Innovation at GX? Clash of cultures! Hayward, ex-BP/Glasenberg at Glencore Xstrata.

A reissue of an earlier paper – given the current decline in Glencore's stock price

December 9, 2015

White & Partners published an opinion piece on Tony Hayward's work while he was at BP coincident with the disaster at the Macondo well in the Gulf of Mexico. Our interest at the time was in Hayward's initiatives, his innovativeness as CEO of BP as he took over from Lord Browne.

Now that Hayward has been appointed chairman at Glencore Xstrata (GX) and, having spent 30 years working up to the CEO position at BP, what he likely to do with this odd combination of Glencore, a commodity trading company, and Xstrata, much more of an operating company.

Glencore, not so long ago a commodity trading group based in Zug, has transformed itself, through deal making and acquisitions, into one of the largest companies on the FTSE 100 Index. It now employs 190,000 people including contractors.

This clash of cultures is one of the largest in corporate history. Will Ivan Glasenberg – GX's CEO – be able to build GX to tangle with the likes of BHP Billiton and Rio Tinto?

Knowing something about Hayward's good works at BP, and the current need to build an effective and smooth operation at GX, what can we expect from Hayward and how will managements' initiatives impact innovation at what is now a globally significant player in the resources industry? Could Hayward be a lynch pin for GX's adoption of innovation management practices and get results?

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Executive Overview

Resources companies have a tradition of innovativeness, of taking risks, engaging in new technologies, and planning for the future; and taking a long-term view of economics and global developments. Commodity traders have a much shorter time horizon, driven by logistics and profit for the moment. Why has GX appointed a 'nuts and bolts' manager as its chairman? Tony Hayward's appointment as chairman of Glencore Xstrata could have implications for GX beyond the obvious benefit of legitimizing the public launch of GX.

Tony Hayward took over the CEO role in BP from Lord Browne in 2007 and initiated a number of programs to integrate operations of this world-wide organization. BP had grown significantly through deals and acquisitions many of which had not been integrated under Browne. The contrast in style between Browne and Hayward has been characterized as Browne 'giving speeches' and 'glad handling presidents' whereas Hayward was seen to be a 'nuts-and-bolts' man with his feet firmly on the ground'. That was one of the reasons that we did our opinion piece on BP in 2010.

BP has a tradition of innovation in the energy field. Hayward's initiatives were aimed at improving financial performance which was lagging at BP. Hayward was, in our opinion, heading in the right direction. His actions, once he was on top, reflected an in-depth knowledge of the company gained through his 30 years with BP and, more particularly, as a result of his field experience and technical background. We were interested in the changes that Hayward was in the process of making when disaster struck. BP, under Hayward, was innovating. He was getting things done!

Cultural discontinuities had arisen from BP's acquisition program under Browne and there was a need to create a corporation working as one company. This was one of Hayward's challenge at the time. These challenges are very similar to the situation currently faced at GX but made even more difficult given the cultural differences between a 'trading company' – Glencore – and a company more oriented toward operating – Xstrata.

In 2011 Hayward became a senior independent director, brought in by Glasenberg to give more heft – credibility - to the about-to-be launched IPO. Evidently both see eye to eye on most issues and have a distinct 'chemistry'¹ between them. One executive opined that Hayward would hopefully be interim Chairman for only a short term as he 'not a statesman, and he's 'not a diplomat'.

Hayward oversaw the search² for a permanent chairman and was not in the running for the job, or so it was reported. At the time it was reported that there would be a need to appoint independent directors to its Board and, it was reported that the search was for a chairman having no existing links to Glencore. How things change!

¹ Financial Times, May 16, 2013, Hayward resurfaces from the depths.

² Financial Times, May 16, 2013, Tony Hayward becomes Glencore Xstrata interim Chairman.

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On the acquisition of Xstrata by Glenore, all former Xstrata directors were given the boot at the same time. According to this same report, Ivan Glasenberg³, as CEO will be given a 'free hand to dramatically reshape the company'. Glencore obviously dominates the bringing together of these two organizations.

Just recently⁴ Peter Grauer, Chairman of GX's Nomination Committee, said:

"The Board is very pleased to announce the appointment of Tony as permanent Chairman, following an extensive search process. Over the last twelve months, Tony has provided exemplary leadership of the Board and proved himself to be the outstanding candidate to take on the role permanently. We continue to look forward to harnessing his in depth knowledge of the resources industry and of listed company governance to underpin the mandate given to him as Chairman to lead the Board in helping to deliver long term, sustainable returns for shareholders."

We cannot think of another significant merger or acquisition, in recent years, which brings together such disparate cultures. On top of this is the seemingly awkward arrangement where leadership, as represented by Tony Hayward, a 'nuts and bolts' manager, is chairman and Ivan Glasenberg, the master strategist and deal maker, is CEO. One might think that the roles should be reversed. While this is unlikely to happen, the duo, with their combined experience represent a formidable team. How is innovation to survive, to be encouraged within GX? Is innovation even important? At BP, innovation was one of four core values and Hayward was at the center.

The culture of a commodities trader is vastly different from an operating company such as BP. The issue at hand is whether this is a relationship which is conducive to change – innovation – or not. It just might work. But will this arrangement last?

Glencore was not an operating company. Far from it. It was a commodities trading organization. Not that Glencore is without experience in assuming operating responsibility as a result of investing in an organization. Early experience in the iron and steel industry in Russia – Chelyabinsk Iron and Steel – is testimony to this experience. Glencore got out of the operating role as quickly as it could.

Can Hayward bring his BP experience in innovation to apply to GX? We think this is a possibility even if, on paper, the roles seem reversed. Most telling is the comment that Hayward is 'chairing the board of a company that is run by one of the most pugnacious bosses in the mining business'.

We await further developments!

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³ Ivan is very aggressive and understands the commodities business better than anyone I have ever seen. He's a hands-on manager. He doesn't have the number three, four or five person going down into Africa. He goes himself. John Mack, CEO of Morgan Stanley in an interview with Bloomberg

⁴ Dr Hayward was appointed to the Board in April 2011, prior to the Company's IPO. He served from the IPO as the Senior Independent Director until May 2013 when he was appointed interim Chairman.

Hayward's good works while at BP

Hayward was in the process of structuring a new culture into BP and had an approximate two-year period to initiate and bring about the proposed changes. There were many significant references to the new, and by inference, to the old BP culture, and how the situation had changed since 2007. The challenges faced by Hayward, even leaving aside the issue of safety, were enormous.

