	13.3
A standard benchmark for the local firms to achieve	6.7

(Table 7)

Negatives of J.V.s and S.C.A.s	**%**
TNCs Don't Trust Arabs	33.3
Language Barrier & Communication Issues	20
TNCs behaviour with local culture and traditions	13.3

(Table 8)

Table 9 shows that the respondents mostly believed the partnership and collaborative approach is the best way for J.V. and S.C.A. relationships to succeed. More frequent communication and exceeding contract requirements were stated equally as the next important aspect (factors strongly correlated to a partnership approach).

Best ways to succeed in J.V.s and S.C.A.s	**%**
Partnership & Collaborative Approach	22.2
More frequent meetings and communication	14.8
Exceed the requirements of the contract with the TNC	14.8

(Table 9)

In the fifth question all interviewees agreed that Technology Transfer is very important, but there were variations of answers for its importance as shown in table 10.

Why is T.T. very important	**%**
Competitive Advantage Against other local firms	53.8
Internationalisation of the local firm	15.4
Helps Management plan firm's strategy	15.4
New Business Areas	7.7
Globalisation	7.7

(Table 10, Benefits of Technology Transfer.)

One out of the three companies questioned had an intended T.T. strategy. The other companies' reasons for not undertaking T.T. intentionally were typically because of the expense, pride in admitting not knowing certain information and that senior management have no vision for development. The way that the first company implements T.T. is through their company policies, undertaking as much work as possible from the TNC, and following the 'learning by doing' approach. If given authority to implement T.T., the following strategies or actions were popular with the interviewees, as shown in table 11. There was felt to be a strong correlation between a successful T.T. implementation and a successful J.V. in terms of communication, loyalty and cultural understanding. Ego or pride seems to have an impact on T.T., and this may be linked to defensive actions due to the existing labour laws. Hiring of senior Western expatriates in the local TNC was also felt to have a strong link to the 'learning by doing' approach.

Actions required for a successful T.T.	**%**
Show signs of commitment & loyalty with the TNC	23.1
Cultural understanding and patience	15.4
Hiring of senior expatriates	11.5
Flexibility is required	11.5
Frequent Communication	7.7
Get rid of ego problems in local firms	7.7
Clear vision of the local company of the intended knowledge required	7.7

(Table 11)

The final question focused on how dissipation of the technology /knowledge is taking place throughout the firms, as this would help the industries knowledge grow. Table 12 shows the main points respondents felt were required for the spread of the knowledge in the firm. It is interesting that the most two popular changes are related to the policies external to the firm, regarding the commercial and labour laws in the first question. Codifications of knowledge and staff rotation are actions within the firm. This point perhaps emphasises that changes outside the firms' scope is required first before the firms can act on transferring technology and dissipating it.

Ways in order for Dissemination of transferred technology to occur	**%**
Reduce defensive culture of people which means info is retained	32
Create Learning Culture	24
Experiences and info documented in a library or presentations	11
Staff rotation to different divisions	11

(Table 12)

4.2. TNC Response

Unfortunately not all the TNCs responded to the questionnaires that were sent out, however it is still important to review the answers received from one consultant to see if there a continuous correlation between the TNC's answer and the KC interviews.

The interviewee has not had J.V.s and S.C.A experience with other countries but has with various Middle Eastern firms. The interviewee regarded the experience as excellent and gave a score of 10/10. The problems with communication and culture differences scored very low with the TNC but it did experience extreme difficulty with the local commercial and labour laws and regulation, plus the TNC felt it had a problem with opportunistic behaviour by Arab contractors.

The TNC felt it is very important to trust the technical and management capabilities of the local firms, and the interviewee even answered that a strong local company will actually strengthen the relationship. Furthermore, the interviewee stated that using T.T. helped develop strong ties with the local contractors. It is interesting that factor was stated, since the TNC also mentioned frequency of meetings, cultural understanding classes and workshops with local companies to be extremely important in developing a better relationship.

4.3. Evaluation

There are a few points that seem to stand out from the results of the questionnaire that will be developed in this section.

The main trends from the results can be stated as follows: from a macro perspective there seems to be an emphasis on the need to restructure existing laws regarding Kuwaiti people's benefits, and labour laws regarding expatriate workers. The local laws were also considered a large problem for the TNC who reported encountering difficulties with GCC commercial laws. Unfortunately the exact reasons were not specified, but from a TNCs point of view one can possibly perceive that forcing TNCs into ventures with local companies is their biggest problem. The other

compounded with current law and regulation, impedes on the development of the local firms.

