

Measuring and Explaining “Good” Management: A First Step Towards Improved Performance

Quantitative Methods in the Social Sciences

Master’s Thesis

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Chapter I: Introduction

Persistent differences in productivity performance between firms and countries are a well-documented economic fact (Foster, Haltiwanger and Syverson, (2005)). Most prior work has focused on explaining these differences through more accurate measures of inputs (for example, capital, labor and skills) and explicit measures of technology (for example, research and development and information technology). However, a substantial unexplained productivity differential still remains, which has been labeled in the literature as the ‘fixed effects of managerial quality’.

Much has been written in the popular press about the critical importance of good management for running a successful business venture. In fact, the prohibitive cost of an MBA degree and the very existence of business schools are justified based upon this idea. However, due to the inherent problems in consistently measuring a nebulous concept such as managerial quality, little formal work has been done to statistically measure the impact of management on firm productivity.

In this thesis, we aim to obtain a more rigorous understanding of the role of management in business success, and the reasons it varies so substantially across firms and countries. I present a unique survey tool developed in collaboration with the London School of Economics, Stanford University and McKinsey & Company, for the measurement of management practices. We use this tool to create an original dataset of approximately 4000 medium-sized manufacturing firms across the United States, Europe and Asia. After evaluating the quality of the gathered data via both internal and external validation, we establish a significant link between “better management practices” and firm productivity. The size and breadth of the dataset allow us to obtain a far deeper understanding than previously possible, of the wide range of issues that affect a firm’s managerial performance, which is closely linked to firm productivity. We then attempt to explain the observed variation in management practices across firms and countries and document correlations between the management score and three firm-specific characteristics: the firm’s external business environment, ownership structure and level of managerial and non-managerial employee skills.

This research represents a hopeful way forward for firms, by clearly indicating that they can achieve dramatic improvements in performance by simply adopting good practices used by others. Complementing their efforts, governments and policymakers can greatly improve a

country's overall economic health by fostering the development of environments that promote good management practices across all firms.

The rest of this thesis is organized as follows. Chapter II qualitatively introduces the theoretical models of management currently in vogue, and then goes on to present the concept of lean management as an approach to better management, particularly within the manufacturing domain. In Chapter III, we describe our approach to measuring management practices and gathering the data. Chapter IV evaluates the quality of the dataset through both internal and external validation tests, and establishes a statistically significant relationship between better management and firm productivity. Chapter V describes some recent results that shed light on the distribution of management practices across firms and countries, and identifies correlations between a firm's quality of management and its external business environment, ownership structure and level of employee skills. Chapter VI concludes. More details of the survey methodology can be found in the Appendix.

Chapter II: An Overview of “Good” Management: Theory and Practice

In this chapter, we begin by describing two distinct sets of theories currently in existence in the literature, of why management practices vary across firms. We then turn our attention to the concept of “lean management” - which is currently the accepted standard for “good” management, particularly within the manufacturing domain.

Management Theory: Models of Management Practices

In the literature, there are two competing theories of management practice. The first class is known as “optimal choice of management practices” and the second as “managerial inefficiency”. We present here a brief qualitative description of each theory, along with the relevant, testable implications for our constructed dataset.

“Optimal Choice of Management Practices”:

This class of models considers management practices as choice variables of the firm (analogous to a factor of production such as capital or labor), where the firm can either directly choose the optimal practice (for example, managerial effort level) or then influence managers to make that choice through contracts. Since improving management practices may be a costly endeavor, firms will weigh these costs against future expected benefits. Thus, there are no “better” or “worse” styles of management, only optimal levels that are contingent on a firm’s circumstances.