Schumpeter⁵ comments are that on the occasion Tony Hayward took over in 2007 he set about changing the 'sprawling bureaucracy' set up by his predecessor Lord Browne, and getting 'back to basics'. Schumpeter points out that BP's strategy 'depends on its ability to keep pushing the frontiers of oil exploration: drilling the world's deepest wells and probing the corners of the Arctic for deposits'.

Tony Hayward, in his March 12th, 2010, Strategic Presentation references the 'cultural changes' which had occurred over the 'past three years'. The overarching theme of the 'Strategic Presentation'6 was that BP's portfolio is solid but that financial performance 'needs catching up'. Corporate emphasis was to be now on cost reduction and 'continuous improvement'. Quantitative targets for reducing costs to circa 2003/2005 levels were specifically identified.

Upper management has been 'refreshed'⁷; a carefully chosen word for major restructuring.

Massive numbers of employee shifts have taken place. $20,000^8$ employees had left over the past 2 years (either including, or not, a reduction of corporate headcount of 7500 during 2009) and there were 14,000 hires over the same 2-year period.

The introduction of a comprehensive Operating Management System, intended to bring some standardization to all parts of the company, was underway and currently (2010) covered 80% of operations. Inferentially, this indicates that prior to 2007 considerable autonomy existed and could not continue to be tolerated by top management.

According to Schumpeter, acquisitions made under Lord Browne, particularly the acquisition of Amoco in 1998, were not integrated into BP, important since there was, under his tenure, a nine-fold increase in capitalization.

The current approach (under Hayward) was to tie rewards much more closely to performance. This suggests that this was not so much the case under Lord Browne and that different criteria for setting rewards and bonus amounts were in use.

⁵ The Economist, May 8th, 2010, Schumpeter, 'In the black stuff'.

⁶ March 12th, 2010, '2010 Strategy Presentation'.

⁷ BP 2010 Strategic Presentation, March 2nd, London.

 $^{^8}$ BP 2010 Strategy Presentation, March $2^{nd},$ 2010, Tony Hayward's comments.

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Hayward made special mention of the need to create opportunities for technical personnel, i.e. opening up career paths for technically/scientifically oriented personnel. The inference is that these same personnel were not treated as well as others, for example those who were a part of general management, marketing or financial functions, under the old culture. It is unclear, but there was to be a significant change in the career and reward area impacting technical personnel.

The establishment of 'academies' and the new leadership center in Houston was a major initiative and reflected the need to train personnel and put the corporate stamp on all 'leaders' as the company moves ahead. This aspect of leaderships was, by inference, not given such a high priority under the previous management.

The approach to development was to be changed through the establishment of a centralized decisionmaking group. This is – or was at the time - a further indication of the desire of BP top management to regularize this key aspect of the management of the company's far-flung operations.

According to Schumpeter's article, Tony Hayward is quoted as saying that previous management under Lord Browne, was "too directive and doesn't listen sufficiently well". Hayward set out 'to replace flash and fluff with nuts and bolts' and to 'focus like a laser on safe and reliable operations'. Lord Browne concentrated too much on 'soft furnishings and too little on the foundations'.

In sum, the culture in BP was undergoing a dramatic and swift change under Hayward. The challenges facing BP are well documented in a speech given by Andy Inglis⁹, then Head of Exploration and Production, on March 9, 2010, at the CERA Venue in Houston, Texas; see Appendix A.

BP had identified innovation as one of its core values. BP wanted to be - to quote from their web site;

Innovative- We push boundaries today and create tomorrow's breakthroughs through our people and technology.

BP also wanted to be progressive, responsible and be performance driven. These were and are the four core values of BP.

⁹ As a result of today's (2010) changes, Andy Inglis will relinquish his current role as head of the Upstream business. By mutual agreement with the BP board he will step down as a main board director on October 31 and will leave the company at the end of the year. Dudley said: "Andy has played a critical part in the re-shaping of the Upstream business which we are announcing today and is remaining with BP over the coming months to help with the transition to the new organization."

BP chairman Carl-Henric Svanberg said: "Andy has been a strong leader of the segment for three years and a huge contributor to the board of BP. Over the recent months he has worked tirelessly at the head of a great team to seal the Macondo well. For that, and for his insightful participation in reorganizing our upstream business to face the challenges ahead, he has our gratitude."

The company said the planned review of its performance and reward strategy would focus on how to deliver better safety and risk management, allied with strong leadership and the creation of enduring value for shareholders.

The inference is reasonably clear and that is that the then current management and board wanted to stepchange the company from its earlier organization, management, operations, practices and that these dramatic changes would change the culture of the company hopefully in the right direction. The old system was not working, at least in not the eyes of the new 'refreshed' management, and dramatic changes to policy and management practices were required and quickly. Hayward's legacy set the course for change and was, unfortunately, cut short by the Macondo disaster.

BP's inappropriate response to the disaster, however, raised some questions about its preparedness; its research and its ideas, its innovativeness. With the failure of its off-shore drilling rig and its tarnished reputation for offshore drilling, world-wide attention was drawn to BP.

In the case of the drilling well disaster, BP wanted to be able to say that it had brought the most modern upto-date technology to bear on the problem; i.e. to clear up the current mess and, more importantly, lay a foundation of trust amongst stakeholders so that its deep-water drilling plans could continue apace. However, its strategic objectives¹⁰, based on what BP regards as the best portfolio of assets in the industry, placed, under Hayward, the most emphasis on improving financial performance through introducing 'continuous improvement' and making cost reductions while maintaining, at the same time, that safety and reliability were the #1 priority¹¹. It is difficult to understand just what the real priorities were and how the employees, more particularly the leadership within BP, internalized Hayward's strategic priorities.

Culture change, after all, takes time, and comes about as a result of an ongoing set of actions, mainly by the leadership, which contribute to a new sense – the culture – of any organization. Had the drilling disaster not taken place, it is fair to speculate that no changes would have taken place quickly. Had the new Safety and Operational Risk unit (which was put in place post disaster) been in place, the stop button might have been pressed and the disaster avoided. Toyota, decades ago, instituted their own quality control when they gave the assembly-line worker the right to stop production if there were problems. The concept, if applied at BP, might have changed the outcome.

BP's reputation for innovation – one of its four core values – was diminished under Hayward's watch and the company has since been working diligently to try to restore trust amongst its stakeholders.

Hayward, himself, has obviously survived the BP disaster and now has a new role to play in the resources sector.

¹⁰ BP 2010 Strategic Presentation, March 2nd, 2010, London.