Before delving into the main evaluation, it is interesting to note that the individuals with the firms questioned seemed to have had an enjoyable and profitable experience working with TNCs and appeared to appreciate the cultural differences with TNCs and the potential to learn from working with the TNCs. Although one can not confirm that all TNCs relationships, whether J.Vs or S.C.A., were very successful, the employees seemed to have a very collaborative approach with TNCs and the opportunity for Technology Transfer was available. Interestingly, from the TNC's perspective, the experiences of J.V. and S.C.A. was also excellent, although feedback was only from one firm, the score was higher than the local firms. Furthermore, the TNC questioned responded that it will happily use T.T. and finds having a local partner that is highly technically and managerially competent to be advantageous. From the answers from the interviews one can say that the opportunity exists, similar to that of Singapore, for Kuwaiti construction firms to use Joint Ventures and Sub Contracting Arrangements as platforms to learn from TNCs.

There are a number of factors that can be seen to have played a role in the impeding the development of the Kuwaiti construction industry and its potential participation in the large and complex project market. These include Hofstede's cultural values concerning uncertainty avoidance, the lack of appropriate incentives which ensure job security for expatriates and the generous government benefits given to Kuwaiti nationals.

Fundamentally, the creation of a knowledge transfer strategy requires both investments and effort. Thus for most Kuwaiti construction companies, following this method could be risky as the companies are required to venture into unknown territories. It can therefore be argued that Kuwaiti business owners, who tend to adopt a convenient short term economic outlook through the use of agency agreements, will not be able to develop a technology transfer framework that involves IT infrastructure and human capital investments. Hofstede's research regarding cultural values has encompassed this argument by highlighting Kuwaitis' inclination towards forestalling risk. According to Barr and Glynn (2004), management who are risk averse usually structure the organisation in a manner that creates control and reduces the sense of uncertainty. This idea is accentuated and strengthened by Hodgetts's table (table 3) where a comparison between Middle Eastern management and Western management is made on the different styles implemented by each. Hodgetts asserted that Singaporean management (who have adopted the Western model) allow a more loose communication procedure and also delegate power and decision making to employees at all levels within the firm. This decentralised approach is also encouraged by Kakabadse et al. (2001) who claim that centralised power and inflexible company structures will ultimately reduce the absorptive capacity of the firm.

The problem that many Kuwaitis are prone to resist risk is further compounded by the generous benefits given to the nationals. The interviewees seem to agree that too many benefits are given to the nationals and it seems to support the argument that when a person earns a very high wage then the tendency after a certain wage is that the supply of hours towards work will reduce (Hunter and Mulvey 1981). This argument is further backed up by Ed James (MEED, September 2006) who

stated that over 90 % of the population (of the Gulf States) is employed by the state in a cradle-to-grave- support system. Without the incentive to put extra effort, it is not likely they will be able to implement any appropriate technology transfer strategies.

