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Op-Ed on the latest restructuring of Britain's iconic engineering company; Rolls Royce.

If only RR had used our on-line survey a few years back!

December 20, 2015

Warren East, in the role of CEO of Rolls Royce since July, is quite candid about RR's current problems. While many of RR's problems relate to strategic choices[1] such as where to invest, what markets segments offer the best opportunities, and where improvements are needed, much of the underlying issues are related to the culture[2] of this venerable organization.

RR is not alone in its drive for 'a leaner, and fitter organization'[3]. GE and P&G, also large complex organizations are striving for 'simplicity', driven largely because of poor financial performance, poor return on capital. RR – namely Warren East - is explicit about the problems.

Is there something to be learned by examining their innovation management practices? This report sets out to do this by parsing the latest information and making use of our Framework for Innovation Management best practices[4]. Problem diagnosis is the first step towards a solution.

A Quick Summary

RR is about to undergo a major shake up with the driver being competitiveness and recent poor financial results. The pressure has been building for several quarters – maybe years.

RR's management practices are reminiscent of several of the companies which we have researched; some have sustained innovation while others have failed.

In this paper we bring to bear this experience in setting out a framework for setting out RR's options and areas for concern.

Leadership and idea generation and realization management practices are less of a concern than those practices which come under the theme; organization and management of day-to-day affairs. The good news is that this theme is more fixable than the management practices associated with the other two themes, if done right!

Issues to be addressed at RR

The organization is famously hierarchical – but does want to be famous – to be known – for being hierarchical? Not in these days where the latest management efforts in large companies is to be lean, fit, and o strive for simplicity. The problems identified or alluded to in documents which are available publically are set out below.

[1] Investor relations, presentation, 2014
[2] Financial Times, December 15th, 2015
[3] ibid
[4] For an explanation and background to the twenty-five Factors please visit the web site; http://www.corporateinnovationonline.com

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The issues, as noted above, are drawn from several sources and indicate the depth of the problems to be addressed.

Each of these issues has been cataloged into W&P's framework of twenty-five Factors which identify the management practices most appropriate for encouraging, or in their absence discouraging, innovation. By so cataloging problems one has an improved understanding of solutions which can be implemented.

According to latest reports, the 'shifts in systems and culture will take four to five years' to accomplish. Perhaps this time frame is optimistic as RR's organization is complex, senior management structures have expanded significantly in the last years and have led to growth in corporate and overhead costs[7].

The culture of RR has no doubt been upturned by recent announcements and initiatives and but the short and medium-term impact on morale could be either disastrous or enervating for those who remain with the organization. Change is in the air and it is change[8] which RR has so far assiduously avoided. Much depends not only on the form of change but perhaps even more so on the process by which change is introduced.

[5] Investor relations presentation, November, 2015, number 91
[6] ibid
[7] Investor relations presentation, November, 2015, number 87
[8] Reference the need for a "burning platform"

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Organizational initiatives

Senior initiatives announced so far

RR is being reshaped into five business segments just like GE[9], 3M and other companies which have streamlined their complex organizations most recently. With the aim of reducing or eliminating duplication of effort the two broad areas of aerospace and land and sea are to be dumped in favor of five business units. As an example, business reviews, traditionally followed by division reviews followed by executive reviews will be reduced to two levels.

Organizationally, important steps are being taken to drop barriers. Previous split – aerospace (CEO departs) and land and sea (president departs) will now be into five segments; civil engines (Shulz moves to civil aerospace from civil engines), defense (Cholerton as before), marine (Makinen as before), power systems (Dohle as before) and nuclear (Holt to head up) reporting to the chief executive. To top off the changes, an outsider will be hired to become COO. Group engineering and technical director is drawn from 'large civil engines' replacing a 42-year veteran at RR, Smith who will remain on the executive board as group president. There is some indication that the talents of those in the power systems group, the marine business and aerospace groups could be rationalized across RR.

Already the departure of RR veterans, Tony Woods, Haynes, and Smith sends a signal of disruption as the divisional structure is removed and career RRs are appointed to challenging jobs.

