

# CLOSING COMMUNICATION GAPS CAN IMPROVE THE SUCCESS OF OIL & GAS VENTURES

Ruud Weijermars

*Delft University of Technology & Energy Delta Institute, Groningen, The Netherlands*

Volko de Jong

*Energy Delta Institute, Groningen, The Netherlands*

*For nearly a century, National Oil Companies (NOCs) and International Oil Companies (IOCs) have jointly executed the challenging task to match the global energy supply and demand schedules. Increasingly, IOCs struggle for access to reserves, controlled by NOCs, as follows from an inventory of the regional spread of reserves. The global increase in energy demand and unequal access to reserves has an important consequence: negotiations and relation management involve mutual stakes higher than ever before. This situation implicates that even the smallest flaw in effective communication between stakeholders (professionals, companies and governments) may result in an adverse impact on the outcome of the business cooperation – causing loss of business value. Communication between people in the international Oil & Gas business involves professionals that are naturally endowed with not only a range of human emotions but they also come from a diversity of cultures. The impact of cultural diversity on business efficiency is certainly not new to the Oil & Gas business, but still intensifies due to globalization. Nonetheless, the interaction between social groups and proper management of human emotions is often neglected in an industry already dominated by formidable technical challenges that require stout determination to overcome.*

*We highlight the need to build intercultural bridges and necessity of dedicated training in the area of Emotional Intelligence. The model of Cornelis 'Feeling's Logic' is adopted and adapted to codify risks related to culture, personal skills, and self-actualization. The model is applied to Gas Trade relationship between Europe and Russia. The impact of human emotions on business development is quantified in terms of probability of success (POS). The POS is the product of mutual attitude toward cooperation for which a chance factor is introduced in this paper. Our approach results in the following generic conclusions: The Oil & Gas industry traditionally places much focus on the management of technical, financial and political uncertainties and associated risks. Incorporating a coherent view on cultural risk management adds a dimension that can help to avoid negative outcomes in negotiations and relation management. We suggest that only those energy organizations that know how to skilfully handle Emotional Intelligence - and are prepared to invest in it – will be successful. Those organizations that fail to do so will not survive in a world where any single party can no longer dominate the other based on individual culture or language alone. Organizational Learning at NOCs, IOCs and service companies should include learning to respect the expertise, culture, and feelings in communication, team efforts, and negotiations with business partners coming from a diversity of cultures.*

## 1. INTRODUCTION

Organizational success in Oil & Gas business, like in any other industry, principally depends on the effective use of integrated resources: effective use of people, technology, and processes, connected by smart workflows to create primary business

value (Weijermars, 2007). The efficiency of the workflow cycle in Figure 1 depends on these four main ingredients (Fig. 1):

- *People*, that have the skills, competencies and passion to build the value-added product line using technology, processes, and workflow.
- *Technology*, which provides the state-of-the-art tools and innovative methods specific for the branch of business.
- *Processes*, naturally occurring or designed sequence of changes of properties or features of an object or system. In business, this may be a transformation of physical state, a chemical reaction, or an assembly by humans and machines - it commonly involves capital, time and space.
- *Workflow*, as the organized sequence of actions that efficiently links people, technology and processes. Workflow includes critical decision gates that prompt for the compilation of new and old knowledge needed for making the right decisions at the right time - for adding optimum value to products, projects and the corporate portfolio.

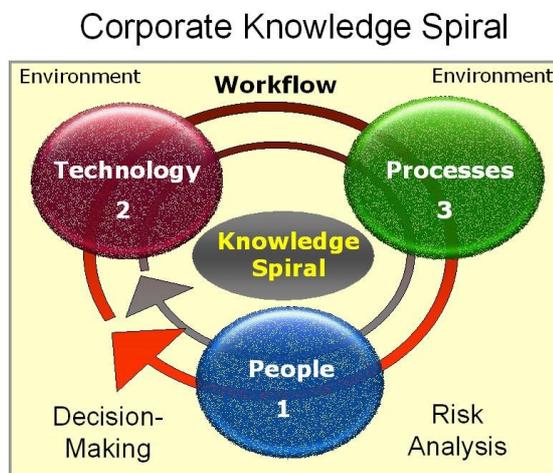


Figure 1. Corporate knowledge is moved up the Organizational Learning Spiral - by people - ever faster, while critical decisions are made on business risks and opportunities. Smart workflow architecture helps to organize the decision-making process (from Weijermars, 2007)

Nowhere in our global business environment are the corporate values at stake as high as in the petroleum industry. This paper focuses on the importance of the people factor in modern Oil and Gas operations. The global Oil & Gas business is driven by speed: Speed in gaining access to new prospects, Speed in discovering new hydrocarbon reserves, and Speed in deciding whether it is profitable to pump up hydrocarbon volumes subject to multiple subsurface and operational risks. All these activities are

executed by professionals, which must communicate and share their expertise to make rapid and balanced decisions on the risk and opportunities that reign today's hydrocarbon exploration and production operations. The industry is often multicultural and commonly run by professionals representing a wide diversity of cultural identities. We map out the common traps and pitfalls in communication – at interpersonal and inter-organizational scales - and make recommendations for avoiding unproductive and costly mistakes.

Company Value SuperMajors

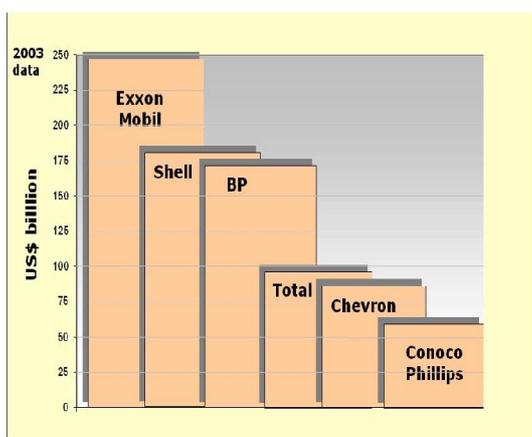


Figure 2. The SuperMajors are six IOCs with major market capitalization as stock-listed companies. SuperMajors and their parent companies used to dominate the global Oil business. They now face competition from NOCs. Some diversified National Oil Companies, such as ENI of Italy, are stock-listed as well. ENI has a 2007 market capitalization similar to that of ConocoPhillips (from Weijermars, 2007)

## 2. GLOBAL RESERVES AND GLOBAL CULTURES

The term *Supermajors* is used as a popular reference for the world's six largest market-listed energy companies, after the mergers near the turn of the Millennium. The Supermajors – all merged between 1998 and 2002, except for Royal Dutch Shell, which continues single – are (Fig. 2): ExxonMobil, Royal Dutch Shell, BP, Total, Chevron Corporation, and ConocoPhillips (see WSJ news reports).

IOCs traditionally work together with National Oil Companies (NOCs) in order to secure mutually beneficial partnerships. Securing access to reserves is a strategy driver in the energy business.