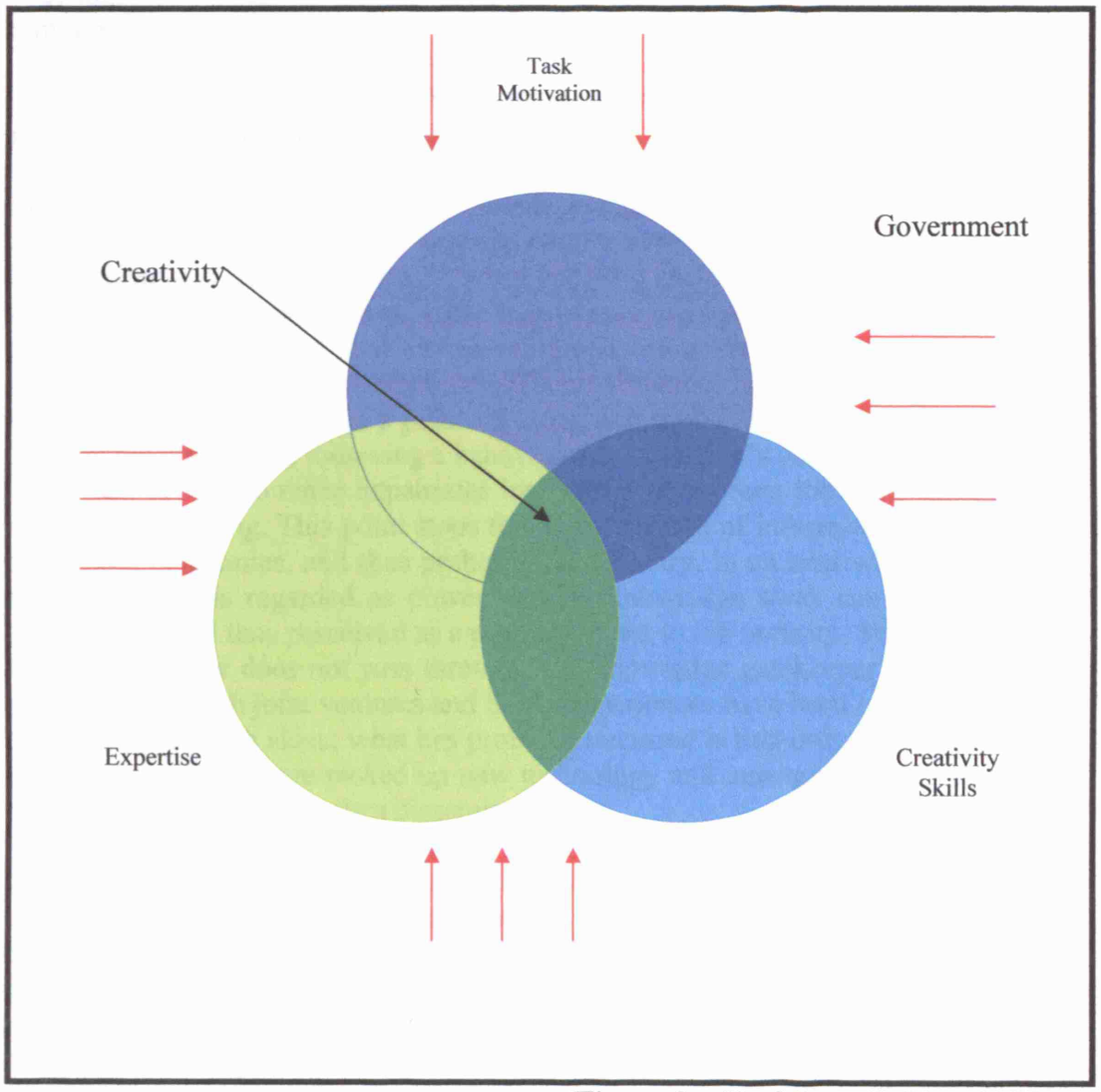
The interviewees suggested that the government should play a bigger role in developing incentives for the development of the construction industry. A clear example of a government taking a larger role comes from Singapore, whose strategies for upgrading the construction industry has led to incentives being offered to those who wish to, and are capable of, developing into managerially and technically more competent companies. From the Kuwaiti governments perspective this could mean a reduction in generous benefits to all locals, instead targeting benefits to those who deserve rewards for improving the development of Kuwait. Part of this development could be for those individuals or organisations that help develop the technical and managerial capacity of local industries. This results in people not obtaining money from non-employment and thus reduces wages, causing individuals to be required to work harder and be more creative in order to maintain the same level of living standards.

This point is backed up by Maslow's Hierarchy of needs diagram (figure 2), where a reduction in income could effect the social and esteem needs. The drop in income means a person's status in society could drop and the person will find it difficult to maintain his social standing. This 'social threat' could help motivate people to work harder and be more creative in order to increase their income. This could mean that the person would be more willing to adopt a more proactive strategy towards development. However, although it is easy to state that the government should reduce the generous benefits of nationals, from a political point of view is a very difficult position to be in. Although Kuwait is run by a ruling Al-Sabbah family, an immediate implementation of such a law could cause political turmoil or social unrest within the Kuwaiti society, as it has become the norm in the culture to receive such benefits. Thus a more indirect and a gradual approach are required for such an implementation. Referring to the Background, this could be one of the reasons for introducing taxation to local firms, as the government currently is in no need of cash due to the high oil prices. Referring back to one of Kostova's (1999) factors affecting T.T., the writer states that a nation's laws and regulations are often found to have a great impact on the success and effectiveness of T.T.

Taking an expatriate perspective, job security due to the current laws on work permits, residencies and benefits cause most expatriate workers to feel isolated and not part of Kuwaiti society. One must remember that the majority of Kuwaiti private firms employees are expatriates, thus their actions are very influential. This isolation may be seen to create defensive actions causing employees not to share information. Information is power, thus expatriates are often actively not helping in the development of an organisation that wants to learn. Regarding the transfer of tacit knowledge, Ruisala and Suutari (2004) state the importance of communication. Thus defensive culture of isolated expatriates does not help in developing an effective and necessary communication for transferring tacit knowledge.