Under this approach, there is a large class of models where a higher degree of competition affects the firm’s incentive to provide greater managerial effort or make larger investments in managerial quality. Here, marginal costs of the firm are considered to be an outcome of managerial effort levels. Increased competition makes any unit cost reduction have a larger effect on the firm’s market share, and hence incentivizes the firm to ensure higher managerial effort levels. However, one may also argue that since economic rents are lower when competition is higher, the profit increase from any increase in market share is less valuable. The latter effect is negated when we allow for endogenous entry, and in a free entry long-run equilibrium firms are larger on average and hence have a greater desire to cut marginal costs through higher managerial effort (Raith (2003)).

The testable implications of this theory for our dataset are that firm productivity should be positively correlated to the quality of management practices, and that higher levels of competition should be associated with better management practices.

“Managerial Inefficiency”:

An alternative theory attempting to explain the observed variation in management practices posits that the variation simply reflects exogenous differences amongst firms in managerial efficiency (Mundlak (1961)). Here, management practices are a part of total-factor productivity and there are hence, strictly “better” or “worse” styles of management.

In this setting, we again obtain that firm productivity is increasing in management quality. In a dynamic scenario, firms with bad management are more likely to grow slower than their peers and exit the market.

As under the “optimal choice” models, higher product market competition drives inefficient firms out of the market and allocates greater market share to the more efficient firms (Syverson (2004)). In equilibrium, the variation in management practices may be attributed to the ‘stickiness’ of embedded cultures and values, that evolve ever so slowly over time (Klette and Kortum (2004)).

Another interesting implication of managerial inefficiency models is the relation between family-run firms and the quality of management practices. Family ownership and management can effectively shield inefficient firms from being driven out by market forces, if the owners are willing to accept lower returns on capital in return for the private utility associated with managerial control. It is important here to distinguish between ownership and management, as family-owned firms can often be run by professional managers rather than family members. It has been shown that while family ownership has a mixed effect on profitability, family management has a substantially negative effect, particularly under primo geniture CEO succession (Perez-Gonzales (2005) and Villagonga and Amit (2005)). This effect can be intuitively explained as selecting managers from only amongst family members greatly reduces the average human capital of the managerial cadre, while also dis-incentivizing family members from investing in human capital (education and relevant experience) earlier in life by assuring them of such positions.

Thus, the testable implications for our dataset arising from this class of models are the same as the “optimal choice” case, with the additional hypothesis that family-managed firms should be associated with inferior management practices.

Management Practice: Lean Management

Excellence is inspiring. Just as watching a Tiger Woods can spur us to dust off our golf clubs and head for the local course, watching Toyota Motor Corporation gain market share and make increasing profits year after year (never mind economic volatility and fears of an impending recession), can make other firms want to mimic its strategy. What separates industry leaders from the rest is the determination and sheer hard work to follow through on the initial enthusiasm and good intentions (Liker (2004)).

The uncertainty of today’s globalised economy demands an agile operating strategy on the part of firms, which is responsive to rapid shifts in consumer demand and preferences. Economies of scale are no longer necessarily a source of competitive advantage, and systems of inflexible mass production of goods and services may well be a liability rather than an asset.

One of the critical hurdles in implementing this change away from one-size-fits-all production is the fact that shop floors (broadly defined to include any entity that provides goods and services to consumers) tend to be very unpredictable places, where a bulk of the effort is devoted to maintaining the status quo rather than implementing potential improvements.

Lean management, a philosophy pioneered by Toyota in the late 1980’s to address this critical issue, has entered management consciousness in a big way in recent years. It’s appeal lies in its promise to cut costs and improve quality, while also stabilizing operations and matching supply with customer demand, thereby establishing conducive conditions for sustainable and iterative improvement.

In a lean organization, the pace, mix and quantity of goods and services produced is set by the consumer, rather than historical and arbitrary targets. While mass producers set themselves goals of an acceptable number of defects, a tolerable level of inventory and a narrow range of standardized products, lean producers aim for perfection: declining costs, zero defects, zero inventory and much greater product variety.