## Regional Spread of Proved Reserves

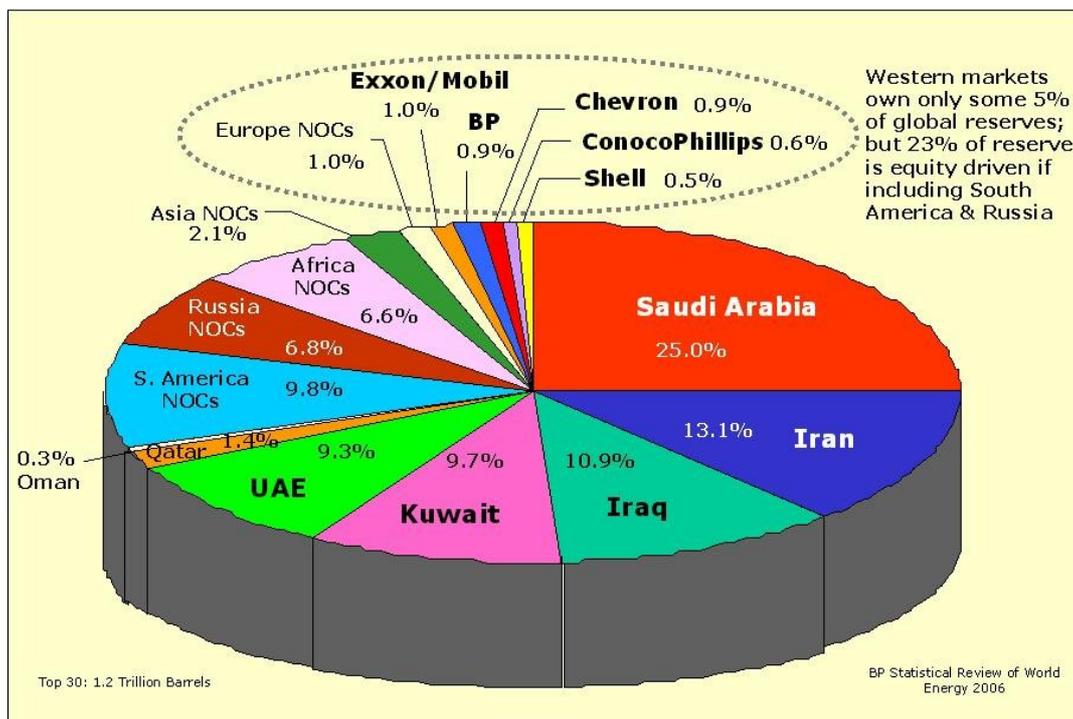


Figure 3. The majority of the reserves of the SuperMajors lie outside their country of origin, and they have only access to less than 5 % of the global oil reserves. Reserves of France's Total - less than 1 % - are included here in the European NOC reserves. The distinction between IOCs and NOCs can be transitional in some case as NOCs are diversifying to become IOCs (modified from BP Statistical Review of World Energy, 2006)

NOCs are such attractive strategic partners in the oil industry because they hold nearly 90 % of the world's oil reserves (Fig. 3). In these partnerships, the NOCs have access to the hydrocarbon reserves, whereas the IOCs have access to equity and can bring in their carefully developed cutting edge technology. IOCs can bring in equity and expertise for projects while most NOCs have limited access to the equity market – because they are not listed as shareholding companies. To meet the required growth targets and bridge the Oil & Gas supply gap, strategic cooperation between NOCs and IOCs is needed more than ever before. Meanwhile, Service Companies (SCs, notably Schlumberger) increasingly provide NOCs with horizontally integrated management solutions and vertically integrated technology solutions, trying to cut out the need to involve IOCs.

The strategic relationships between NOCs, IOCs and SCs are governed by the following questions: “Is there enough mutual trust? Is there sufficient knowledge sharing? Where can they improve? Should any of these stakeholders change their policies?” Obviously, the solutions to these strategic issues need to be settled by people coming from an increasing range of cultures and professional backgrounds. Cultural diversity in the hydrocarbon industry is ensured by the facts that even the major oil production centers are widely spread around the globe (Fig. 4).

### Oil Production Share Nations

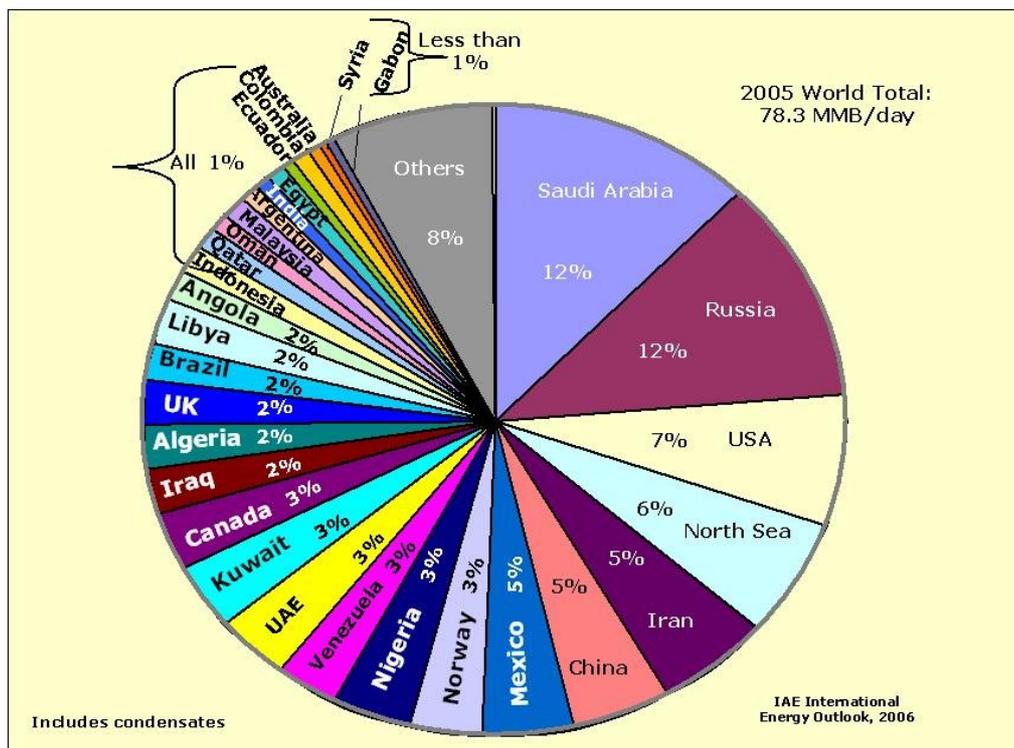


Figure 4. Share of global oil production by nations from all continents. An international workforce of several million professionals makes it possible (compiled from IEA World Energy Outlook, 2006)

In our opinion, attention for technology innovation, the speeding up of reserve growth and production growth remains important, but the human factor is becoming increasingly important as cultural diversity marks the new business landscape. All nations are in a global competition for secure energy supply. Allied nations and companies pool knowledge: on the global distribution of reserves, on the potential of new technology to discover more reserves and enhance production, and on the

geopolitical tensions that may influence the global Energy business. We focus on the human factor, specifically on the importance of effective communication across the company's business units within recently merged companies and between NOCs and IOCs, commonly involving a diversity of company cultures, ethnic cultures and national cultures. As human actions are in part based on emotions rather than rational consideration, it is legitimate to highlight the role of human emotions and cultural barriers and quantify the potential impact on international oil & gas business.