	Previous Head	New Head	Employees (2014)	Underlying revenue (millions)	Revenue per employee (pounds)
Aerospace Division	Wood	None			
- Civil		Shulz	23900	6837	286066
- Defense	Cholerton	No change	7000	2069	295571
Total Aerospace			30900	8906	
76% of profit*					
Land and Sea Division	Haynes	None			
- Marine	Makinen	No change	6400	1709	267031
- Power Systems	Dohle	No change	10700	2720	254205
- Nuclear		Holt	3900	684	175384
Total Land and Sea			21000	4958*	
24% of profit					
Total Group				14588	
COO		TBD			
Group engineering and technical	Smith*	Barkev			

- Including intra segment of 155
- Remains on the executive board as group president
- Source; Bloomberg; EPA

[9] GE has ???? business segments; ???/

Of great significance is the intended hire of an outsider to hold the important role of COO. Our reviews of organizations which hire outsiders to bring about changes may suggest caution. Outsiders simply do not have the in-depth knowledge of organizations steeped in culture as is RR. Examples include HP and early happenings at 3M. Understanding the culture of an organization is paramount to introducing change.

On the other hand, the appointment of insiders has produced effective organizations at GE, Deere and Company, P&G under Lafley first time around, and at Starbucks on the return of Schultz, who never was an outsider. Much depends on who is brought in, his/her personality, style, credibility and knowledge of markets. The appointment is usually the prerogative of the Board but that involvement is not so clear with the appointment of a COO. Board guidance is required.

Strategic restructuring

Forward strategy involves significant change

Strategically, RR could plan to re-enter the narrow-body, smaller-engine market, which when jettisoned for reason, did provide additional volume at the time. Others point to the need for RR to focus on engines for the next generation wide-body jets. The idea is to focus on the future markets for jet engines and "stop wasting time"[10] debating about what to do; go big or small[11]. RR has not been good at execution.

The fog created by the inclusion of revenue from servicing jet engines, apparently the bulk of earnings, has not helped an understanding of the performance of the aerospace division. Moving future profits to current earnings and deferring costs in the other direction may have made for good earnings but, to the extent RR did this, earnings were evidently overstated.

Part of the new idea is to try to share RR's technology and expertise more broadly throughout the organization – but the specifics of how this is to occur have not been made clear. Engineers and engineering per se, on closer look, may well be found to have an expertise which, while excellent for one product area, will not be easily applied to other products or services. Specialization, while absolutely essential to one area, might take a longer time to be applied to another field. Sharing, on the other hand, is a good idea if the expertise can be made relevant and the internal service aspect can be made efficient.

Twenty-seven key technologies have been identified but these can be grouped into eight key technology themes which, according to East leads to a reduction in 'the number of meeting[12]' which need to occur. Some manufacturing will need to be shifted to low-cost countries to achieve cost reductions which leads to interesting supply-chain issues particularly as China moves to strengthen its aerospace business and is a voracious consumer of technology.

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[10] According to East

[11] GE has 48% of the wide-body jet engine market, RR is second with 31% and Pratt and Whitney has 14%. The narrow-body jet engine market is served by CFMI at 65%, Pratt and Whitney with 12%, IAE at 13% and RR with only 3%.