A lean organization achieves this “holy grail” by a single-minded focus on elimination of the three key sources of loss - waste, variability and inflexibility – in every area of production including customer relations, product design, supplier networks and shop floor management. The underlying goal is to incorporate reduced human effort, minimal inventory, lesser time to develop products and less physical space, in order to become highly responsive to consumer demand and tastes, while producing top quality products in the most efficient and economical manner possible.

A lean approach establishes a robust platform for change through the integration of three key elements:

(1) Operating system:

Assets and resources are configured to deliver value to the customer with minimum losses. This includes establishing standard procedures, and optimizing production control methods, information flows, process layouts, equipment utilization and manning levels.

The core principles of a lean operating system are:

- 1) Creation of a value stream by grouping similar products or services
- 2) Flow of value along the stream from beginning (concept) to end (consumer)
- 3) Use of a pull mechanism at points where the process flow must be broken
- 4) Flexible operations to match consumer demand
- 5) Introduction of information defining consumer requirements at a single point, as late in the process as possible
- 6) Standardized operations to ensure flexibility
- 7) Detection and remedy of anomalies as close as possible to the point where they occur

(2) Management infrastructure:

Management processes, capability-building mechanisms and organizational structure need to be closely aligned with the lean operating system in order to achieve sustainable and continuous improvement.

The five elements of management infrastructure that support a lean operating system are:

- 1) Appropriate organizational structure (team size, leadership span of control and hierarchy)
- 2) Performance management systems (clear and aligned targets, incentives, effective monitoring and rewards)
- 3) Continuous improvement infrastructure (developing a consistent vision and methodology, building organizational capability for change and facilitating implementation)
- 4) Processes for developing operational skills
- 5) Management of key functional support processes

(3) Mindsets and behaviors:

The ways of thinking and acting at all levels of the organization must be clearly aligned with the formal structures and systems implemented via the elements outlined above.

Lean Mindsets	Lean Behaviors
Flexibility is more important than scale	Decisions are driven by long-term considerations
Value is added at the front line	Management is connected to the day-to-day reality of the front line
Everyone should understand how what they do fits with business goals	Front-line staff are engaged in real improvement activities
Root causes of problems need to be addressed, not just the symptoms	Managers work to resolve systems problems
A problem is an opportunity to learn and improve	There is an open dialog between staff at all levels

Firms which have faithfully implemented the lean philosophy underpinned by a successful integration of each the above principles, have achieved dramatic turnarounds and significant improvements benchmarked against their own past performance as well as that of the competition. I cite three examples that are representative of the phenomenal impact of lean on firms within very different industries.

Within the manufacturing sector, Airbus UK adopted lean in its machining and wing assembly departments in 2002. Internal schedule adherence rose from 30% to 75%, costs declined by 25% and the production cycle time fell by 20% in the first 6 months. By 2003, the company had achieved 100% delivery on schedule for the first time in its history, and has since been recognized as the top performing business unit within Airbus.

The success of lean within the services domain has been no less spectacular. One recent example is the US insurance firm Jefferson Pilot Financial (JPF) that successfully integrated lean into its insurance business. New application turnaround times fell by 70%, labor costs per policy by 30% and the number of policies reissued due to error by 40%. These improvements were achieved despite the slow growth that is characteristic of the life insurance industry, rising consumer expectations and low-cost niche-based competition. JPF managed to both improve service levels and cut costs, rather than focus on one of those goals at the expense of the other.

Lastly, Toyota Motor Corporation, the original pioneer of lean manufacturing, has earned higher profit and sales growth than any of its competitors over the past 20 years. Toyota is set to overtake General Motors as the world's largest automobile manufacturer by 2009, and its share price has appreciated 25% in the last year, 65% in the last two and an impressive 110% in the last ten years, with total return to shareholders increasing at an impressive compounded annual rate of 14% over the last 20 years. Toyota's astonishing success (especially given the poor performance of its competitors amid sector-wide pressures) is testimony to the true power of lean as a source of sustainable competitive advantage.