¹¹ The efficiency drive was to later come back to haunt Hayward as critics 'claimed he had put profits ahead of safety'. **Building, sustaining and articulating innovation management best practices**

Glencore Xstrata - a profile of its evolution

Glencore – commodities trading

Glencore, one side of the GX name, has a checkered history. Much has been written about the original beginnings of this trading company and will not be repeated here except for extract from Wikipedia set out in Appendix B.

Glencore is, and was, primarily– a commodity trader with 'loaned' or temporary custody of assets as the vehicle for making money. Glencore's culture, as a commodity trader, has a number of characteristics, which make it very different from those policies and management practices normally associated with the resources business. While there is considerable risk in the exploration arm of the resources businesses, no matter which commodity is considered, the industry is amongst the most conservative when the well is drilled, the shaft is sunk, or in other words, investment commitments have been put in place. Long-term resource management on the site have a huge impact on operations and investment options.

Glencore has been characterized in many ways.

"its modern financial engineering meshed with an old-fashioned commodity trading house," said John Kilduff, a partner at the hedge fund Again Capital LLC in New York. "It's amazing how this formula has flown under the radar for so long, as the profits and growth of these firms has been astounding."

Employees are hired young and expected to make a career at the group, where they are known as either "thinkers" -- bright number-crunchers who design the company's complex financial deals -- or "soldiers", the hard-driven traders who fight to win the transactions.

They're really bright guys, they are really focused

"(Rich) was faster and more aggressive than his competitors," Ammann told Reuters last year. "He was able to recognize trends and seize opportunities before other traders. And he went where others feared to tread -- geographically and morally.

Trust and loyalty are very important to him. In many deals he wouldn't rely on contracts but on the idea that 'my word is my bond'."

Glencore likes to promote from within and build a kind of closed, self-sustaining network of senior traders, a culture encouraged by the company's founder Marc Rich.

There is an excellent more in-depth look at Glencore, as a relatively unknown company at least until recently - published by Reuters¹². The Reuters' review provides further insight into this most secretive company.

¹² Special report: The biggest company you never heard of BY ERIC ONSTAD, LAURA MACINNIS AND QUENTIN WEBB, BAAR, SWITZERLAND Fri Feb 25, 2011.

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Within the commodities and mining sectors, Glencore is regarded with a mix of admiration and fear. "It's an incredibly performance-based culture -- investment banking times three, probably," says a second outsider. Short-term thinking is a characteristic of the investment banking community!

Xstrata – an operating company with real assets

In some contrast to Glencore, Xstrata, or Sudelektra as it was called when founded in 1926, was an operating company, initially engaged in infrastructure and electricity projects in operating in Latin America. In¹³ 1990, Marc Rich + Co became its majority shareholder and soon diversified, and acquired coal assets in Australia and South Africa. It was listed on the London Stock Exchange in 2002. It was by this time a major producer of coal (especially thermal coal for power generation), but also into copper, nickel, primary vanadium and zinc and world's largest producer of ferrochrome. 19 operations worldwide. By 2011 it was the 16th largest company on the London Stock Exchange.

Xstrata doubled its size in 2003 as a result of the takeover of the Australian copper, lead and zinc miner MIM Holdings. Xstrata, took a lot of heat in 2004 for closing its recently purchased Windimurra Vanadium plant in Western Australia, shutting out workers, and increasing Vanadium prices worldwide.

In 2005 the company purchased an interest in the diversified Canadian mining company Falconbridge and claimed the remaining shares in 2006. Falconbridge (which by then included the mining and metallurgical company Noranda Inc.) was an Ontario-based natural resources company with operations in 18 countries. Mick Davis, the CEO of Xstrata, was intent on acquiring Falconbridge and was clear that he wanted 100% control¹⁴. This deal was at the time the largest all-cash (\$16 billion) offer in Canadian history.

Xstrata was an operating company, but with a flair for trading in commodities as well. Glencore fully acquired Xstrata in May of 2013.

Glencore Xstrata Now

The company was created through a merger of Glencore¹⁵ with Xstrata on 2 May 2013. As of 2013, it ranked twelfth in the Fortune Global 500 list of the world's largest companies. Glencore Xstrata is now a global diversified natural resources company and as of 2013 ranks 12th in the Fortune Global 500 list of the world's largest companies.

By most reports, Glasenberg had long-held ambitions to merge Glencore with London-listed Xstrata. Glencore owned 34.4% of Xstrata stock, had the same Chairman, and with the merger, would have a listing presence and, just as important, create a mining and trading powerhouse to compete with the likes of BHP Billiton and Rio Tinto and become a major force in the non-ferrous and specialty commodities arena.

¹³ Courtesy Wikipedia

¹⁴ During a conference call to discuss the purchase, Mick Davis made a now famous remark: "Xstrata is unlikely to hold a minority stake in any company."

¹⁵ Wikipedia

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In the metals and minerals sector GX currently has interest in ferrous (iron ore) and non-ferrous products¹⁶ which run the gamut of the supply chain from production through to marketing and sales. The energy sector focusses on oil (very familiar to Tony Hayward) and coal. Agricultural products¹⁷ is the third distinct business segment of GX's interests. In all three sectors GX's interest range from non-controlled to controlled assets. Over 90 commodities are included. Organizationally, GX has 90¹⁸ offices in over 50

countries. GX employs approximately 190,000 including contractors¹⁹ and is 25% owned by management. Qatar Holding LLC is the second-largest investor with an 8.1 percent stake.²⁰

GXs' policies and management practices are different than a 'normal' resource company



The merger of Xstrata and Glencore represents a clash of two widely differing

cultures and a curious senior management structure. GX is now headed up by a chairman, whose particular skills, honed while at BP, would best be described as strategically and operationally focused, and he was doing good work. GX has a CEO, whose route to the top has been through deal making and acquisitions.

On the one side an organization devoted to trading commodities which requires hour-to-hour contact and logistics arrangements globally to maximize short-term profit²¹.

On the other side an operating entity which, in the mining and minerals business, means thinking long term, investing with the hope of realizing returns sometime in the future once capital is fully invested.

A chairman whose solid reputation in the resource industry is based on his achievements in operations improvements while at BP but whose penchant is (or was) for the nuts and bolts of operating.

A CEO whose whole careers has been spent in deal making and pushing for profits, short or long term.

In summary, the result of this 'merger' is that there are two different styles of management layered on top of two organizations which may not have the same vision nor culture.

Through researching a variety of sources there is a consensus around the policies and management practices of Glencore and this is mostly due to the fact that the style of management at Glencore is so different. There is less information around on this subject for resource companies and that is probably due

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¹⁶ Copper, nickel, zinc/lead, alloys, alumina/aluminium.