### 3. COMMUNICATION GAPS

The hiring of a multicultural workforce from a range of countries, distinct company cultures, and different age groups poses a challenge in itself through the increased risk of communication barriers or gaps. Global companies must now work to integrate their knowledge across different disciplines, in teams with experiential differences and cultural diversity (Trompenaars & Hampden-Turner, 1997; Hofstede & Hofstede, 2004). All of these differences provide the danger of pitfalls in communication. Effective communication skills and awareness of the importance of Organizational Learning to improve Emotional Intelligence helps individuals to effectively share knowledge.

The principal barriers that obstruct effective interpersonal communication are:

- *Experiential Technical Gaps*: When junior and senior professionals interact, the receiver and sender may lack some common language, slang, jargon, vocabulary or symbols. For example, junior reservoir engineers lack the experience of a field asset manager. Integration of their knowledge base requires continual effort to bridge the interaction gap (Fig. 5, gaps 1). Establishing Communities of Practice, mentoring and career planning play a major role here.
- *Inter-disciplinary Technical Gaps*: Oil operations require experienced professionals to interact coming from a range of different specializations. For example, the static reservoir model built by G&G professionals is handed over to reservoir engineers for dynamic modeling and then forwarded for economic appraisal. Because the receivers and senders frequently lack common understanding of vocabulary and symbols, this requires mutual effort to bridge the interaction gap by broadening their inter-disciplinary technical knowledge (Fig. 5, gaps 2).

## Communication Gaps Experiential and Interdisciplinary

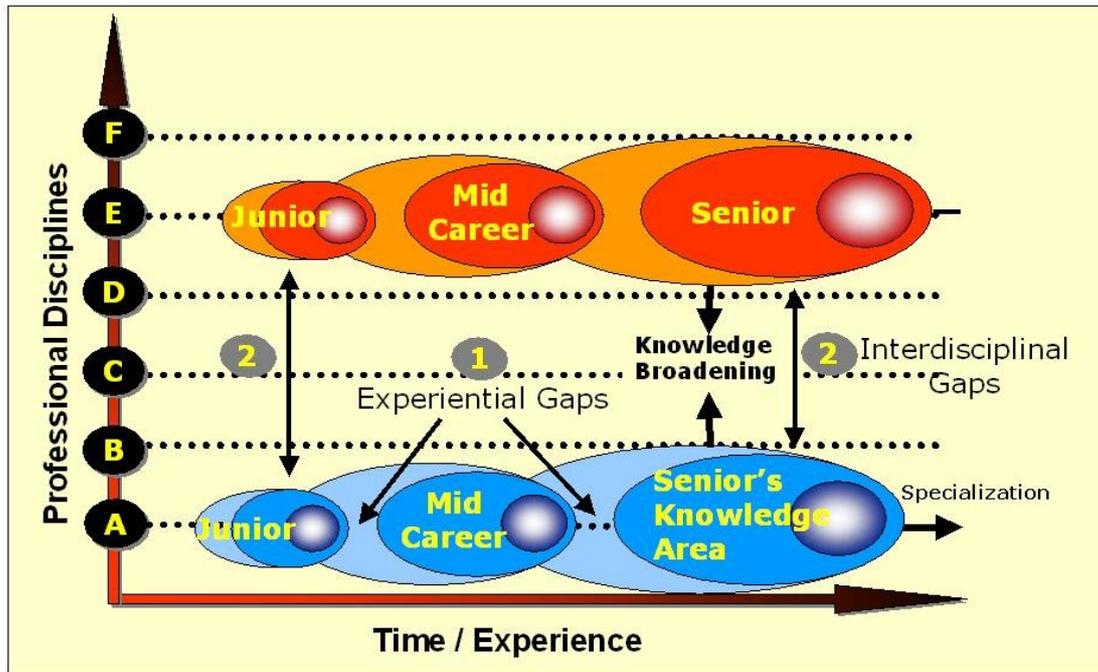


Figure 5. Communication gaps may inhibit the effective sharing of technical knowledge. As professionals specialize during their careers, they need to stay in touch with younger colleagues by coaching and mentoring to help bridge Experiential Technical Gaps (1). They need to pay attention to broadening their knowledge base as well, to make sure they can connect with professionals in other disciplines to help bridge Inter-disciplinary Technical Gaps (2)

- Organizational Gaps:* In large organizations the chain of command may have too many layers that a message passes through between sender and receiver (Fig. 6). Large numbers of receivers require clear, concise, and consistent message sending methods. Strategic goals must be understood at all organizational levels, although they operate on different temporal and conceptual levels of resolution. For example, a faster and more effective field development team can reduce the average lead time from discovery to production to 4 years. Increasing the learning speed - as well as the quality of communication - are major contributors to the success of an organization.

## Multi-resolution Communication

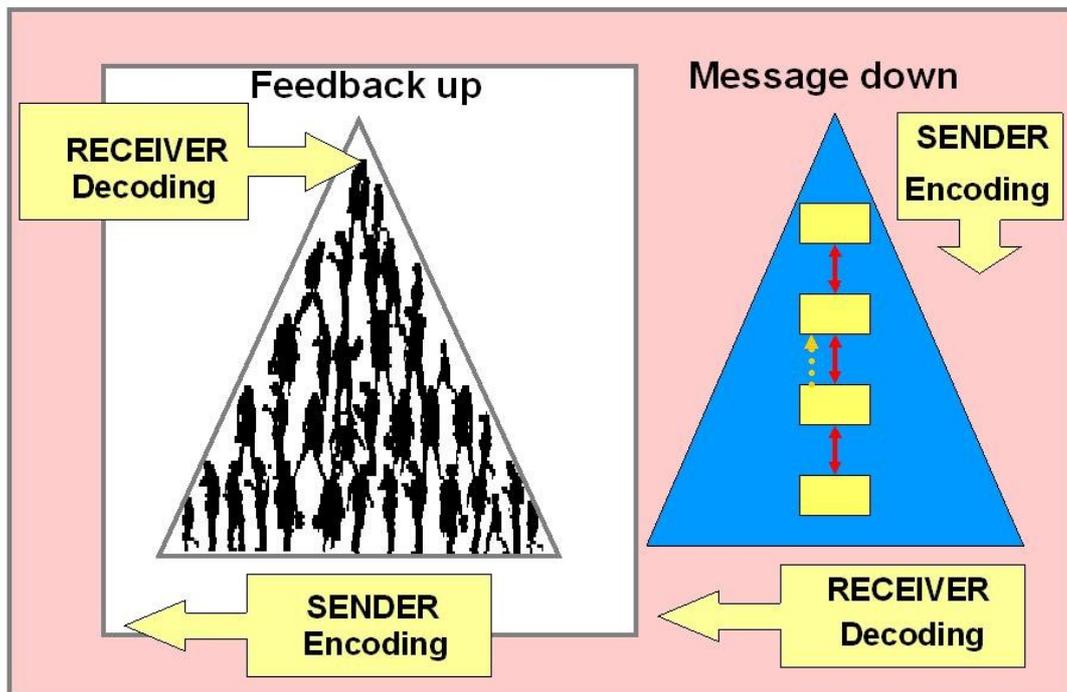


Figure 6. Using ‘shared symbols’ is particularly important when messages travel up and down the corporate hierarchy. As reference frames and operational focus are different at different levels in the organization, even ‘shared symbols’ may be misinterpreted. Such misinterpretations are termed here Organizational Gaps in multi-resolution communication across the organization

- *Cultural Gaps*: Different cultural customs and beliefs may profoundly interfere with mutual understanding (Fig. 7). Spending time abroad in different cultures and in different companies is very beneficial – if not essential - for bridging Cultural Gaps.