[12] Financial Times, November 25, 2015

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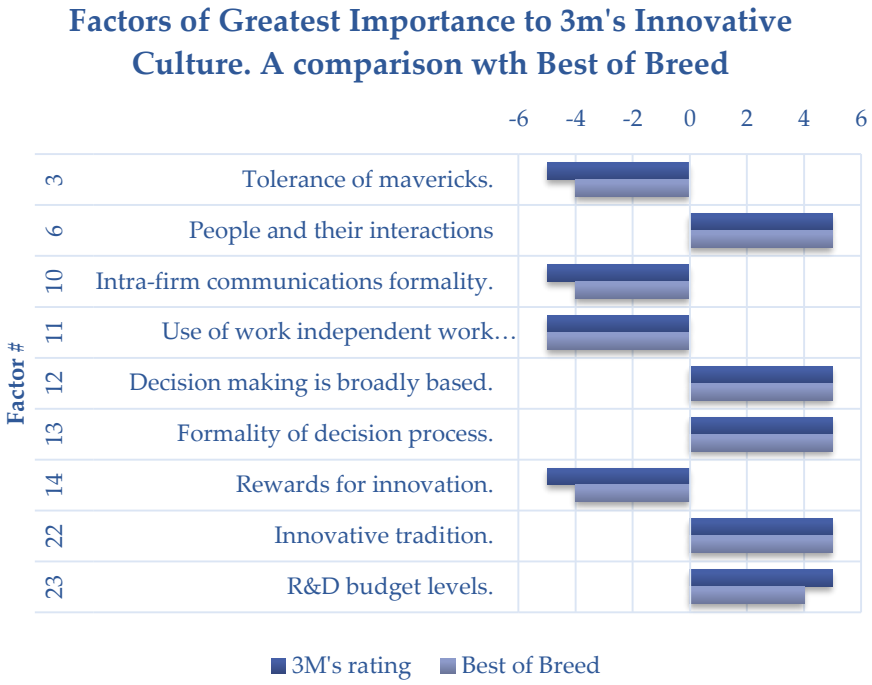
Innovation in big companies

Comparing RR with GE and 3M reveals some commonalities and differences

GE has a similar business to RR, particularly in the aerospace industry. Our review[13] of GE notes Immelt's initiative to 'simplify' the way GE does business. This includes dramatic decentralization with accountability so that GE can become more entrepreneurial and speed up decision making. At the same time GE must tighten its financial management practices and perhaps learn from the practice of Deere & Co. and 3M, two companies which we have also researched and which appear to do better at managing highly-diversified businesses than does GE at the moment. Under Immelt GE increased spending on R&D from the 5% of revenue range to 6%, thus reinforcing the revised direction which senior management has taken. GE's reputation for filing patents was restored under Immelt.

When it comes to managing a highly-diverse and large company, 3M, in our view, has the best policies and management practices in place.

It is instructive to compare these nine Factors with the ratings for RR which are set out in the next report segment. The 3M Factors are selected because they stand out when compared to other highly-innovative, idea intensive companies which we have researched. These are the Factors that make for a difference.



[13] CIOMAX report, September, 2014 on GE available at http://www.corporateinnovationonline.com

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How RR would rank on our on-line survey

Certain 'Factors' – management practices - seem more significant than others

W&P's on-line survey sets out twenty-five Factors related to innovation and innovation management. A graded scale allows the respondent to indicate the relative importance of each Factor – his/her 'Ideal' - and to indicate the 'Reality' of their current situation. The difference between the two rankings provide an indication of the gravity of their situation. A large 'Delta', the gap between the two measurements, provide an indication of the gravity of their situation and can be indicative of a challenge for management to improve the rating. Twenty-two of the Factors refer to management practices in place, or not, and the remaining three Factors are measures of the results of good or not so good practices; i.e. innovators stay or leave, there is or is not a tradition of innovation, and innovation is increasing or not.

While the Factors are reported here on a stand-alone basis, it should be noted that no one Factor impacts any organization. Rather it is the combination of Factors[14] which create the appropriate climate for innovation and change.

The format followed in this ranking sets out a description of the Factor – the management practice – followed by the extremes of measurement for each Factor. The respondent provides his/her input on a scale of five points for each extreme. Anecdotal information on RR, as noted earlier in this report, is attached to each Factor along with W&P comment where there is information available.

Factor description	Scale for measurement	Scale for measurement		

Red indicates a Factor which needs careful watching during upcoming changes. Green suggests that management need not be overly concerned.