The unique philosophy of lean management forms the basis of our survey questionnaire, where we attempt to benchmark each firm against "lean best practices" as defined above.

Chapter III: Measuring Management Practices

One of the fundamental contributions of this research project has been the creation of the first quantitative dataset in management of sufficient size (approximately 4000 firms) and breadth (across the United States, Europe and Asia) so as to lend itself robustly to statistical analyses. We first outline in some detail the creation of the dataset, and then proceed to describe it.

Creation of the Dataset:

The creation of the dataset involved 5 key steps:

- 1) Development of a scoring tool to quantitatively measure management practices
- 2) Use of an appropriate sampling frame and additional data
- 3) Obtaining interviews with managers
- 4) Collecting accurate responses
- 5) Ensuring international comparability

We now address each in turn.

Step 1) Development of a survey tool to quantitatively measure management practices

Central to this project, was the codification of what constitutes “good” and “bad” management. While this can vary greatly depending upon a firm’s individual environment, there is a clear subset of practices that can potentially be defined in these terms.

While there were several alternatives under consideration regarding the appropriate choice of survey tool (online surveys, printed questionnaires mailed to respondents, on-site interviews, telephone interviews, etc.), it was decided based upon the results from an earlier 2004 pilot survey as well as survey methodology literature, to implement the telephone interview approach. While online surveys and printed questionnaires were the easiest to implement, they often had poor response rates and yielded biased responses. On the other hand, on-site interviews while most accurate, represented logistical difficulties particularly when the aim was to gather data on over 4000 firms located in 12 countries across three continents. Further evidence as to the

superiority of the telephone interview approach vis-à-vis other methods is documented in the robustness section in the next chapter.

Faculty from the London School of Economics jointly developed the telephone survey tool in conjunction with McKinsey & Company, a leading global consulting firm. In order to obviate any concerns about bias, we eliminated all McKinsey clients from the sampling frame (roughly 1%) and chose to receive no financial support from the firm.

The appendix section reproduces the practices and questions in the order in which they appeared in the survey. The survey tool defines and scores from 1 (worst practice) to 5 (best practice) across 18 key management practices used by manufacturing firms. These practices can be grouped into 4 areas:

- 1) Operations: This section included the introduction of lean manufacturing, documentation of process improvements and the rationale behind introducing these improvements.
- 2) Monitoring: This section included tracking of individual performance, reviewing performance and consequence management.
- 3) Targets: This section examined the type, realism, transparency, range and interconnection of individual and firm targets.
- 4) Incentives: This section examined promotion criteria, pay and bonuses, and remedial measures / firing for underperformers.

Since the scaling may vary across these practices in the econometric estimation, the scores were converted (from the 1-5 scale) to z-scores by normalizing by practice to mean zero and standard deviation one. The unweighted average across all z-scores is our primary measure of overall managerial practice.

We also collected a large amount of data from the survey to use as firm-level controls (in addition to other controls detailed later) in the estimation. On the human resource side, we have information on the proportion of the workforce with degrees and the average hours worked by both the interviewee and shop floor workers. In addition, we also recorded the interviewee's

gender, approximate age, seniority, tenure in post and firm, and prior work experience. We collected ownership information both from the managers we interviewed and the population databases. Also, from the population databases we have information on firm size, whether the firm was listed on the stock exchange and standard accounting information on sales, capital, etc.

Whether these criteria accurately reflect “good management” is a debatable question. However, based upon prior management theory as well as the internal and external validity tests we conducted on the data (details of which are in the following chapter), we remain confident about the construction of our survey instrument.

Step 2) Use of an appropriate sampling frame and additional data:

In order to achieve a cross-country comparison, we decided to focus on the manufacturing sector where productivity is easier to measure than in the non-manufacturing sector. We also focused on medium-sized firms selecting a sample of firms with predicted employment of between 100 and 5,000 workers (with a median of 270). The reason for this choice was the paucity of publicly available data for very small firms and the likely heterogeneity of very large firms across plants (which render one or two interviews non-representative of overall organizational characteristics).