## Communication across Cultures

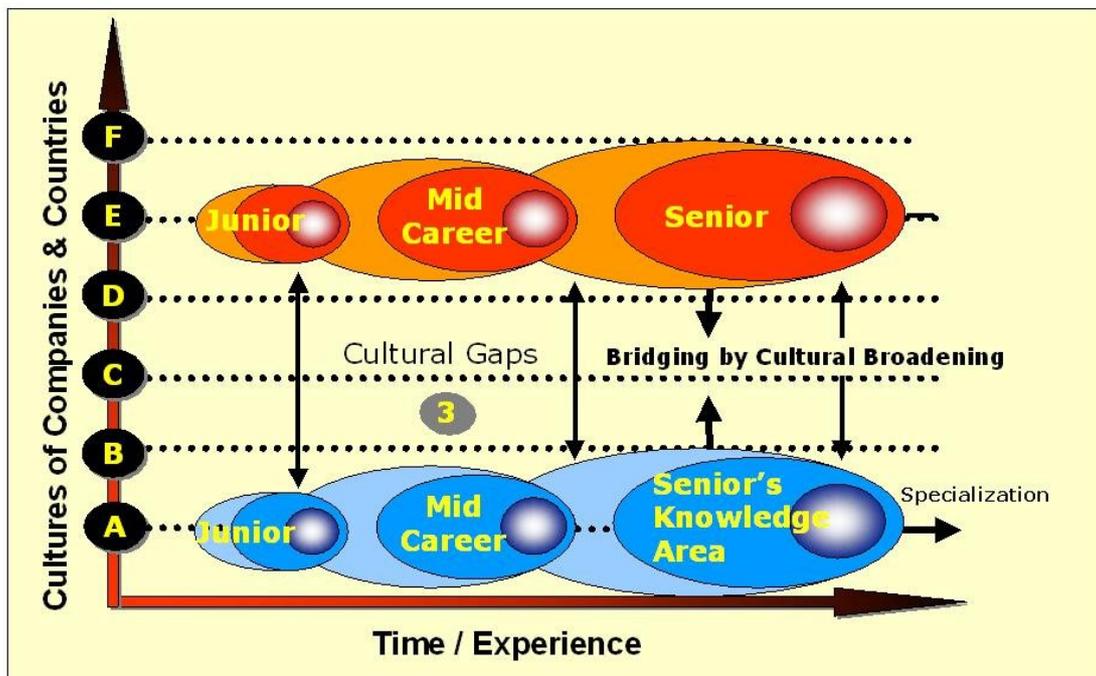


Figure 7. Communication gaps may inhibit the effective sharing of knowledge. As professionals come from different company cultures, different countries, or both, they need to bridge the Cultural Gaps (3)

The ultimate secret behind effective cooperation between professionals is to avoid lack of trust. Professionals working within newly merged IOCs (e.g., ExxonMobil, ConocoPhillips, Chevron Texaco, BPAmoco, TotalFinaElf), or merged NOCs (e.g., StatoilHydro), or within diversified NOCs and IOCs, all know too well that peoples' egos, prejudices, traditions, cultures, conflicting feelings, goals, and their strong differences of opinion may undermine mutual understanding. If people are on opposite sides of an issue, they may not be comfortable sharing their knowledge to full effect. Many of these feelings, prejudices and traditions have their roots in cultural identity. We focus on the effect of Emotional Intelligence and the related emotional risk that may impair the efficiency of the Up- and Down-stream business cycles.

#### 4. RELATION MANAGEMENT ACROSS CULTURES: NOCS AND IOCS COMMON CHALLENGE

NOCs are government-controlled organizations and this means NOCs are politically and culturally constrained when conducting business dealings through their respective governments or with private companies. The implied risk is that an NOC may be barred from access to the expertise of IOCs. On their part, IOCs need to cultivate key access to governments in order to secure strategic options for cooperation with NOCs, mostly via their respective governments. Therefore, governments, industry and international trade organizations have a stake in preventing cultural misunderstandings from spiralling out of control and adversely affecting international trade relations. A rational framework for the role of emotions in communication across socio-cultural systems has been postulated by Cornelis (1988). The Cornelis model of 'Feeling's Logic' conceptualises the embedding of emotions in so called 'cultural layers of stability' (Fig. 8); three such layers are distinguished: 'Culture', 'Skills' and 'Self-actualization'. Each layer needs conditional fulfilment for any action on the subsequent level to be undertaken and may be applied at both an individual and macro or societal level.

#### Feeling's Logic Concept

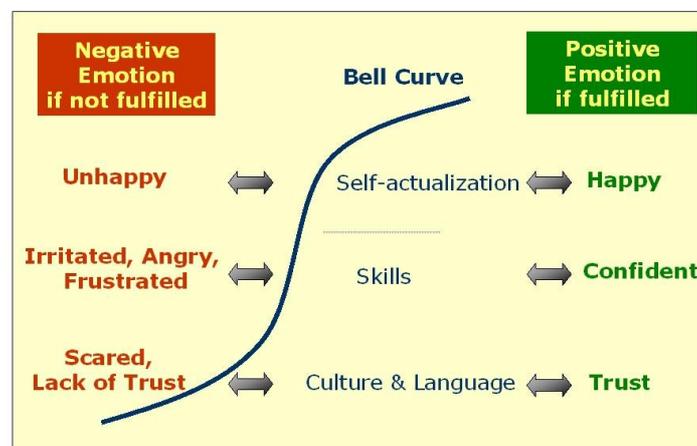


Figure 8. Cornelis generic concept of Feeling's Logic (modified from Cornelis, 1988)

The lowest level is the 'Culture' level, which refers to cultural 'embeddedness' of social groups or inhabitants, the extent to which they have adopted its language, norms and customs. Individuals in a society share a common language, adhere to cultural traditions, and display similar customs and beliefs. 'Skills' refers to the specific

set of skills the people in a certain society require for successful functioning. Skills enable recognition of - and adherence to - a social regulatory system; the economic, legal and political systems. 'Self-actualization' refers to people's ability to formulate and realise their goals and ambitions within a society. These three layers 'stack' on top of one another. In other words, fulfilling the cultural layer is contingent on fulfilling the skill layer; it is highly implausible for a member of any society to realize his or her goals and ambitions (self-actualization) without first learning the language and understanding culture.

The great merit of Cornelis' (1988) 'Feelings Logic' lies in his recognition of the importance of emotional responses to the layers. Social entities that understand and 'grasp' the cultural layer feel *trusted*; they recognize other social entities culturally distinct habits. Social entities that do not learn to understand each other's culture (or fail to recognize it) may feel *scared* when confronted with distinct cultural habits. (The way in which we as people display these emotions is again a cultural phenomenon). Once societies become scared through cultural misunderstanding they can adopt three strategies: fight, flight or stay put. Within an international institutional context, misunderstanding at the cultural level may therefore ultimately lead to war. One society may battle with the other because they can not reach their goals of self-fulfilment, and do not possess a cultural bond of mutual understanding with their rivalling society. The emotional responses related to the skill layer are 'Confidence' for those who have the appropriate skills - and 'Frustration' for those entities that do not. The most fundamental emotional response is related to the self-actualization or self-fulfilment level. A social entity is happy if self-fulfilment can be realized, and sad if this is not the case.