As mentioned in the literature review, technology transferred into the Kuwaiti construction market has to be adapted to the local conditions. This requires an initiative for a certain amount of creativity. An appropriate model which summarizes

the actors involved in a more effective transfer technology must include the role of the government, Kuwaiti nationals and expatriate workers. The diagram (figure 3) below illustrates the three components of creativity (Robins, 2005) moulded to the Kuwaiti construction sector. The metaphor known as the expertise circle can be perceived as the TNC. In the words of Robins, *'the expertise circle represents ability, knowledge, proficiencies and expertise.'* Using the model, the creative thinking skills can be represented by the Kuwaiti business owners who exemplify the characteristics of independence, self-confidence, risk taking and tolerance for ambiguity. Furthermore, the final element of the model is the intrinsic task motivation which can signify the expatriate worker in the Kuwaiti firm. This component suggests that when there is job security and effective communication amongst employees, workers will be driven towards a creative side and will also apply and disseminate their knowledge. The joining of the three circles denotes an effective and sufficient knowledge transfer and dissemination within the industry. The area surrounding the circles epitomises the government, where its laws and regulations, such as labour and benefit laws, can hinder the success of the individual circles.



(Figure 3, edited from Robins, 2005)

5. Conclusion

There are many factors hindering the prospect of a Kuwaiti contractor entering the large and complex project market; a crucial factor is the ability to surpass the technical and managerial difficulties that are posed. This point is further emphasised by Ed James (MEED, September 2006) who wrote that technical innovation and risk-taking in imaginative start-ups are almost non-existent. One method that can be used to acquire the technical and management capabilities is through technology transfer, using J.V.S and S.C.A. Before undertaking the research interviews, the report was intended to focus on the problems with using J.V.s and S.C.A. as a mechanism of knowledge or technology transfer. However, as the project and research developed, a greater issue emerged. Moreover, it became clear that there was a preliminary problem that held greater weight than the pure issue of technology transfer. Through the interviews, it became apparent that the there was an opportunity of transferring knowledge through the use of J.Vs and SCAs for Kuwaiti contractors from TNCs which was not being used effectively. Consequently, one continued to question the reasoning behind the lack of penetration of local contractors into the large and complex project market.

The research revealed that several factors played an important role in impeding the construction industry's development. Referring back to the first question in the research objectives, the obstacles did not lie with the TNCs, but rather the problems were seen to be caused by certain government laws and legislation, coupled with Kuwaiti culture. Currently Kuwaiti culture is very resistant towards ambiguity, the unknown and risk. Additionally, when applying neo classical personnel economics to the problem, it is possible to argue that excess income to people can also lead to reduced effort. The fact that the development of a technology transfer strategy requires both risk and effort creates a difficult situation for the Kuwaiti construction industry. From an expatriate's point of view, and answering the second question of the research objectives, following a behaviourist economist's outlook, current Kuwaiti labour law is seen to make expatriates less secure about their jobs and have a lower feeling of belonging. This point stops the dissemination of information of knowledge throughout companies, and thus probably the industry, in an area where information and knowledge is regarded as power. Giving knowledge away can be regarded as losing power and thus perceived as a possible threat to job security. Subsequently, this means knowledge does not pass through "the knowledge gatekeeper". What one can say is that although joint ventures and SCAs experiences have been excellent and very profitable from both sides; what has probably occurred is that only a few people from Kuwaiti companies have picked up new technology and management techniques, but it has been retained rather then disseminated.

Using Singapore as a model example, it had an industry that struggled to compete against TNCs in its local market. However, today, Singapore's industry competes against TNCs in their home market - thus one should commend their strategies. The Singaporean government played a pivotal role in helping to develop world class contractors through incentives that encouraged development of their local companies. The Kuwaiti government perhaps should begin to have direct involvement in the development of the local industry. However the government faces two big problems: firstly, it has the hurdle of needing to reduce benefits towards its nationals

to encourage more effort in its work, and secondly (and perhaps a larger hurdle as the government itself may be facing the same problem), is the cultural issue. It is important to note that the Singaporeans changed their styles of management of that from a typical predominantly Chinese culture (which was typically risk averse) to a culture today that has no fear of delving into the unknown. Also, from an expatriate point of view, there needs to be a better sense of job security and belonging as these factors are very important in disseminating knowledge.