¹⁷ Grains, oils/oilseeds, cotton and sugar.

¹⁸ GX web site.

¹⁹ A bit unusual to reference a total which includes the number of contract personnel!

²⁰ Bloomberg, March 4, 2014

²¹ Thomas White International. May 2011. Back in his home country, South Africa, Glasenberg started overseeing shipping details ensuring the punctuality of shipments. It was here that Glasenberg honed his skills for a career in trading. Working among the rank and file, he developed a knack for establishing long-term relationships and a showed untiring energy to travel the world to make deals. His stints in Sydney, Hong Kong, and Beijing were marked with remarkable success. Even until this day, Glasenberg's energy and go-go attitude surprise men half his age. Glasenburg, who is now 54, competed in triathlon until the age of 43. He still sticks to his routine of a long jog in the morning.

to the fact that they are well known and are – 'normal'. What are some of Glencore's management characteristics – at least those that relate to innovation?

Glencore has a 'high-pressure' working environment, following on the intrepid urgency exhibited by its CEO, Glasenberg. He has made no bones about what he expects; no 'work-life 'balance – it's all work and no play. No beaches and no champagne consumption permitted²².

Middle managers at the newly acquired Xstrata would be let go. The Xstrata board members were removed almost instantly. Layoffs are to 'be big²³'.

Glasenberg "has set the tone for the new 'age of austerity' for miners," Bank of America Merrill Lynch analysts Jason Fairclough and Peter O'Connor wrote in a note today. "In our view, his firm embodies the culture of owner-managers that other CEOs may seek to emulate."²⁴

One area where Glasenberg does get soft however, is on worker mobility, noting that blue collar miners can work their way up to earning the eight-figure salaries enjoyed by his squadron of commodities traders. Just try him.²⁵

Glencore has wasted no time in rationalizing the Xstrata assets, Thirty-three offices have been closed and marketing synergies have been realized. Xstrata seemingly had run "gold-plate operations'; a legacy in part of its Noranda and Falconbridge operations. Glasenberg said: "We don't need a whole bunch of people analysing every asset purchase or whatever ... we want mining engineers to run mines."²⁶

The focus on GX's current strategy is to realize savings through rationalizing assets globally, taking advantage of duplicate operations and merging functions. For the moment, 'greenfield' development would be constrained in preference to getting the most out of assets in place. So far, half of the 88 Xstrata projects reviewed would not go ahead. New exploration would be minimized.

Glasenberg's "Glencore way" virtually eliminates so-called "greenfield" development in new locations in favor of "brownfield" developments around existing mines.

Glasenberg is intent upon taking the trading culture of Glencore, described as 'hard-working' (implying that this was not the case at Xstrata) and imposing this on what was Xstrata.

 $^{^{\}rm 22}$ Huff Post Business, May 16, 2014

²³ ibid

²⁴ Bloomberg, May 3, 2013

²⁵ Huff Post Business, May 16, 2014

²⁶ FT, September 10, 2013

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There is even the suggestion that it is the traders who will make the most money. Mr. Glasenberg says there's no reason for a miner to be jealous about the seven- and eight-figure salaries traders make. "You want to be a trader, come be a trader," he says. "The door's open. You want to travel six days a week, you want to travel the world, the door's open. I earn more than you. Come be a trader. Please, the door's open."

Glasenberg embodies the shrewd, hard-hitting qualities (work ethic) that have taken Glencore to the pinnacle of the commodities world. Under his leadership, Glencore has stuck to a culture encouraged by founder Marc Rich, building a tightly knit firm that reminds some outsiders of Goldman Sachs before it went public.

"Ivan is very central to the culture," said a second person who has worked closely with senior Glencore officials, adding that as with Goldman, that ethos involves "real allegiance to the organization and an incredible identification culturally."

"The key people, Ivan included, are on a plane, at mines, meeting trading partners, probably 70-80 percent of the time. If they are in Zug more than one day a week I think they get a rollicking email saying, 'Why the hell aren't you out?'," the first outsider said.

The detail-focused Glasenberg mixes lucrative financial rewards and competitive pressure to get the best out of employees, while maintaining a flat management structure.²⁷

Most of these characteristics would not be associated with a 'normal' resources company, for better or for worse. Admittedly, these characteristics are very much tied to a CEO, and not necessarily others in the organization, but CEOs drive the culture. CEOs appoint people who have the same vision, work style, views, as their own. With 25% 0f GX owned by management, once can expect that the culture represented by the CEO will, or has, permeated quickly throughout the top levels of the organization. Either managers are on board the train or it is time to get off!

Glasenburg²⁸ and his company have drawn criticism but not, as noted, on his style or management practices. It is hard to criticize when the success has been so great. Rating agencies, however, flail his company for lack of transparency in some of the company's business dealings. Some of his investors also fret over the challenges of doing business in countries with significant political risks such as Russia and Zambia, and other resource-rich countries. For much of the last decade, rating agencies slapped the lowest investment grade ratings on his company citing the political risk that came with these investments. More openness and transparency may be beneficial not only for the investment community but for all stakeholders, including employees.

²⁸ Thomas White International. May, 2011.

²⁷ Reuters, Y QUENTIN WEBB AND ERIC ONSTAD. LONDON Wed May 4, 2011 1:55pm ED

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2013	GX	Rio	BHP
		Tinto	Billiton
Revenue	\$233	%51	\$66
(billions)			
Profit		\$1	\$11.1
Net income	\$7.3		
(\$billions)			
Employees	190,000		49,496
- •			

Resource company business models.

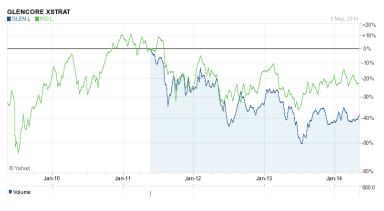
If the whole idea is to create a company which has a stature in the industry similar to BHP Billiton and Rio Tinto, which are highly integrated operations with common policies, business procedures, a global operating system, etc., - the trademarks of the mining industry – the challenges are immense.

Both Rio Tinto and BHP Billiton are full-fledged and corporately-run operating companies with a legacy of generations of management, policies, management practices and yes, bureaucracy. Decades of evolution have set in place policies and management practices in these two premier resource companies.

Rio Tinto and BHP Billiton have a different business model than GX. Ivan Glasenberg's business model is reminiscent of DeBeers with its extensive control over not only diamond production but also strictures on the sale and distribution of product globally.