Our sampling frame was based on the Bureau van Dijk (BVD) Amadeus dataset for Europe (France, Germany, Greece, Italy, Poland, Portugal, Sweden and the United Kingdom), on the Bureau van Dijk Icarus dataset for the United States, on the CMIE Firstsource dataset for India, and on the Bureau van Dijk Oriana dataset for China and Japan. These databases all provide sufficient information on companies to conduct a stratified telephone survey (company name, address and a size indicator). They also typically have some accounting information, such as employment and sales. We also used other sources of information such as Bloomberg, Execucomp and company SEC filings and their international equivalents to obtain data on capital, labor, material inputs, CEO pay, etc.

In every country, the sampling frame consisted of all firms with a manufacturing primary industry code with 100 to 5000 employees on average over the most recent three years of data. Interviewers were each given a randomly selected list of firms from the sampling frame. This is therefore expected to be representative of medium-sized manufacturing firms.

The size of this sampling frame by country is shown in the following table, along with some basic statistics on firm size and public listing status.

Countries (*)	CN	FR	GE	GR	IN	IT	JP	PO	PT	SW	UK	US
# of firms Sampling Frame	30,125	4,716	4,659	489	15,737	4,733	14,165	2,793	304	919	5,409	30,765
Employees (median)	670	194	190	180	187	157	300	214	163	192	221	200
Publicly listed (%)	5.6	2.3	2.5	19.8	15.2	1.0	27.2	3.2	4.9	2.1	4.4	2.7
Age (median, in years)	11	33	26	29	37	30	53	34	31	40	32	30

(*) - Country abbreviations: CN – China, FR – France, GE – Germany, GR – Greece, IN – India, IT – Italy, JP – Japan, PO – Poland, PT – Portugal, SW – Sweden, UK – United Kingdom, US – United States

Comparing the responding firms with those in the sampling frame, we found no evidence that the responders were systematically different on any of the performance measures to the non-responders. They were also statistically similar on all the other observables in our dataset. The only exception was size and multinational status, where the interviewed firms were slightly larger than average than those in the sampling frame and slightly more likely to be a multinational subsidiary.

Step 3) Obtaining interviews with managers:

The survey response rate was a relatively high 44%, which was achieved through five key steps:

- 1) The project was introduced as a “piece of work” rather than a survey or research effort, as we discovered company switchboards often screened out calls involving the latter terms.
- 2) It was made clear to interviewees that no reference would be made to a firm’s financial position, accounts and proprietary manufacturing processes, and that all gathered data was made anonymous before being used in the research, thereby making it relatively uncontroversial for managers to participate.

- 3) The survey questions were ordered to lead with the least controversial (shop floor operations) and finish with the most controversial (pay, promotions and firings).
- 4) Interviewer performance was closely monitored, as was the proportion of initial contacts converted into actual interviews, so as to ensure persistency in following up with firms in the sample.
- 5) The project received written endorsements from reputed governmental and economic institutions worldwide, which were faxed or emailed to interviewees after establishment of initial contact, so as to assure them of the legitimacy of the project. The endorsements were from the following institutions: The Banque de France, Bank of Greece, Bank of Japan, Bank of Portugal, Beijing University, Bundesbank, Confederation of Indian Industry, European Central Bank, European Commission, Greek Employers Federation, IUI Sweden, Ministero delle Finanze (Italy), National Bank of Poland, Peoples Bank of China, Polish Treasury, Reserve Bank of India, Shenzhen Development Bank (China), Sveriges Riksbank (Sweden), U.K. Treasury and Warsaw Stock Exchange

Step 4) Collecting accurate responses

The responses collected via our survey are vulnerable to certain biases. Survey literature documents that respondents' answers are biased by the scoring grid and often anchored towards those answers the respondents think are "correct". In addition, interviewers ex-ante opinions about firms may also bias the scoring.