This project could be expanded into a much larger cultural investigation. In my experiences as an Arab and having lived both in the west and in the Middle East, this project helped me think about the issues of religion, culture and the development of a country. It raises the question of whether the manner of the implementation of Islam by governments has hindered or effected the developments of the countries' industries? The reason for bringing up such a point is that Islam and national culture are very intertwined as opposed to the west which is rather secular. It is an interesting question as the more moderate Islamic governments, such as Lebanon and Dubai, are more advanced than countries with more conservative regimes, such as Saudi Arabia and Yemen. Perhaps the biggest exception is Iran.

What is clear however is that Middle Eastern countries, including Kuwait, are taking the first steps towards radically improving their technological and managerial knowledge. As Ed James (MEED, September 2006) reported only this month, *"Already the signs are promising. With high levels of foreign direct investment, both high-tech and labour intensive manufacturing industries are being set up across the Gulf. Overseas universities are setting up new campuses. The power of the media and the internet is gradually being harnessed. Now it is up to the people of the region (Middle East) to rise to the challenge."* (The article is attached in the Appendix section).

APPENDIX

Questionnaire

This questionnaire is aimed at the Kuwait firms and institutions. I have deliberately made the questions open-ended as to create a discussion between the interviewee & myself and not to guide the interviewee in any particular direction.

Government/ Macro- Level Questions

1. Many of the large/complex projects over the last 30 years have been undertaken by TNCs, why do you think this is the case? (high barriers to entry)

2. What Government policies do you think are required or enhanced to improve T.T. to local firms from TNCs?

    - Tax Structures
    - Softer Financing Incentives on T.T clauses in contracts.
    - Bid price advantages, particularly as all public contracts are awarded to lowest bidder.
    - More leverage use of Kuwaiti FDI abroad.
    - Other

J.V and Sub- Contracting Experiences

3. How has your experience working through J.Vs or S.Cs with TNCs of different countries?
    - Excellent- Disaster (10 being excellent and 1 being disaster)
    - Profitable- Unprofitable (10 being very profitable to firm standards and 1 unprofitable)

    Sub- Questions

    - Positive & Negative experiences and why?
    - Cultural Differences and its effects on trust, communication and working relationships and thus the outcome on project success?

4. What strategies or actions do you think is required to gain a more effective relationship through the use of J.Vs and S.C s in the Kuwait market with TNCs?

Local Firm

5. How important do you think T.T. as part of an overall strategy of a firm and why?

6. Is there a deliberate strategy in order for T.T to take place in the firm? If so, what kind of strategy and parameters to you undertake/consider? How do you stop employees being poached by the TNCs?

7. If no strategy for T.T to take place, why? (Mention areas such as industry structure, management limitations, government policies etc) Where is T.T within the overall strategy of the firm?

8. If you were in charge to implement a technology transfer in the local firm, how would you approach the situation to create an effective T.T. with the TNC, in terms contract clause, relationship building etc.

9. What changes within the firm would you do in order to dissipate the transferred technology and how do you avoid it being transferred out of the firm? (In terms of firm infrastructure, finances, culture, procedures etc...)

Tabulated Results from Kuwaiti Contractors Respondents

Question 1

Reasons for lack of Penetration into large and complex project market	**%**
Interested in Short Term Economic Gains	35
Government Benefits too Generous	25
Commercial & Labour Laws	20
Too Risk Averse Towards Larger Projects	6
Locals Undervalue Their Own Potential	2
Frequency Of large and Complex projects have been little	2
Industry too bureaucratic	2
Banks to Risk Averse towards SMEs	2
Many are family businesses thus unqualified members are placed in wrong positions	2
Firms that do try to advance have a disadvantage because of higher overheads.	2
Lowest Tender Approach	2

Question 2

Key strategy the government should take:	**%**
Incentives on Local Firms to Innovate from the government	30
Reduce Generous Benefits to Nationals	25
Labour and Commercial Laws to ensure employee security and Friendly Business Environment.	20
Change Lowest Bidder Approach	9
More Privatisation	6
Invest in Better Training & Education	2
More Stringent Laws on Sub-Contracting legislations from the Government	2
Encourage Banks for easier financing	2
Send Locals abroad for work experience	2
Placing Local Staff in TNCs when undertaking Kuwaiti Projects	2

Question 3

J.V.s and S.C.A. Experience	**/10**
Excellent- Disaster Experience Average Score	7.5
Profitable - Unprofitable Average Score	8