All three organizations are involved in a wide range of common and specialty commodities (if that is not a misnomer).

The added challenge for GX is to perform on the stock market and to at least bring its financial performance up to the competition. Both BHP Billiton and Rio Tinto have outperformed GX on the stock market, in spite of the huge difference in reported revenue.



Glencore's IPO in May 2011 addressed many, if not all, of the complaints leveled on Glasenburg. The move gave him more capital to expand and even more clout in the commodities market. The transparency that comes with being a public company will have its own advantages. As a public company, Glencore's trading operations will be strong enough to snap up proprietary trading away from the commodity desks of investment banks.

And there is no one more determined to make all this happen than the CEO, Glasenberg, but there is an irony. Perhaps, given each person's experience and obvious success, Hayward should be the CEO and Glasenberg should be Chairman. Or perhaps there is a need for a COO, with the attributes of Hayward and Glasenberg combined? Only time will tell how the business model is developed.

GX's business model may end up shielding the company from liabilities. GX owns 29% of PolyMet, a controversial project in north-eastern Minnesota and while agreeing to take all output for at least 5 years has not taken controlling interest in spite of having sunk \$130 million into the enterprise. [Bloomberg, May 5 - 11, 2014. Little Rocks. Big Worries.]

The challenge of shifting the culture at GX

Glasenberg is intent upon changing the culture in the operating arm of GX and applying his 'Glencore way' throughout GX.

Changing a company's culture is akin to trying to turn an ocean liner around in a tight circle. It is extremely difficult to do over the short term. Culture develops over a long period and most often arises from the beliefs and attitudes of one or more of the company's founders and later influenced by successive generations of leaders at the C.E.O. and/or level of Chairman.

Cultural changes are most often successfully brought about by a newly-appointed C.E.O. (not Chairman) because he/she grew up in the company and knows its operations intimately. Witness A.G. Lafley's dramatic change to the culture of P&G during his first regime as CEO and that this was built on a 30-year career with the company. Lafley has since been brought back to run P&G. Given their knowledge of the company, they know where to start and know what aspects of the change in culture to emphasize. GE's

Immelt is yet another example of an 'insider' being able to bring about substantial changes based on a deep understanding of operations and culture. Similarly, Thulin at 3M.

Tony Hayward joined BP in 1982 and began his career dealing with rig issues as a rig geologist. Successive appointments led to his returning to head office in London in 1997 and his appointment as Group Executive of BP plc in May, 2007. Hayward obviously knew the culture and had the company experience to bring about change. Tolerance for mavericks (F#3, Tolerance for failure (F#5), Tolerance for variances from a defined or undefined corporation norm(F#8), Availability of reward mechanisms for innovators/innovations (F#14), A sense (among employees) that resources are available should attractive ideas/projects be identified (F#19), R&D spending levels as compared to the competition (F#23)

Hayward is much less familiar with the GX's culture, especially the culture of commodities trading but his time as interim Chairman gives him a leg up.

Appendix C sets out a set of policies and management practices most often associated with highlyinnovative companies. How does GX compare with these characteristics?

Under 'idea generation and realization', there are a number of characteristics which describe an innovative company. The 'Glencore way' certainly encourages mavericks (as long as they make good operating returns), and the same would seem to apply to being able to work outside of a 'corporate norm'. In contrast, GX's practices do not seem oriented towards encouraging research or having people believe that there are funds available should a good idea be brought forward.

Under 'leadership' it is hard to square the statements from Glasenberg, and from those commenting on his style of management, with the characteristics most closely associated with highly-innovative companies. Innovation is not mentioned as it was at BP. The emphasis is on the achievement and reward for short-term profits. Seeking opportunities is not so much a priority as reducing costs and the rationalizing of resources. Risky projects have been shelved.

Under 'organization and management of day-to-day affairs', the story is essentially the same as above. Decision making is one way at this point; top down. One suspects that there is little room for independent groups to make decisions given the detail orientation of Glasenberg and his desire, willingness and ability to get involved in all aspects of management.

Management emphasizes people – human resources and interaction (F#6), Lots of informal communication in the company (F#10), Use of independent (groups with authority to make changes) work groups to accomplish projects and special tasks (F#11), The degree to which decisions are made with input from several sources in the company - or is decision making unilateral and driven from the top (F#12), too much or too little staff involvement in decision making (F#20), The formality of the decision process (F#13) and the approach to organization; centralized decision making or decentralization (F#18), Is the organization action oriented or lost in planning processes (F#15).

Comments respecting the need for a 'flat organization' would imply a lack of room for a staff involvement in decision making. Broad consultation seems not to fit the characteristics of the GX way. On the other hand, there is no doubt about the rapidity of decision making. Time is of the essence in GX.

In summary, very few of the characteristics most often associated with innovative companies seem compatible with what has been described as 'Glenore's way'.

Why are innovative characteristics important in the resources industry? The resource industry is not often referred to in the same sense as high-tech companies and outwardly the industry does not have a reputation for innovation. Those who have worked in the industry would have a different view. There is much experimentation taking place in the resource industry. Earlier comments by Andy Inglis spelled out the oil/gas sectors challenges. Many of his comments also apply to other sectors. Advances in production techniques, the use of robotics underground, communications improvements are underway. Resource companies are learning lessons in dealing effectively with safety, environmental and human rights issues. There is no end Management (and Board level people) explicitly look for innovation (F#2), The subject is high on the agenda for Board meetings, management meetings, conferences, etc., The emphasis by senior management is on achieving a balance between achieving short-term profit and longterm goals (F#1), Business strategy, planning and budgeting emphasize finding opportunities (F#4) rather than cost cutting or rationing of resources, Substantial tolerance for risk in the planning process (F#9).

to the challenges and it is through better policies and management practices – innovative changes – that solutions will be found.

Is this, i.e. the GX 'arrangement', moving the company so as to become more innovative or, to set another benchmark, to match the innovativeness of its peers; Rio Tinto and BHP Billiton? Can the new 'GX' be trusted to bring about innovative solutions to new complex problems such as exist in the resources industry? Safety, environmental, human rights issues, as well as innovation, should be at the top of any resource company's agenda.

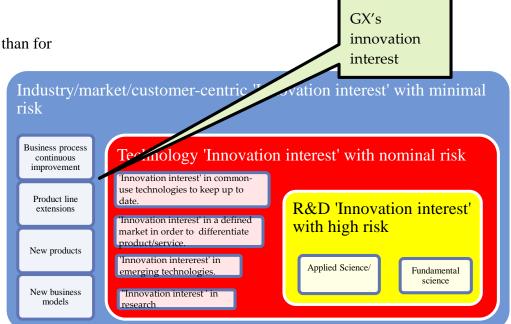
Innovation Prospects at GX

The prospects for innovation, other than for

initiatives which have a cost reduction focus – such as continuous improvement - seems off in the future.