We apply the Cornelis 'Feeling's Logic' model at the level of international Oil & Gas business and contract management. We expand the Cornelis model to quantify the risks implied in the emotional interaction between separate social entities in Oil & Gas Trade. These trade relationship emotions can grow to become more positive (and increase the probability of success, see later) if cultures are aligned on each level of the Cornelis model, or negative (and increase the probability of failure, see later) if one entity dominates others – meaning levels are mis-aligned.

Recent neuroscience research has revealed how strongly our human decisions are linked to our emotions. Brain scans on people who suffered physical damage to their frontal cortex have revealed such people cannot take any rational decision (Fischette, 2004), because the frontal cortex part of the brain processes emotions. Emotions stop to exist when the frontal cortex ceases to function. And although people with damage to the frontal cortex can still summarize the choices available in a given situation as well as anyone else, without their emotions to guide them, they cannot actually make a choice. Exactly how our emotion drive our instincts and decisions can be unraveled by applying modern psychology insights, as has been captured in the Laws of Emotion by Frijda (2007).

International Oil & Gas contracting is subject to cultural risks which warrant consideration, but its sensitivities are not always fully appreciated in oil and gas negotiations. The Cornelis model is applied to examine the level of 'fit' between the socio-cultural systems of nations, in the specific context of risk in international Oil & Gas politics. The model implies that risks emanate from potential mismatches between nations' layers of cultural stability or from the lack of mutual conditional fulfilment of these layers.

## **5. EXAMPLE OF SOCIO-CULTURAL TIES AND TENSIONS BETWEEN EUROPE AND RUSSIA IN GAS TRADE CONTEXT**

Delivering gas from the world's major reserves to the future demand centres will require a major expansion of inter-regional, cross-border gas transport infrastructures (e.g., Victor, Jaffe & Hayes, 2006). For example, European natural gas production, the bulk of which is located in and around the North Sea basin, has entered in decline (IEA, 2006). The imminent gas demand-supply gap in NW Europe will need to be filled by increasing supplies from Norway, Russia and some LNG sources such as Qatar (Clingendael, 2004). Of all prospective suppliers ready to fill NW Europe's natural gas appetite, Russia is the largest current supplier and its share in NW European supplies is expected to grow steeply in the coming decades (IEA, 2006). Managing the risk of feeling's logic and realizing the value of cultural education are crucial stepping stones, if Europe and the European gas industry are to realize the goal of security of energy supply. As NW Europe is ready to engage in even larger scale trade in natural gas with

Russia, one may ask: “*What is the match between the socio-cultural systems of Europe and Russia?*”.

The Russian and NW European cultures vary to a great degree: One is hierarchical and has a long history of centralized government, while the other is a liberal decentralized ‘networking’ society. Seen from the perspective of the Cornelis ‘Feeling’s Logic’ model, the NW European social regulatory systems for natural gas emphasize unbundling and liberalization along the gas value chain in order to maximize price and efficiency levels (Fig. 9). Even though large scale infrastructural projects are undertaken, investments made and political will explicated, there is a seemingly large difference in the socio-cultural systems of Europe and Russia.

## Risks in Euro-Russian Relationship Feeling’s Logic Concept



Figure 9. European and Russian socio-cultural systems, their potential mismatch, and the associated risks

We observe differences in base aspects such as language and cultural disposition towards authority, differences in the social regulatory systems with respect to the distribution of natural gas, differences even in the political ambitions concerned with natural gas. These differences pose risks to the agreements, which must be reached if NW Europe is to secure its security of supply. Russian social regulatory systems for natural gas supply

emphasize concentrating all activities along the gas value chain in a single organisation and creating synergy between state affairs and fuel resource affairs (Fig. 8). In summary, NW Europe's ambitions seem to be securing supply and facilitating open markets, whereas Russian ambitions seem to be the growth of export volumes, maximizing revenue and utilizing energy as a political tool (e.g. Putin, 1999, for reference).

To acquire security of energy supply, the Feeling's Logic model indicates that actions have to be taken to narrow the language and cultural gaps between the partners. In the case of the relation between Gazprom and Gasunie (Fig. 10) this is done by large cultural exchange programs, such as the Replin Exhibition and the Diagalev exhibition in Groningen. Cooperative interest in joint technical, cultural and business education resulted in the establishing of the Energy Delta Institute - by Gasunie, Gazprom, and the University of Groningen - as a vehicle for skills and knowledge exchange in the Oil & Gas business. These are important steps to narrow the communication gap (and manage the underlying Technical, Organizational and Cultural Gaps) between the two partners. The common aim is to establish an emotionally balanced relationship between the two partners – which is important to improve the Euro-Russian business environment.

## Business Cooperation Gasunie-Gazprom Feeling's Logic Concept

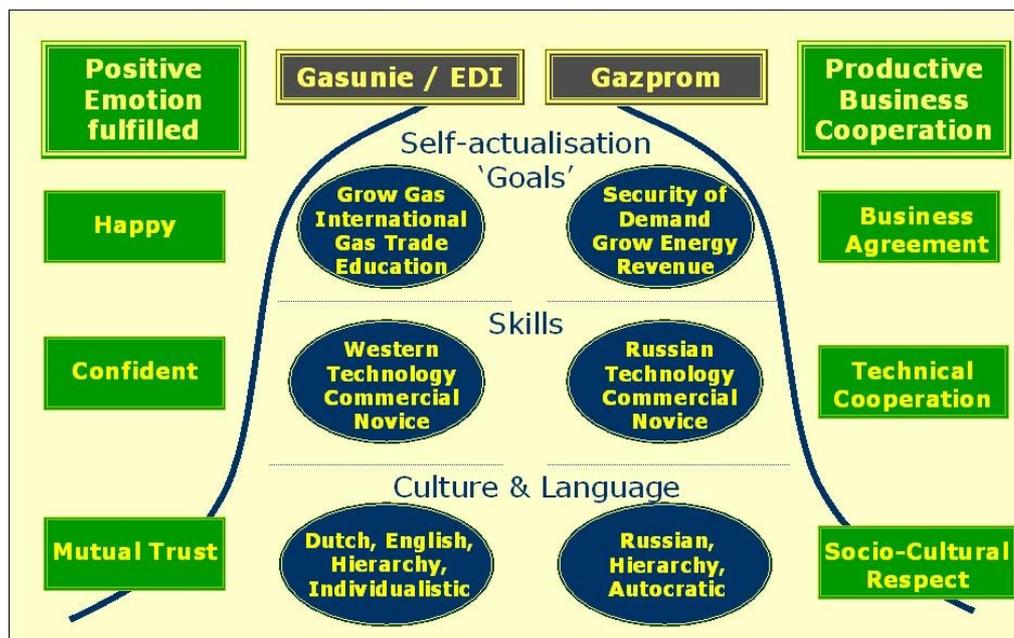


Figure 10. Emotional Map for Feeling's Logic between Gasunie/EDI and Gazprom

In another example, the Ukrainian gas crisis early 2006, an incident which revolved around world gas price levelling, our application of the Cornelis 'Feeling's Logic' model yields the following insight. In the Ukrainian case, Russian Gazprom intended to elevate gas delivery prices to international open market standards, effectively raising prices more than fourfold. Ukraine responded by demanding higher prices for Russian use of their gas infrastructure. In other words, both nations aimed for realizing self-actualization; Russia aimed to increase their energy export revenue while Ukraine strived to keep state energy expenses at an acceptable (affordable) level. Both nations utilized compatible social regulatory systems to accomplish and legitimize their goals of self-actualization.