To address these issues of systematic bias, the following steps were undertaken:

- 1) The interviews were run in the summer of 2006 from the London School of Economics and the London offices of McKinsey & Company. The interviewers were graduate students selected from the following top-ranked universities: Berkeley, City of London – London Business School, Columbia, Harvard, HEC, IESE, Imperial, INSEAD, Kellogg, LSE, Lund, MIT, Nova de Lisbon, Oxford, Stanford and Yale. They were chosen on the basis of their fluency with current economic and management theory, prior business experience, and familiarity with the country to which they were assigned to run interviews. In addition, they all received intensive 3-day training on lean management

and the survey process through the London School of Economics and McKinsey & Company.

- 2) The managers interviewed through the survey were not aware they were being scored. This eliminated the possibility of getting responses that reflected their aspirations for the firm rather than actual practice. It is important to note that this approach and the survey was passed by the Stanford Human Subjects Committee as it was deemed necessary to get unbiased responses, and the deception involved was temporary (managers receive project updates outlining the methodology) and presents no risk as the data is confidential.
- 3) The choice of medium-sized firms rarely reported on in the media, greatly increased the probability that the interviewer had no ex-ante opinion or information of the firm. Also, interviewers were not provided with any financial performance data on the firm.
- 4) The survey used open-ended questions (“can you tell me how you promote your employees?”) rather than close-ended ones (“do you promote based upon tenure?”). We found this to be critical in obtaining candid answers from respondents. Each survey sub-category began with broad general questions (“can you tell me about your manufacturing process?”) followed by more specific ones (“how do you manage your inventory levels?”). The discussion continued till the interviewer felt she had sufficient knowledge of the firm’s practice to assign an accurate score. Care was taken to explain all business terminology used in the discussion (for example, just-in-time, kanban, six-sigma, etc.), and the interview was run in the manager’s native language.
- 5) The interviewers each ran approximately 85 interviews on average, allowing the elimination of interviewer fixed effects from the empirical specifications.
- 6) We decided to target plant managers within the sampled firms for our management interviews. This choice was motivated by the fact that senior management tended to consistently “oversell” their firms (an effect documented in the pilot, and detailed in the internal validity section in the next chapter) and were often detached from day-to-day activities, while junior employees lacked the breadth of knowledge to effectively answer the questions posed in the survey.

- 7) Along with the interview, detailed information was gathered on a set of “interview noise” control variables, some of which were significantly informative about the management score and typically increased its coefficient when used in econometric specifications. For the manager, we gathered data on gender, seniority, tenure in post and firm, prior countries worked in, plant location and overall reliability (based on the interviewer’s perceptions). For the interviewer, we gathered data on cumulative interviews run and a subjective reliability score, as well as using interviewer dummies in the specification. For the interview process itself, we used data on time of the day for both interviewer and interviewee, day of the week, duration of the interview and number and type of prior contacts with the firm during the process of obtaining the interview.

Step 5) Ensuring international comparability

Ensuring comparability of responses across countries was crucial to carry out cross-country analyses of the data. This was ensured as follows:

- 1) Every interviewer received the same 3-day training at the start of the project, which included three mock interview sessions followed by a detailed analysis of each individual’s scoring. Besides familiarizing the group with the questionnaire, this ensured a uniform interpretation of questions and responses. There were follow up refresher sessions every Friday, to ensure that errors in questioning and scoring did not creep in over the course of the project.
- 2) All interviews were run from the same location. This ensured that country teams listened in onto other countries’ interviews (at least those run in English), and incorporated “interview best practices” and corrected errors in real time.
- 3) Country teams were organized and managed in the same way, and used the same telephone, computer and survey technology to carry out the interviews.
- 4) Each interviewer conducted interviews in at least 2 countries (with the median number of countries interviewed per interviewer being 3), which allowed the removal of interviewer fixed effects in the cross-country analysis.