Our definition of innovation is as broad as it gets, from fundamental science through to nitty-gritty continuous improvement.

The focus on innovation in GX will be, based on all of the characteristics and statement



which we have examined, on reducing costs through a variety of initiatives; asset rationalization, incentives to meet cost reduction targets, arbitrary layoffs, streamlining operations, cutting out middle management, etc. It is unlikely that investments in new technology, for reasons noted in the chart, will take place, at least for a number of years.

The lessons learned by Hayward while at BP may not represent the best practices in every area of the resources business, e.g. safety and environmental, but his focus on cost reduction, continuous improvement and bringing about integration were well placed at the time. The portrayal of BP's innovation challenges, Appendix A, well illustrate that resource companies need to actively embrace technologies which typically require a longer-term view than found in trading organizations.

The broader challenge for GX is to bring the good innovative management practices of resource companies, including those of BP, to become part of the 'GX Way'. Hayward knows the industry, has the reputation, gets along with Glasenberg, is chairman, and could be a lynch pin to bring this about in GX. At this moment, the probability of this happening is less than clear.

Appendix A

BP's Innovation Challenges Andy Inglis²⁹, Head of Exploration and Production March 9, 1020, CERA Venue in Houston. Texas

Good morning everyone and thank you for inviting me to take part in this discussion.

I want to share some thoughts about the frontiers of the energy industry and the distinctive role that international oil companies such as BP play at those frontiers. This is a speech made by *Andy Inglis*. It is repeated here as an excellent portrayal of the challenges facing not only BP but other resource companies as they search for and bring into operations vast resources from around the world. This is a model for a company in the resource industry. Highlighting is by White & Partners.

So first I want to look at what the current frontiers are and why IOCs are relevant to them;

Then I want to take a brief look at two examples of how we are applying technology to operate at the frontiers.

And I'll close with what I regard as the X factor which underlies all of this - and that is the frontier mindset.

So what do we mean by frontiers? I think of them as physical frontiers of geography and geology, but also the environmental and geo-political frontiers that are created by risks such as climate change and energy security.

There is an exploration challenge - we are looking for oil and gas in ever more testing and complex conditions - greater subsurface depths, higher pressures, and hotter temperatures.

There is a recovery challenge - the challenge of extending the life of mature reservoirs.

There is an environmental challenge - the challenge of working in a way that minimizes the footprint of our operations. And then there is the sustainability challenge - which is about addressing climate change by developing a more diverse energy mix that incorporates more low carbon fuels.

Different companies are able to address these challenges in different ways as a result of their history and

²⁹ As a result of today's (2010) changes, Andy Inglis will relinquish his current role as head of the upstream business. By mutual agreement with the BP board he will step down as a main board director on October 31 and will leave the company at the end of the year. Dudley said: "Andy has played a critical part in the re-shaping of the Upstream business which we are announcing today and is remaining with BP over the coming months to help with the transition to the new organization."

BP chairman Carl-Henric Svanberg said: "Andy has been a strong leader of the segment for three years and a huge contributor to the board of BP. Over the recent months he has worked tirelessly at the head of a great team to seal the Macondo well. For that, and for his insightful participation in reorganizing our upstream business to face the challenges ahead, he has our gratitude."

The company said the planned review of its performance and reward strategy would focus on how to deliver better safety and risk management, allied with strong leadership and the creation of enduring value for shareholders.

evolution. National oil companies all face particular challenges in their geographies and have developed distinctive expertise in relevant areas. Many of them have now taken that expertise to new locations as they've expanded beyond their countries' borders.

International companies such as ours have had a more wide-ranging experience. The events of the 1970s meant we were obliged to leave countries where production was nationalized and go in search of tougher opportunities - more remote locations; more complicated formations.

We had to sink or swim. And those of us who swam did so by evolving and we did by developing and integrating the qualities that are needed to operate at those difficult frontiers.

Those qualities include the leading-edge technologies that can identify and unlock resources, as well as the ability to build and deploy world-class capabilities.

IOCs have also created mechanisms to transfer capabilities and learning, and replicate their best practice around the globe.

And because we deal with a host of other parties in multiple jurisdictions -governments, other businesses, civil society groups - our success depends on forming partnerships that are based on a mutuality of interests.

This is the combination of qualities that has enabled IOCs to succeed - we have become conditioned to frontier activity - to pushing back the limits of exploration, development and production. And we each have our own approaches and specialisms.

In BP, our strategic intent is to focus on the largest fields and build leadership positions in a limited number of the world's most prolific basins. And as our results have showed, we have made good progress in delivering that strategy, with 17 years of a reserve replacement ratio over 100% and a record of big finds. Over the last year we've continued that record and delivered strong safety and operational performance.

But we can never afford to stand still. Each of these frontiers requires a step change in innovation and capability that only a very few companies can bring to bear.

Let me illustrate that by looking at two examples of frontier technologies starting first with exploration and then moving to production.

A significant portion of the world's yet-to-find oil is beneath the ocean bed, and in ever deeper water and subsurface depths.

Forty years ago BP discovered the Forties field in the North Sea. We were working at what was then the

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frontier, in water depths of around 400 feet and drilling to a total depth of 11,000 feet. In geological terms, that was reaching the upper tertiary layer.

Today, the new frontier is the lower tertiary or Paleogene, and as you may know BP made a major discovery last year at this level with the Tiber Prospect in the Gulf of Mexico. At Tiber, we found oil under four thousand feet of water and at a total depth of 35,000 feet, or six miles, below the sea floor.

Although a record, this was not a one-off. It represented the latest step in a journey that has taken us to progressively deeper waters and deeper wells - particularly in the Gulf of Mexico - but also off West and North Africa.

Deepwater has meant pushing our boundaries in several ways besides the sheer depth of water and wells. We've developed the capability to create advanced floating production facilities, complex riser systems and subsea equipment with the ability to integrate the elements to cope with extreme temperatures, pressures, and oceanographic conditions. And that has enabled BP to become the leading deep water IOC.

But as many of you know from your experience, some of the most game-changing developments have been provided by information technology.

These include the breakthrough in seismic technology which has enabled us to access images of what lies beneath the salt layer.