What does our model tell us about this situation? Although both nations had compatible social regulatory systems through which to reach their self-actualization goals, there was no basis of trust (Fig. 11). Russia accused Ukraine of illegally retaining more gas than paid for. Ukrainian politicians viewed Russian efforts in the context of the orange revolution. Both nations' histories are entangled in the hue of soviet domination, but from diametrically opposed perspectives. A history of dominion and submission, and a revolution led to shift one nation's international orientation from Moscow to Brussels and Washington. These developments resulted in emotional accusations, and a general state of mistrust, blocking a viable effort to resolve issues at a higher level.

In spite of past problems, multi-billion dollar investments are risked in infrastructural projects of unprecedented scale in order to balance energy supply and demand of Russia and NW Europe. Existing gas infrastructure is expanded, new natural gas contracts are negotiated and existing ones extended and oftentimes renegotiated. Examples are the Shtokman and Sakhalin field developments, the Nordstream pipeline, and the Interconnector project. European engineers and CEO's remain optimistic about the future prospects for oil and gas deals with Russian partners, the odd report set aside (e.g. UBS report, 2006). Managing the potentially most destructive component in business communication, i.e. the impact of cultural and emotional mismanagement on effective business cooperation remains important. Chance factors are allocated to quantify the probability of success in new business development and negotiations in an intercultural business environment.

## Ukrainian Gas Crisis Feeling's Logic Concept



Figure 11. The Ukrainian gas crisis conceptualized in emotional responses according to Feeling's Logic

### 6. MANAGING EMOTIONAL RISKS

Sid Smith stated in a 2003 web log: "Would it not be great if someone created a formula that would predict success in any situation (say new business development or negotiations)? What if all you had to do was plug in a few numbers to gauge your probability of success? Say, for example, your team has been assigned a new project, or you have got an important negotiation coming up. You will sit at your computer and enter a bunch of data, then wait for the program to tell you your probability of success. How would this help if the program said you had an 80 % chance of success? What if it said your odds are 50/50? How about a 20 % chance of succeeding? Would you continue, or give up and try something else? Change one little variable, and watch the probability of success go up or down - before you ever take any action. To my knowledge, no one has yet come up with such a formula we can use in our day-to-day business dealings".

Below the impact of emotions on new business development is quantified in terms of the probability of success in business negotiations using basic expectation theory under uncertainty (e.g., Evans and Rosenthal, 2003). Let the maximum net reward or value of cooperation for Party A equal a discrete value  $X_{A \max}$ . The minimum acceptable net reward for Party A is a lower threshold value  $X_{A \min}$ . Figure 12 shows the probability density function of the outcome of the cooperation between Party A and Party B. The expression for the Expected Monetary Value for Party A ( $EMV_A$ ) of the cooperation, at anyone time, is:

$$EMV_A = [POS * NET \text{ PROFIT}] - [(1-POS) * COST \text{ EXPL} \text{ COOP}] \quad (1)$$

The Probability of Success (POS) expresses the likelihood of a tangible outcome based on probabilities of success by an arbitrary number of N Parties involved:

$$POS = P_A * P_B * \dots * P_N \quad (2)$$

## Range of Net Profit

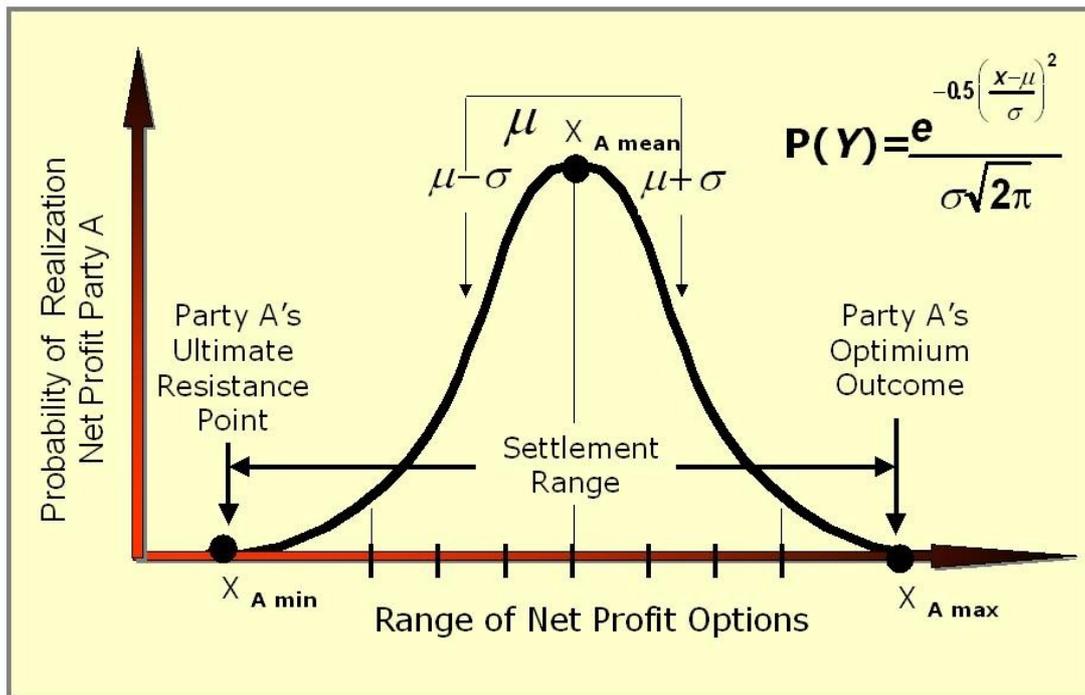


Figure 12. Probability Density Function  $P(y)$ , showing the range of Net Profit Options for Party A in a co-operation agreement.

The graph centers about the mean score,  $\mu$ , on the X-axis, and the standard deviation is  $\sigma$ , which becomes the variance  $\sigma^2$  when squared

Equations (1) and (2) are generic for assessing the progress in efficiency of reserve generation as a result of expenditure on subsurface exploration in the search for economic oil & gas accumulations (e.g., Johnston, 2003). The transformation made here for use as a measure for the yield of business development and negotiation success is novel and yields significant new insight in the chances of success of any cooperation. The associated expectation curve is shown in Figure 13. The probability of failure is  $(1-POS)$ , and decreases as POS grows when business cooperation develops positively. If only two parties are involved, with a high determination to establish a win-win cooperation agreement, both parties may start off with a neutral attitude or 50 % interest to cooperate:  $POS = P_A * P_B = 0.5 * 0.5 = 0.25$ . The corresponding probability of failure is 75 %. It is clear that over time, for negotiations to be successful, it is crucial to invest in the relationship to increase the POS. Table 1 gives the range of chance factors assigned to individual attitude toward a prospective cooperation.