Describing the Data:

The meticulous implementation of each of the five steps mentioned in the previous section, allowed the creation of a 4000 firm dataset across 12 countries. The following table outlines the key summary statistics of the survey sample so gathered.

Descriptive Statistics for the Survey Sample

Countries (*)	All	CN	FR	GE	GR	IN	IT	JP	PO	PT	SW	UK	US
Observations #	4038	325	23	348	187	470	204	122	239	177	286	649	694
Firms #	3902	319	313	308	187	467	207	121	239	177	259	609	682
Firm employees (median)	270	700	240	500	230	250	185	310	250	183	267	250	375
Plant employees (median)	150	500	150	225	120	150	150	150	150	125	150	140	150
Production sites (median, #)	2	1	3	2	1	1	2	2	1	1	2	2	3
Age of firm (median, years)	34	12	39	40	32	22	33	57	31	35	62	34	33
Listed firm (%)	14.5	6.4	4.6	16.4	18.7	26.2	1.4	28.3	2.3	5.6	1.7	6.5	30.1
Average working hours /week	43.5	48.0	37.1	40.0	41.7	51.8	41.8	47.2	41.9	42.8	40.7	41.7	45.6
Workforce with degrees (%)	17.3	8.0	17.3	14.9	11.9	22.0	16.3	30.9	20.0	9.6	19.8	12.9	20.1
Management (mean) z-score	2.99	2.61	2.99	3.18	2.64	2.54	3.00	3.15	2.88	2.73	3.15	3.00	3.31
% of Foreign MNEs	0.20	0.46	0.31	0.19	0.10	0.25	0.03	0.35	0.18	0.44	0.38	0.14	0.25
% of Domestic MNEs	0.01	0.34	0.36	0.13	0.02	0.22	0.32	0.04	0.20	0.39	0.25	0.33	0.22
Interview duration (minutes)	47.9	48.6	46.3	44.7	49.8	59.8	46.6	58.4	47.8	54.5	56.3	43.5	46.8

(*) - Country abbreviations: CN – China, FR – France, GE – Germany, GR – Greece, IN – India, IT – Italy, JP – Japan, PO – Poland, PT – Portugal, SW – Sweden, UK – United Kingdom, US – United States

Chapter IV: Evaluating the Management Dataset - Robustness and External Validity

After creating the dataset, it is important to establish the reliability of our “management score” in terms of being an accurate estimate of the true quality of a firm’s managerial practices.

Robustness:

Let us first consider the issue of robustness of our survey instrument, as compared to alternative interview techniques.

1) Choice of survey technique

In order to investigate the optimal interview approach, we conducted 31 “open” interviews, where managers (who had previously taken part in the telephone interview) were given a copy of the questions and scoring grid, and then asked to self-score with the interviewer only providing clarifications. It was observed that managers tended to be over-optimistic about their firms, with the average open interview score 0.2 points higher than the management interview score, with this gap 10% significant. The effect also varied substantially by country, with Indian firms over scoring much more than US firms, with an open-scoring gap of 0.71. Overall, there was a correlation of 0.41 between the open interview and the telephone interview scores for these 31 firms.