Analysis by 'Factor'

Factor #1; Management's emphasis on short-term versus long-term profit. *As a long-term business we assess the market potential over a 20-year horizon*[15].	Emphasizes very short term	Emphasizes very long term		

All indications are that RR is shifting towards focusing, over the next few years, on a shorter term perspective. Financial returns have not been up to expectations and there is pressure from the market and from the Board, for much better results in terms of return on capital and share performance. This could be awkward since there is no better example than RR having to focus on the long term simply because of its business. Its planning horizon is upwards of 20 years. GE, which has at a minimum the aerospace business in common, struggles with many of the same issues and has a lower than anticipated return on capital.

[14] See our 'A framework for the management of innovation', available on the web site.

[15] Rishton, Annual Report - 2014

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Factor #2; Management explicitly looks for or has no interest in innovation. *Delivering relevant innovation is critical to meeting our customers' current and future needs*[16]*. Innovation: is at the core of Rolls-Royce and drives a culture of continuous improvement.*	Explicit objectives for innovation	Has no interest in innovation		

RR stakes its reputation on being able to innovate in advance of others in the aerospace segment. Spending on R&D, as an indicator of RR's commitment to innovation is relatively in line with the competition. Corporate communications vehicles; annual reports, presentations etc. confirm the company's deep interest in innovation per se.

Factor #3; Management has tolerance for mavericks or not	A lot of tolerance	Very little tolerance		

No information and no comment.

Factor #4; Planning emphasizes rationing resources or looking for opportunities. *Costs need cutting.*	Very much rations resources	Focus is on identifying opportunities		

The current focus is leaning heavily towards rationing resources or at a minimum taking a closer look than in the past on the likely return on investment of RR's capital program. Financial management and controls is receiving much more attention than in the past. Deere is one of our examples of a company which, having brought in SVA, introduced a more disciplined approach which was effective.

Factor #5; Management's tolerance for failure or not.	Very high tolerance for failure	Very low tolerance for failure		

No information and no comment.

[16] ibid

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Factor #6; Leaders emphasize management of people and their interactions or not. *"Organizational software" is to be used to rework the organization. Organization is too complex and hinders accountability for key tasks – makes clarity on goals and incentives less effective.* [17] *Financial targets were difficult to set because of 'unsatisfactory accounting processes'.*	Little emphasis on people	Very much emphasize people management	

Engineering organizations are notoriously difficult to manage and may not place sufficient emphasis on people – expecting them to behave as professionals, be communicative, tolerant, open and transparent and be supportive of performance-based reward systems. Support for a significant role for 'human relations' might not be given the highest priority. There is little outward evidence on this topic but suspicions are that this could require a refocused effort.

Factor #7; Corporation provides career ladders, powers and titles for innovators or not.	Innovators have limited career opportunities	Innovators have careers and recognition	

There is every indication that innovators are valued within RR and that there are no limitations on career opportunities for those who are inclined towards innovation whether this is the more routine 'continuous improvement' form or perhaps more sophisticated innovation by means of science and technology.

Factor #8; Corporation is tolerance towards variances from the corporate norm or not.	Corporation highly tolerates corporate differences	Corporation has little tolerance for differences	

No information and no comment.

Factor #9; Management's tolerance for uncertainty (as distinct from risk) in the planning process. *Very good at defining problems and solutions but not good at dealing with change, ambiguity or pace of change*[18]	Plans have a very low tolerance for risk	Plans have a very high tolerance for risk	

Engineering organizations which we have researched typically place a high priority on removing uncertainty through extensive studies, insightful criticism, and for example, constructing mathematical models to sort out investment options and identify gaps in planning assumptions. RR's withdrawal from the narrow-bodied jet engine business segment might suggest that it is unwilling to increase its risk profile; usually a negative characteristic in otherwise innovative organizations. This Factor is better addressed from the inside.

[17] ibid

[18] Investor relations presentation, November, 2015, number 91

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Factor #10; The style of communications within the organization.	Communication is highly informal	Communication is highly formal	

Cultural differences can play an important part in commenting on this Factor. In general, North American companies which we have researched – mostly U.S. based – place an emphasis on less formality and more informality. The 'open-door' philosophy was not first used in U.K. let alone European businesses. What is now realized is that communications up and down and down and up the organization is much more important a Factor than early on. Particularly the younger generation feed on information and expect an openness which would could only be possible through technology.