Positives of J.V.s and S.C.A.s	%
New Ways of Management and Technical Skills	53.3
Understanding Different Cultures of People	26.7
New Business Opportunities for the local contractors	13.3
A standard benchmark for the local firms to achieve	6.7

Negatives of J.V.s and S.C.A.s	%
TNCs Don't Trust Arabs	33.3
Language Barrier & Communication Issues	20
TNCs behaviour with local culture and traditions	13.3
Local Contractors feel disadvantaged	6.7
TNCs are Opportunistic	6.7
Legal Issues	6.7
Slow Mobilisation	6.7
Political Factors	6.7

Question 4

Best ways to succeed in J.V.s and S.C.A.	%
Partnership & Collaborative Approach	22.2
Exceed the requirements of the contract with the TNC	14.8
More frequent meetings and communication	14.8
Detailed contracts	7.4
Local Company needs to assist financially and technically	7.4
Create a division that tailors itself to TNCs	7.4
Employees at all levels should be involved with JVs and SCAs	3.7
Rotation of local employees when working with TNC projects	3.7
A balance between local and expatriates employees in a local firm	3.7
Flexibility to adapt to the international market	3.7
Learn from past mistakes with TNCs	3.7
Good Social Relationship e.g. Corporate entertainment etc	3.7
Don't rush the relationship	3.7

Question 5

	%
T.T. Very Important as part of a firm's strategy	100

Why is T.T. very important	%
Competitive Advantage Against other local firms	53.8
Internationalisation of the local firm	15.4
Helps Management plan firm's strategy	15.4
New Business Areas	7.7
Globalisation	7.7

Questions 6, 7 &8

	%
Firm With an intended T.T	33.3
Firm with no intended T.T.	66.7

Firms with Intended T.T.	%
Through Quality manuals and company policies	20
Only at top Level not filtrated down the firm through training	20
Learning by doing	20
Do as much as the TNC will allow	40

Reason for no T.T.	%
Too expensive	33.3
Ego Problem of admitting lack of capabilities	33.3
No Vision	33.3

Actions required for a successful T.T.	%
Show signs of commitment & loyalty	23.1
Cultural understanding and patience	15.4
Hiring of senior expatriates	11.5
Flexibility is required	11.5
Clear vision of the local company of the intended knowledge required	7.7
Frequent Communication	7.7
Get rid of ego problems in local firms	7.7
J.V. must be as mixed as possible from parties involved	3.8
J.V with a contractor that is not much bigger then local company	3.8
Send locals abroad for training	3.8
Local Staff Rotation with the TNC project	3.8

Question 9

Dissipation of transferred technology	%
Reduce defensive culture of people which means info is retained	32
Create Learning Culture	24
Experiences and info documented in a library or presentations	11
Staff rotation to different divisions	11
More meeting and cooperation between heads in order to spread info across divisions	5
Personal and business issues should be separated. Arabs too emotional	5
Reduce resistance towards change	2
More company social events	2
Centralise I.T. system	2
Better staff development from division heads	2
Open plan office for better communication	2
Feedback Mechanism to ensure continual development	2

1. How has your experience been working with foreign firms in joint ventures or sub-contracting. (10 being excellent and 1 being disaster)

Score: No experience

2. How has your profitability been working with foreign firms in joint ventures or sub-contracting (10 being very profitable to firm standards and 1 unprofitable).

Score: no experience

3. How has your experience been working with Middle Eastern firms in joint ventures or sub-contracting. (10 being excellent and 1 being disaster)

Score: 10

4. How has your profitability been working with Middle Eastern firms in joint ventures or sub-contracting (10 being very profitable to the firm standards and unprofitable).

Score: N/A

5. When working in the Middle East how were the following major obstacles during a joint venture or sub contracting work to locals. (1-10)

1 (small obstacle) - 10(very large obstacle)

- Cultural Differences including communication problems and understanding each other
  Score: 1
- Opportunistic behaviour by the Middle Eastern Firm
  Score: 5
- Lack of qualified local labour
  Score: 1
- Difficulties interpreting Middle Eastern commercial laws and regulations
  Score: 10
- Local Market Conditions e.g. material availability, financial factors, economic factors etc...
  Score: 10
- Other.....

6. How do you choose a local partner in the Middle East (Please Tick):

- Reputation..... ✓
- Personal Relationships.....
- Local technical and managerial capabilities..... ✓
- Local Firms financial strength.....
- Political strength.....
- Other: .....