An example may help to illustrate our approach. Consider an oil prospect subject to a Production Sharing Agreement (PSA) between Rambo Oil International (ROI) – an IOC - and Urki Petroleum Company (UPC) – an NOC, who owns the oil prospect. The maximum net reward or value of cooperation expected by ROI is 500 million Euros over the productive lifetime of the field. This net reward may be adjusted in the course of negotiations with UPC; the minimum net reward acceptable to ROI is 200 million Euros, considering the required return on investment. Rambo may target for 50 % or 350 million net reward as a successful outcome of the negotiation process for the PSA. How much money is ROI prepared to invest in the development of the business relationship with UPC?

Table 1

Chance Factors assigned to an individual aptitude toward cooperation

Emotional Attitude	Chance Factor
Full agreement	1
Favorable to cooperation	0.8-0.9
Basic interest in cooperation	0.6-0.7
Neutral to cooperation	0.5
Critical to cooperation	0.3-0.4
Unfavorable to cooperation	0.1-0.2
Refusal to cooperate	<0.1

## Outcome of Negotiations Expectation Curve Net Profit

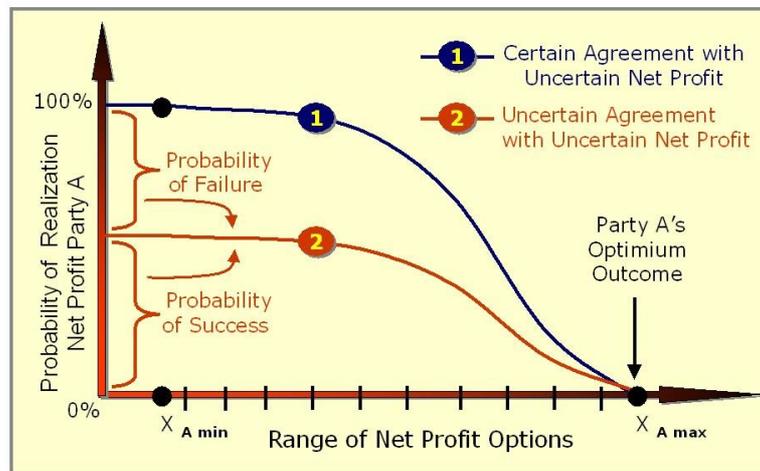


Figure 13. Expectation Curve for Party A's Net Profit Options in a co-operation agreement

Assume that at the onset of the negotiations, 100,000 Euros is invested by ROI in reconnaissance talks with UPC. At that early stage, ROI has a basic interest in the cooperation with UPC ( $P_{ROI} = 0.6$ ) and UPC is only mildly critical toward cooperation with ROI ( $P_{UPC} = 0.4$ ). The  $EMV_A = (0.24 \cdot 500) - (0.76 \cdot 0.1) = 119.924$  million Euro. Clearly, the EMV must increase rapidly for ROI to succeed in the realization of its mean business target of 350 million Euro net reward. Obviously, the POS can be affected positively by activities that raise the mutual interest in a business cooperation. For example, if ROI succeeds, by investing another 400,000 Euro in the talks and actions towards UPC, to raise  $P_{ROI}$  to 0.9 and  $P_{UPC}$  to 0.7, the EMV increases to  $EMV_A = (0.63 \cdot 500) - (0.37 \cdot 0.5) = 314.815$  million Euro. This means Rambo's target for mean net reward is potentially reachable. Based on this growth of the POS, another 500,000 Euro is allocated by ROI for business development with UPC. The investment works out such that  $P_{ROI} = 1$  and  $P_{UPC} = 0.9$ ; the EMV increases to  $EMV_A = (0.9 \cdot 500) - (0.1 \cdot 1) = 449$  million Euro. Clearly, Rambo Oil is close to reaching more than well its net revenue objective with 90 % chance of success. Closure of the agreement critically hinges on the final attitude of UPC toward the cooperation. In a final negotiation, requiring the investment of another 0.5 million Euro by ROI, UPC agrees to the PSA with ROI as a partner (increasing its  $P_{UPC}$  to 1), but on the condition that ROI reduces

the PSA's net profit to 350 million Euro. This has become a win-win agreement for both UPC and ROI.

What should the budget for new business development, best be spent on in order to improve the odds of successful business cooperation? The traditional approach is: (1) initiate reconnaissance talks and build the relationship, (2) exchange information and prepare Terms of Reference (TOR) for the cooperation, and (3) negotiate and make concessions. We suggest that a large proportion of the capital expenditure on the relationship building phase of the co-operation should be allocated to cultural exchanges and personal contact development. These are necessary to break the ice, find out about generic obstacles and pitfalls that may stay in the way of any successful business cooperation. The attitude toward cooperation is steered in communications and negotiations that need to effectively bridge technical, organizational and cultural gaps. The POS grows with each step that develops positively. Considering the size of expenditures for new business development in Oil & Gas Trade, we advice that a substantial part of the budget should be allocated to work on the reduction of Cultural Gaps.

## **7. CONCLUSIONS AND RECOMMENDATIONS**

The comparisons between the socio-cultural systems of Russia and NW Europe, and Russia and Ukraine, serve as examples to foster understanding for the impact of socio-cultural factors on business co-operation in the Oil & Gas Industry. Besides Russia, NW Europe may diversify its energy imports to two more geographic regions; North Africa and the Middle East. A preliminary comparison and examination of the levels of fit between the respective socio-cultural systems may reduce - or at the very least raise awareness of - potential mistakes. These mistakes lie in the wake of overlooking the importance of emotion as a cultural element, which is part and parcel to initiating international trade in energy resources. Recognizing the critical role of closing Cultural Gaps in the communication carries implications for the way companies and government develop their energy security strategies and policies.

Investing in and building intercultural understanding and communication skills is important, and our quantification of the probability of success indicates how progress of expenditure on new business development can be monitored: changes in the POS

become the KPI for progress in a new business development. We suggest that one third of the overall budget for new business development should be allocated to overcome Cultural Gaps in the communication and negotiations between company professionals. This is needed to make sure professionals are ready to communicate effectively for sharing knowledge and integration of their respective company resources (Fig. 14). We also advise to provision for targeted interventions in your Organizational Learning program if Emotional Intelligence scores low (e.g., Weijermars, 2007) and to strive for structural improvements.

How should you best use the budget for tackling Cultural Gaps to effectuate a high Emotional Intelligence in your company? We recommend the following: Start with those groups of people most likely to enter into dialogue with culturally distinct parties. Study and teach your employees the cultural customs and peculiarities of your trade partners. Organise student exchanges between foreign nations on a far larger scale than what is currently commonplace. Set up and maintain international training centers to engage in cross-cultural cooperation. Train local workers by sending them abroad, thus increasing their appreciation and ability to adapt to foreign cultures. Stimulate working abroad, and facilitate complex immigration and migration procedures. In our technocratic energy world there is a lot of focus on technical, financial and political risk management. Adding a coherent view on cultural risk management could greatly enhance efficiency in future co-operations. We believe that only those energy organizations which act with high Emotional Intelligence will survive in a world where we no longer can dominate any other party with our own culture and language.