Factor #11; Management discourages or encourages use of independent work groups for special purposes. *Bureaucracy and cost has been built up over decades*	Use of independent work groups is greatly encouraged	Use of independent work groups is greatly discouraged	

The use of independent task forces to carry out special projects related to new ideas or modification to existing processes or whatever the task might be is one of the important characteristics of highly-innovative, idea-intensive companies. Sometimes these groups will have a high level of authority to make significant decisions while in other cases, the ability to take action or proceed on a particular path where investment in terms of money or time is required will be constrained. Each organization is different. No information and no comment re RR.

Factor #12; Management makes decisions with lots of input from the rest of the corporation or not. *East needs to 'get a grip on the day to day performance' – suggesting a shift to shorter-term decision making at senior levels*	Little consultation	Lots of input is sought.	

Refereed to these days as collaboration, this is one of the highly-prized attributes of organizations which we have researched. It is almost inconceivable that RR would not take advantage of its vast skill set in making investment and operating decisions where the level of intellectual capacity and experience in this highly-demanding business is so critical.

Factor #13; Decision process is elaborate and formal versus short and informal. *Decision-making is being reduced from a month's duration to about three weeks. Through organization one needs to reduce the number of meetings. Rishton, East's predecessor, stated that 'without a "burning platform" to create a sense of crisis, it was hard to cut costs in RR*	Process is short and informal	Process is elaborate and formal.	

RR, according to the latest published information, has more of the 'elaborate and formal' than short and informal. Decision making is slow and 'highly bureaucratic'.

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Factor #14; The corporation has specific mechanisms available for rewarding innovation or not.	Mechanisms exist for rewarding innovation	No mechanisms for rewarding innovation		

While there may be a significant internal process in place for honoring both monetarily or non-monetarily those who contribute to the organization, there is little evidence of this in public information. Unlike other organizations, RR appears probably due to its long-standing culture, of not posting information, nor singling out individual or group performance, significant rewards for outstanding performance. 3M and Deere, in sharp contrast to RR, make a fuss!

Factor #15; The organization is planning oriented versus action oriented or not. *RR is slow moving. RR is not an 'execution machine'.*	Organization is prone to planning and analysis	Organization is prone to action with little planning		

By their own admission, RR states they are good at problem solving but not at all effective at executing.

Factor #16; Management has an open and relaxed attitude towards mergers, acquisitions, joint ventures and divestitures or not.	Very open to attitude to mergers and acquisitions	Very closed attitude to mergers and acquisitions		

No information and no comment.

Factor #17; Management expects people to be totally devoted to the corporation or makes room for personal development or not.	Insists all time and effort are devoted to corporate objectives	Really encourages personal development		

No information and no comment.

Factor #18; The organization has a decentralized or centralized hierarchy.	Highly decentralized hierarchy	Highly centralized hierarchy		

All anecdotal information strongly suggests that RR is highly centralized. The danger is that as organizations, including perhaps RR, in search of dramatic cost reduction regress to making decisions at a central level. While this centralization may not last more than several years, until the cost reduction targets are met, damage can be done in removing responsibility and accountability on a decentralized basis. Decision making is slowed.

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Factor #19; Resources (budget, personnel, time, etc.) are generally available for new ventures or not. *Costs need cutting*	Few resources are ever available	Resources are generally available		

Under the new regime it is likely that resource availability will be constrained over the next few years. The challenge for management is to set the context for this change in management style so that stakeholders understand the reasons for the shift in practice and how RR is making progress in achieving the goals set out.

Factor #20; Extent of staff involvement (as opposed to line involvement) in the decision process.	Little staff involvement in decisions	Lots of staff involvement in decisions		

Judging by the slow decision making and lack of execution facility, there is likely extensive staff involvement in major decisions – but to a fault. Engineering organizations can often overthink decisions.