7. In developing the relationship with the Middle Eastern firm, is technology transfer used as a mode to strengthen ties between the two parties.

   - Yes.....✓
   - No.....

8. How Important is the intention trust of the Middle Eastern Firm (10 Very Important - 1 Not Important)?
   Score: 10

9. How Important is competence trust of the Middle Eastern Firm (10 Very Important - 1 Not Important)?
   Score: (10)

10. If the Middle Eastern firm had employees as your country of origin would that help develop trust faster?

    - Yes.....✓
    - No.....

11. How important are the following in developing a relationship with the Middle Eastern firm (10 Very Important - 1 Not Important):

    - Frequency of Meetings.....10
    - Workshops together....10..
    - Cultural Understanding Classes.....10
    - Secondments with Each other....6...
    - Out of Work Socialisation ....6....
    - Relationship Manager.....7....
    - Financial Commitment shown by the Middle Eastern Firm in Investing in the relationship..:6.....
    - Other.....
      .....

12. If the Middle Eastern firm shows competencies in undertaking similar work to your firm will that encourage you to develop a stronger relationship or cause you to become defensive? Definitely results in a Stronger relationships
    .....
    .....

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Nurturing talent

REGIONAL

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The Middle East suffers from a lack of local innovators and entrepreneurs. Steps are being taken to redress the balance, but it will be about more than building business parks Ed James reports

Sam Hamdan is a man on a mission. As chairman of the US-based Global Leadership Team, he has spent the better part of the year touring the Gulf to drum up support for his vision of a more entrepreneurial and innovative Middle East. His message is simple. "If the Arab world is to evolve, we need to create a culture of leadership," he says. "Historically, it has been easier to finance 500 projects here than it has been to fund one entrepreneur."

For Hamdan and others like him, engineering a culture change is a tough challenge. Of the 87,193 foreign patents filed with the US Patent Office in 2004 – the last year for which full-year figures are available – just 36 were registered from the Middle East. To put that in perspective, Germany's Siemens on average applies for more patents in a single day. Even Luxembourg managed to file more.

The situation today is a far cry from the 8th-13th centuries, when the golden age of Islamic scholars were pioneers in the fields of mathematics, astronomy and the fine arts, while Europe still wallowed in the dark ages. But while the Renaissance spurred technological advances in the West from the 15th century onward, the Arab world failed to keep pace.

Even the discovery of the region's massive hydrocarbons wealth more than 50 years ago has been unable to stimulate an entrepreneurial atmosphere. In several Gulf states, more than 90 per cent of the local working population is employed by the state in a cradle-to-grave support system. Successful homegrown private sector companies are rare. Technical innovation and risk-taking in high-tech or imaginative start-ups are almost non-existent.

Nearly all the biggest corporations, such as Saudi Aramco or Saudi Basic Industries Corporation (Sabic), owe their success to substantial support by the state. Even then, many companies are heavily reliant on outside expertise. Kuwait Oil Company, for example, has been criticised for not having the expertise or technology to maintain and increase production from its oil fields, despite being nationalised more than 30 years ago. In late August, Saudi Electricity Company entered the firing line after admitting its own staff could not fix a faulty transformer that had resulted in a number of power cuts. Japanese engineers had to be flown in at substantial cost.

"Oil has been like a drug for us," says Nasser al-Masri, who works as chief consultant at Kuwait's manpower and government restructuring programme, a branch of the civil service, which explores ways to better utilise human resources. "We have been hallucinating, but now we need to wake up and stop wasting time."

There are signs that this is already happening. From Algeria to Oman, governments are for the first time utilising their windfall petrodollar profits to invest in education and business initiatives that they hope can set a new standard for innovation and entrepreneurship. With the realisation that their bloated state bureaucracies cannot expand much further, and that their oil and gas wealth will not last forever, states are finally coming to terms with the reality that investment in the future is the only real way forward.

The focus now is on education and nurturing the private sector as an engine for growth. Dozens of zones or clusters are being set up to promote investment in skills and training. The UAE, and Dubai in particular, has led with developments such as Knowledge Village, Dubai Silicon Oasis, Dubai Internet City and Dubai Healthcare City, which aim to provide the right infrastructure for various sectors to invest in the emirate.