For decades, salt had been a barrier which confounded our imaging, fogging our lenses, preventing us from seeing what lay under the deepest water. But advances in seismic technology have now enabled us to build up much enhanced pictures of the subsurface using seismic data acquired from multiple directions. The quantity of digital data produced is immense and creating the imagery depends on a data processing resource, that BP owns, that runs to 27,000 CPUs and 6,000 terabytes of storage.

It is one of the most highly powered processing centers in the US outside the Government, and is an example of what it takes to operate at the frontier.

The second example of a new frontier is actually in a sense a return to an old and rather stubborn frontier with new and better tools. This is the effort to improve recovery rates from mature, supergiant fields.

In the industry we have got used to an average recovery rate of around 35%. And leaving two-thirds of the oil behind has always been a frustration, especially in massive fields such as Prudhoe Bay in Alaska, Rumaila in Iraq, or Samotlor in Russia, where we know that huge amounts of oil remain under ground, untapped. If the average recovery rate were raised by just 5%, it would add around 170 billion barrels to world reserves, enough for five years supply.

In BP's portfolio, just a 1% improvement in the recovery factor of the original hydrocarbons in place across Building, sustaining and articulating innovation management best practices

all our resources worldwide would equate to around 2 billion barrels of additional reserves.

Alaska has been BP's key test-bed for enhanced oil recovery. One breakthrough came about, for example, because we challenged the conventional wisdom that using water with low salt levels to sweep reservoirs would damage rocks and impede recovery. In fact, our trial at the Endicott field proved the opposite was the case as low salinity water flooding increased recovery by around 20%.

Our LoSal Enhanced Oil Recovery process is now the default water flood method for BP sandstone reservoirs worldwide, and we calculate it has the potential to improve recovery across our assets by more than 700 million barrels.

Another advance trialed in Alaska is the nanotechnology application known as Bright Water which we use in water flooding. This uses tiny heat-sensitive particles which expand like popcorn to block well-swept areas of a reservoir and divert the water to areas where it can sweep out the most oil.

And we are transferring what we have learned in Alaska to our colleagues in our joint venture company TNK-BP as they work on Russian assets such as Samotlor.

At Samotlor, advanced water flooding is increasing recovery from mature parts of the field. But even more dramatic things are happening because three dimensional seismic imaging has revealed seven new satellite structures and given the field a new lease of life.

This kind of progress has helped TNK-BP to achieve a five year average reserve replacement rate of around 200% and double it's proved reserves over five years to 3.6 billion barrels of oil equivalent.

All these examples show that we prize technology, not for its own sake, but for the value it can add to our business. Our technology model is to achieve a leadership position in selected areas such as enhanced oil recovery or advanced seismic imaging, and then to continuously reinvent and apply that technology to solve real business problems and strengthen our portfolio. It is this relevance of technology being developed and deployed in a purposeful way to solve real business challenges that excites me the most.

Incidentally, one of the latest developments in terms of increasing recovery from a supergiant field is in the Rumaila field in Iraq - a world class oilfield by any definition - 65 bn barrels OIP and just 12 bn produced. BP is partnering there with CNPC of China and Iraq's South Oil Company to drive a major investment programme to increase overall recovery to around 29-30 bn barrels.

That conveniently brings me back to where I started, with the role of IOCs. And the fascinating thing today is that - as Iraq demonstrates - there are now new partnerships springing up all around the world in which IOCs are contributing what they have learned as governments and NOCs seek to push back the boundaries in their regions.

So the overall message of these examples is of an IOC community that has succeeded in extending the frontiers of the industry, constantly re-inventing the way in which business is done, not only through technology, but in how we are organized.

In BP we have been taking significant action in the last few months to ensure that we turn the momentum we have established in the past year or two into sustainable delivery for the next decade. We are now aiming for a new level of operational excellence and as part of that we are taking our upstream organization through its biggest changes since 1998 when BP merged with Amoco.

There are two strands to this. The first is about strengthening our portfolio through improved allocation of capital and capability, in particular strengthening the linkage that I mentioned earlier between the opportunities in our portfolio and the technology to capture them: identifying the frontiers of tomorrow - today.

The second strand of the transformation is about sustainably driving efficiency through the organization. That is largely to do with managing the scale of a 4 million barrel per day company. We have made good progress in replicating best practice but we can go a whole lot further in our efforts to make excellence the norm.

So we are creating a Centralized Developments Organization to ensure that we prioritize the right activities, select the right concepts and continuously improve efficiency by leveraging standardization, global scale and capability. We are adopting a standard, functionally structured, model for our regional businesses to further accelerate learning. And we are embarking on a major capability programme, providing road-maps for the professional development of our people, starting with our 8,000 petro-technical professionals.

We have created a state of the art learning center here in Houston to provide our professionals with worldclass development. And they don't need to travel to Houston to get it.

The centre has been purpose built to fulfil the mission of standardizing excellence by transferring our top expertise rapidly around the world. So as well as being a centre of skills and knowledge, it is also broadcasting platform with high-definition video classrooms. It allows the BP experts to teach the BP way globally.

At root, my experience tells me we that what is required for the industry of tomorrow is not only the physical, intellectual, technological and strategic qualities needed to work at the frontiers but also the right mind-set. A mind-set that wants to win, wants to lead and doesn't give up.

Energy companies equipped with that mentality will be constantly looking for the most innovative and efficient ways of doing business.

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Like the best companies in other sectors, they will frequently reinvent and renew themselves in the search for even more efficient practices and technologies, going the extra mile to be the industry first mover.

Ultimately it is that frontier mentality that creates value for shareholders. It is that mind-set that delivers quality to customers and partners. And it will be that frontier spirit that enables the world to meet one of its greatest challenges - creating sustainable energy security.

Appendix B

Glencore – a brief profile³⁰

From 1974 to 2000, according to an Australian Public Radio report, "Glencore's history reads like a spy novel".^[11] The company was founded as Marc Rich & Co. AG in 1974 by billionaire commodity trader Marc Rich, who was charged with tax evasion and illegal business dealings with Iran in the U.S., but pardoned by President Bill Clinton in 2001.^[12] He was never brought before U.S. courts before his pardoning, therefore there was never a verdict on these charges.

In 1993 and 1994, after failing to control the zinc market, losing \$172 million, its founder Marc Rich was forced ^{[12][14]} to sell his 51 percent stake majority share in his own company Marc Rich & Company AG to Glencore International, the commodities trading and industrial company. Glencore International had a 21-year relationship with its founder Marc Rich.^[16] The enterprise, renamed Glencore, is now (then) run by Marc Rich's inner-circle of "lieutenants", including founding Glencore CEO Willy Strothotte and present CEO Ivan Glasenberg.