Factor #21; Innovators tend to stay with the organization or leave.	Innovators stay with the organization	Innovators leave the organization		

No information and no comment.

Factor #22; The organization has or has not an innovative tradition.	Corporation has not a tradition of innovation	Corporation has a fine reputation for innovation		

RR has a superb reputation for innovation.

Factor #23; The R&D budget is less or more than the competition.	R&D spending is much less than the competition's spending.	R&D spending greatly exceeds competition's spending		

RR's R&D spending is pronounced in the aerospace division and appears in line with competitor spending; e.g. GE.

Factor #24; Innovation is perceived as decreasing or increasing.	Innovation is decreasing rapidly	Innovation is increasing rapidly		

No information and no comment.

Factor #25; Employee organizations discourage or encourage innovation	Organizations encourage innovation	Organizations discourage innovation		

No information and no comment.

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Summary

The twenty-two Factors analyzed above can be summarized into three themes.

- Idea generation and realization
- Leadership
- Organization and management of day-to-day affairs

Several Factors overlap more than one theme and can act to accentuate or detract from other innovation management practices.

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 term as CEO and that this was built on a 30-year career with the company. Lafley returned on the occasion of the surprise departure of his successor but has departed as of November 1st as chief. 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, a career manager at 3M, has returned the company to its roots, more so than his predecessors. GE's Immelt has, over a decade, turned the company around back to its roots.

Idea generation and realization Factors

Six Factors are most closely related to the notion of encouraging the creation and identification of ideas and their eventual commercialization. For Factors #3, #8 and #8, there is little or no information available and we provide no comment.

Our view of RR's status regarding rewards – Factor #14 – is unclear although, as is pointed out, there does not appear to be sufficient attention paid to rewarding innovators when compared to other companies which we have researched.

Under the new regime one can expect extra scrutiny will be given to investment in new projects. The immediate focus is definitely on cost cutting and commitments have already been made. Unless properly communicated to stakeholders, particularly employees, these dictums can discourage the generation of ideas.

The level of R&D spending in RR is difficult to trace by segment. Subjective comments in investor presentation

Innovation management Factors
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)

suggest that spending levels are seen to be adequate. Cutting R&D spending in order to realize cost cutting measures can prove to be a disaster, as is the case with HP, as the symbolism of the cuts goes to the heart an organization's culture.

Innovation management Factors
Leadership - important characteristics.

- The emphasis by senior management is on achieving a balance between achieving short-term profit and long-term goals (F#1)
- 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.
- 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)

Leadership Factors

Four Factors impacting innovation relate mostly to the role and actions of senior management; more particularly, the CEO (and COO), and the Board.

RR's planning horizon is, by nature of the business, long term. Historically, RR may have been viewed as focusing on the long term, but that orientation now has switched to some extent to a shorter term emphasis on profits. A four to five-year period is forecast to be needed for transformations to take place.

The announced changes so far embrace strategy, organization. and management methods and a mix of cost cutting and identifying new (and old) market opportunities, all necessary to transform RR. All are necessary but the challenge is for management to effectively convey the need for change and regularly update stakeholders on the progress towards achieving the stated goals.

The process is as important as the decisions themselves! Given RR's admitted reluctance to act, its risk level will no doubt no increase and increased tolerance on the part of leadership will be required.

Organization and management of day-to-day Factors

Eight Factors address the management of day-to-affairs. Each is important because of their impact on the organizations innovativeness.

All but one of these Factors are ranked in 'red' in the above analysis from the on-line survey. Insufficient attention is, according to this approach, paid to people, communication, authority and accountability, and the decentralization of activities; the most basic management '101' techniques and tools for managing.

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The good news is that these Factors are the most amenable to improvement as compared to ‘leadership’, which is usually in place and ‘idea generation and realization’ often tied to the inherent culture of the organization and difficult to turn around within a generation. Done properly even smaller, incremental improvements can act to enhance morale and lead to the desired change in the organization.

In summary, it is the mix of good management practices which lead to success.

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)