In Qatar, Education City and Qatar Science & Technology Park (QSTP) are integrated skills-learning and venture start-up hubs that hope to provide Qataris with the necessary skills and ambition needed to enter and thrive in the private sector. Kuwait has allocated $3,500 million for a new high-tech university campus, while Oman has Knowledge Oasis Muscat (KOM), aimed at bolstering the private sector (see Briefing, page 6). Riyadh is investing billions of dollars in high-profile ventures such as King Abdullah Economic City and Knowledge

Economic City in Medina, which seek to attract the best and the brightest into the kingdom. The initiatives have full government support. In late August, King Abdullah himself hosted the first session of a five-day conference in Riyadh on the subject of innovative thinking, the first of its kind in Saudi Arabia. Shaikha Mozah bint Nasser al-Missned, wife of Emir Shaikh Hamad bin Khalifa al-Thani, chairs the Qatar Foundation (QF) for Education, Science & Community Development. The new Kuwait University is the brainchild of Amir Shaikh Sabah al-Ahmad al-Sabah.

It will not be easy, however. Many Gulf nationals, faced with the demands of working for the private sector, naturally prefer the job security and more flexible hours of a government job. Even in countries where quotas have been put in place, companies can find it hard to find the right locals to fill positions. Some firms keep locals on the payroll to make up their quota but tell them to stay at home.

Most of the entrepreneurial initiatives are integrated with education hubs that can provide the necessary vocational skills and motivation to students. "Our vision is to build a community trained for the knowledge-based economy and not just be a real estate project or science park,"

says KOM acting director-general Mohammed al-Maskari. "We're mixing academia with the business community under one roof. We try to take the best of the research and add a business flavour. Innovation starts from getting the most from the education sector."

International companies are also being encouraged to share their know-how locally. One criticism levelled at government investment bodies such as Kuwait Investment Authority and Abu Dhabi Investment Authority is that their substantial investments in high-tech international companies such as Rolls-Royce, Daimler-Chrysler and Sanofi-Aventis, while immensely profitable, have never resulted in a transfer of technology and expertise. This time around, foreign firms are being encouraged to invest in the community and in return benefit from the best young talent the region can offer.

"We've brought in the big companies to get the ball rolling," says Ben Figgis, marketing manager of QSTP, which has already attracted names such as Microsoft, Total and GE to invest in training and research projects. "No-one is asking them to come here and give their technology away. It's a great way to carry out research and give bright, young Qataris an opportunity to stay in Qatar to work rather than go overseas. We might not be able to stop the brain drain, but at least we give them an option."

Not all initiatives have necessarily achieved their goals, however. Many of the Dubai-based schemes have become mere real estate projects, employing few locals and with a minimal impact on the local population. Others, such as Dubai Ideas Oasis, have seemingly fallen off the radar. Offset programmes across the region, which oblige foreign firms to reinvest their profits locally, address infrastructural requirements in health and education, but do little to fill the gap in training and skills.

Hamdan believes that it is up to the government to provide the right policy framework. "The government's primary role is to develop the policies to help their citizens," he says. "Citizens need to be at the centre of what they do. We need the right infrastructure – roads, telecoms, and ports. We need to allow women to work. Intellectual property rights must be enforced. Successful role models should be highlighted. We need a blueprint for an innovation valley and get beyond the business park mentality."

Education is equally critical. Teaching and infrastructure standards in the public sector are often poor, and students frequently lack the motivation to study because they are assured of comfortable government jobs. While well-off families are able to send their children to private schools and the growing number of international universities in the region, the majority have to make do with the current system, which only widens the growing skills gap between rich and poor.

"Curricula need to be changed and the number of school days increased," says Al-Masri. "Some 17 per cent of Kuwaitis between the ages of 15 and 39 are illiterate. About 28 per cent of the local workforce is only elementary school educated. Our school year is composed of just 115 days, which is one of the lowest in the world. Compare that with Japan, which has 245 days in its academic year."

A shortage of role models is another factor. While the West has hundreds of success stories ranging from Donald Trump to Richard Branson, there are few homegrown entrepreneurs for young Arabs to aspire to. A lot of high-risk ventures inevitably fail, and this fear of failure is what Hamdan says holds back budding business leaders. "We don't celebrate failure in the Arab world, and entrepreneurism is all about celebrating failure as well as success," he says.

Nobody expects a sea change overnight. But there has never been a more pressing time – or a more opportune

one. Already, the signs are promising. With high levels of foreign direct investment, both high-tech and labour-intensive manufacturing industries are being set up across the Gulf. Overseas universities are setting up new campuses. The power of the media and the internet is gradually being harnessed. Now it is up to the people of the region to rise to the challenge.

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