When the commodities group, Glencore International made its Initial Public Offering (IPO) in May 2011 in dual listing, London and Hong Kong, valued at about \$US60 billion, it was obliged by IPO regulations to provide a prospectus. The 1,637-page revealed invaluable information about this private company that has remained discreet for thirty-seven years. With the IPO, Glasenberg shares would fall from 18.1 before the IPO percent to 15.8 percent after the offering. Glencore, the mining-to-trading giant went public in order to raise gross proceeds of around \$10 billion. Glencore is known for its "opportunistic but lucrative acquisition strategy." Abu Dhabi's IPIC Aabar committed \$850 million to the IPO, making it the largest cornerstone investor.^[17]

Appendix C

Innovation at BP

In our earlier Profile of BP, we characterized innovation at BP under three headings; idea generation and realization, leadership, and organization and management of day-to-day affairs.

While innovation was one of the four core values of BP, it was, in our opinion, not receiving as much attention as other core values, such as cost reduction and profit optimization.

This review is adopted from our earlier Profile of BP.

Idea generation and realization

Shortly after the drill-rig crises began, a BP executive was on television asking – more like pleading – for anyone who had bright ideas on how best to stop to the flow of oil. All ideas would be welcomed.

The first most significant idea, which, one presumes came from BP itself, was to drop a large containment dome over the source and direct the oil upwards in a controlled fashion to a ship on the surface. This did not work in the first instance but with refinements a solution was finally found. Even Tony Hayward

explained that the 'dome' might not be successful as they had never tried it before. Confidence in the innovativeness of BP's deep-water drilling approach and by the industry, was severely damaged. Not one other oil company (according to our knowledge) came forward with a good idea for solving this problem. Had the industry spent enough of its resources researching the implications of its operations?

The innovative ideas deployed in reaction to the disaster had, by most accounts, been around for years: 'a low-tech affair'³¹. Chemical dispersants, containment booms, burning oil are technologies which have been around for decades. The same technology was used for the Exxon Valdez spill in 1989.

Innovation management

Idea generation and realization – important characteristics

- Tolerance for mavericks (F#3)
- Tolerance for failure (F#5)
- Tolerance for variances from a defined or undefined corporation norm (F#8)
- Availability of reward mechanisms for innovators/innovations (F#14)
- A sense (among employees) that resources are available should attractive ideas/projects be identified (F#19)
- R&D spending levels as compared to the competition (F#23)

 $^{^{\}rm 31}$ MacLean's, May 24th, 2010, In Deep Trouble, Jonathan Gatehouse.

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The idea of dropping a 'containment dome' over the gushing well and then piping oil to the surface, while a failure in the first application, was the only response to the failed well-head. Other ideas – Rube Goldberg devices – were in the works but whether they were to be successful was very much an open question. One might have thought that BP (or Transocean) as the operator with the most experience working at depth³², would have thought through several plans to recover from a blowout – like the containment dome – and tested the device as part of an ongoing research and development program. It seems only logical that if a company is to work at such depths it should be advancing its research on the implications of working at depth.

BP set up a web site and hot line to encourage and collect suggestions for capping the flow or cleaning up the oil³³. While not wishing to minimize this idea-gathering' effort, surely more should have been done in advance. Responding to, and testing, a range of possible failure scenarios should have been a priority for BP as it should be for the deep-water drilling industry overall.

The insert sets out some of the characteristics of innovative companies³⁴ which impact idea generation and realization.

Leadership

The culture for innovation is most influenced by senior management. The insert opposite sets out 4 characteristics of impact a culture for innovation.

The appointment of Mr. Svanberg as Chairman was to have made an important contribution to a changed culture at BP. His experience would provide that additional leadership so necessary to innovation. Ericsson, Sony Ericsson Mobile Communications AB as well as Asea Brown Boveri, companies with which he had been associated, are companies which emphasize innovation and have gone through significant changes in fast-moving industries.

Has the culture shift at BP changed the company's ability to innovate? The 'Strategic Presentation' makes no reference to innovation. Innovation – the

Innovation management

Leadership - important characteristics.

- Management (and Board level people) explicitly look for innovation (F#2). The subject is high on the agenda for Board meetings, management meetings, conferences, etc.
- The emphasis by senior management is on achieving a balance between achieving shortterm profit and long-term goals (F#1)
- Business strategy, planning and budgeting emphasize finding opportunities (F#4) rather than cost cutting or rationing of resources
- Substantial tolerance for risk in the planning process (F#9)

word – is used only in connection with its line of lubricants. BP management does not explicitly look for innovation, except to note it as one of their four pillars. One might worry somewhat about the continuing

 $^{\rm 33}$ Maclean's, May 24th, 2010, In Deep Trouble, Jonathan Gatehouse.

³² BP makes the point (in the Presentation) that it is the pre-eminent player in the deep-water drilling business. It has drilled more wells than any other player in the industry and drilled the deepest well (35,000 feet).

 $^{^{\}rm 34}$ For more information on the Factors, visit; http::www.corporateinnovationonline.com

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emphasis on cost reduction and continuous improvement and whether long-term goals, particularly as related to innovation, are too far down the list of priorities.

Organization and Management of Day-to-day Affairs

The insert opposite illustrates come of the key characteristics of how innovative companies organize and manage their day-to-day affairs.

BP, through the establishment of its academies and leadership training, was placing a great deal of emphasis on its people and their interactions.

BP was in the process of putting in place a management system which would result in a common operating management system across operations³⁵. The uniform system was no doubt required because of the acquisitions made during Lord Browne's time and which, at the time, were not properly integrated into BP³⁶. To a great extent, the new system had to embody a new culture and, while one does not have a lot of information on the new system, it is clear that change was underway.

Innovation management

Organization and management of day-to-day affairs - important characteristics.

- Management emphasizes people human resources and interaction (F#6)
- Lots of informal communication in the company (F#10)
- Use of independent (groups with authority to make changes) work groups to accomplish projects and special tasks (F#11)
- The degree to which decisions are made with input from several sources in the company – or is decision making unilateral and driven from the top (F#12) – too much or too little staff involvement in decision making (F#20)
- The formality of the decision process (F#13) and the approach to organization; centralized decision making or decentralization (F#18)
- Is the organization action oriented or lost in planning processes (F#15)

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²

³⁵ BP 2010 Strategic Presentation, March 2nd, London.

³⁶ The Economist, May 8th, 2010, Schumpeter, 'In the black stuff'.