## Sharing Corporate Capacities

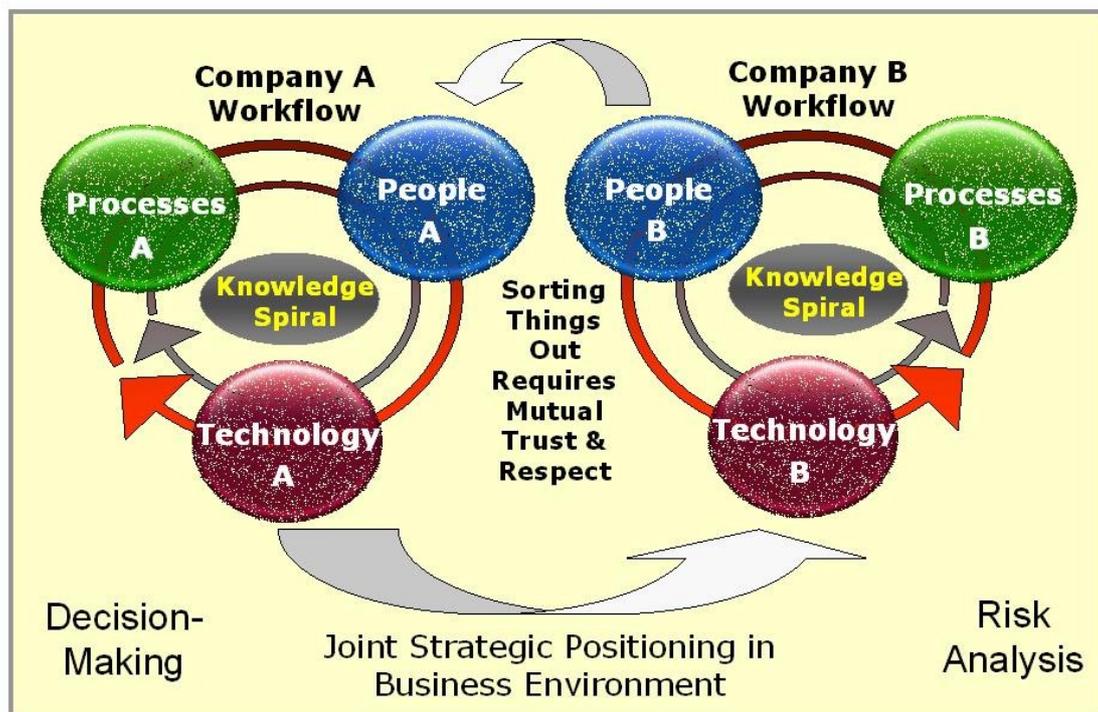


Figure 14. Integration of People, Technology, Processes and Workflows of Company A and Company B requires dedicated attention. Human emotions may stand in the way of the successful sharing of corporate capacities. The respective Organizational Learning programs of Company A and B need to address specifically Cultural Gaps in communication in a continuous effort to safeguard and increase their overall Emotional Intelligence

If multiple parties are involved, the POS approach advocated here still holds. The chance factor for the individual aptitude of each party toward a prospective co-operation must be assessed and monitored using the scale provided in Table 1. These chance factors are the KPIs that factor into the POS equation. Any progress in raising the interest of individual parties (NGOs, Academia, Companies or Governments) involved in a project that requires the joint working toward a co-operation agreement, is built on a stepwise improvement of the individual attitudes toward co-operation, as expressed in the chance factors and multiplied in the POS. The net reward or EMV of each party must fulfil their minimum expectation, as outlined in Figure 13 from the perspective of one party.

*Postscript:* In 2002, Gasunie and the University of Groningen, with the support of Gazprom, jointly founded the Energy Delta Institute (EDI), now fuelled by their combined expertise. EDI is positioned as an International Business School and Research Center for Natural Gas and structurally contributes to - and spreads its knowledge and skills for - developments in the global gas industry. EDI's headquarter at the Meerwold Training Center is located on top of the Groningen gas field – the largest gas field in Western Europe. With its extensive network, EDI supports organizations around the world to acquire the knowledge and skills necessary to develop new, economically viable Oil & Gas markets, and to improve existing markets. The Executive Master programs at EDI are designed to build new leadership with skills and competencies required for strategy planning and direction-setting with high Emotional Intelligence. For information on EDI and its programs visit <http://www.energydelta.nl> .

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## REFERENCES

1. Berkhout, A.J., Currie, P.K., Bos, C. F.M., and Weijermars, R., 2008. Executive Education for Oil & Gas Professionals. Talent & Technology, SPE publication, Vol 3, in press.
2. Bos, C.F.M., 2004. Optimizing the Value Chain of the Upstream Oil & Gas Industry – Why we need a new approach to training. Petroleum Africa Monthly, August, pp. 52-58.
3. BP, 2006. Statistical Review of World Energy.
4. Clingendael International Energy Programme, 2004, Natural Gas supply for the EU in the short to medium term. The Clingendael Institute, The Hague.

5. Cornelis, A., 1988. Logica van het gevoel, filosofie van de stabiliteitslagen in de cultuur als nesteling der emoties. Uitgave Stichting Essence Amsterdam/Brussel/Middelburg, 9<sup>e</sup> druk, 2000.
6. Evans, M.J., and Rosenthal, J.S., 2003. Probability and Statistics: The Science of Uncertainty. Freeman, 685 pp.
7. Fischette, C., 2004. Psychopathy and Responsibility. Virginia Law Review, Vol. 90, No. 5, pp. 1423-1485
8. Frijda, N., 2007. Laws of Emotion. Lawrence Erlbaum Associates. Londen. 352 pp.
9. Hofstede, G. & Hofstede, G.J. 2004. Cultures and Organizations: Software of the Mind. New York: McGraw-Hill.
10. IEA, 2006, World Energy Outlook. OECD/IEA, 596 pp.
11. Johnston, D., 2003. International Petroleum Economics, Risk, and Contract Analysis. Penwell Books, 401 pp.
12. Putin, V.S., 1999. Совершенствование методов обоснования ресурсной потребности территориальных подразделений государственной противопожарной службы Дис. ... канд. техн. наук : 05.13.10
13. Trompenaars, F, & Hampden-Turner, C., 1997. Riding the waves of culture. Nicholas Brealey Publishing. 265 pp,
14. Victor, D.G, Jaffe, A.M. & Hayes, M.H., 2006, Natural Gas and Geopolitics from 1970 to 2040. Cambridge University Press, 508 pp.
15. UBS gas report, 2006. UBS.
16. Weijermars, R., 2004. Intelligent Decision-Making in the Petroleum Value Cycle. Petroleum Africa Monthly, October, pp. 70-72.
17. Weijermars, R., 2007. Building Corporate IQ. Alboran Science Publishing, 276 pp.
18. Weijermars, R., De Jong, V. and Van der Kooi, K., 2008. Cultural Challenges in the Oil & Gas Industry: Managing emotions in Intercultural Business Environment can boost Production. World Oil, vol. 229, no. 4, p 223-228.