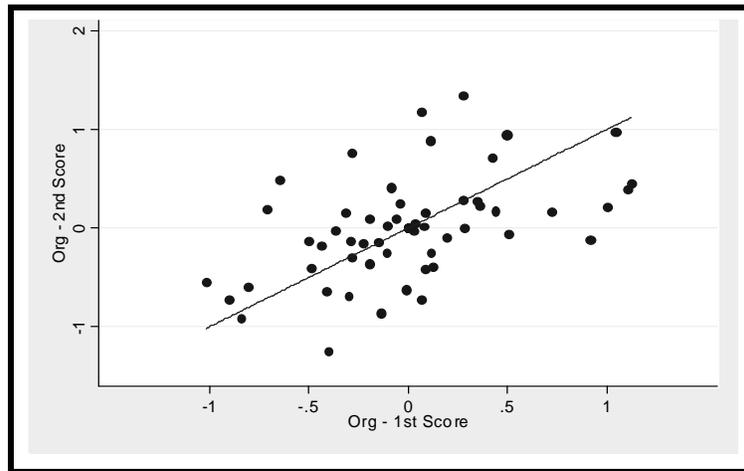
2) Measurement error

The data could potentially suffer from several types of measurement error. One possibility is that of an error in the organizational practice scores obtained using our survey tool. To quantify this, we performed repeat interviews on 72 firms, contacting different managers in the firm, typically at different plants, using different interviewers. The correlation of the first interview against the second interviews was strongly positive (a correlation coefficient of 0.513 with a p-value of 0.000), internally validating the data and indicating that the scores reflected company-wide managerial practices rather than noise. Furthermore, there was no statistically significant relationship between the degree of measurement error and the absolute score, giving us

confidence that extreme scores truly indicated inferior or superior management rather than being extreme draws of sampling measurement error. The chart below illustrates these findings.

Correlation between first and second interview

(Correlation: 0.51, p-value < 0.001)



Out of the total sample, 669 interviews were also double-scored (with two interviewers listening in to the interview, but only one conducting the survey). We found a correlation of 92% between the first and second interview scores, indicating that subjective interviewer interpretations of managers' responses were not driving the data.

Another potential source for measurement error is the fact that the 18 management practices included in the survey do not necessarily represent all management practices that drive firm performance. While this is certainly a possibility, the fact that there is a high positive correlation amongst a firm's capabilities across all 18 dimensions, gives us confidence that our measure (based on a subset of all managerial practices) is an effective proxy for a firm's true management quality.

External Validity: Is there a link between management and productivity?

We now proceed to evaluate the existence of a correlation between management practices and firm productivity. The purpose of this exercise is not to establish causality, but to ensure the external validity of the dataset and verify that the management scores so gathered are correlated

with quantitative measures of firm performance from independent data sources such as firm accounts.

Approach:

The approach to performing this analysis replicates an earlier methodology employed by Bloom and Van Reenen (2007) on data from the 2004 pilot survey associated with this project.

We begin by considering a basic form of the firm production function

$$y_{it}^c = \alpha_l^c l_{it}^c + \alpha_k^c k_{it}^c + \alpha_n^c n_{it}^c + \beta^c M_i^c + \gamma^c Z_{it}^c + u_{it}^c$$

where Y = deflated sales, L = labor, K = capital and N = intermediate inputs (materials) of firm i at time t in country c . Lower case letters denote natural logarithms of the associated variable, so that $y = \ln(Y)$, etc. The z 's are a number of controls that affect productivity such as workforce characteristics (gender, age, unionization, percentage of the workforce with degrees, the proportion with MBAs and the average hours worked), firm characteristics (age, public listing), a complete set of 142 3-digit industry dummies, 11 country dummies and 44 interviewer dummies. Management practices are denoted by M , and use the average of the firm's z -scores taken over the 18 management practices included in the survey (alternative approaches such as using the raw average management scores yield very similar results).

We then run four versions of a simple Ordinary Least Squares (OLS) regression in the cross section (or on the panel with standard errors clustered by company) to estimate the above equation. In doing so we assume that all the correlated heterogeneity is captured by the control variables.

The results of our statistical analyses are outlined in the next sub-section.

Results:

The following table summarizes the results of our regressions for the 4 separate specifications:

Specification	(1)	(2)	(3)	(4)
Estimation Method	OLS	OLS	OLS	OLS
Firms	All	All	All	All
Dependent Variable	$\ln(Y)_{it}$ sales	$\ln(Y)_{it}$ sales	$\ln(Y)_{it}$ sales	$\ln(Y)_{it}$ sales
Management z-score	0.063 (0.027)	0.035 (0.014)	0.031 (0.012)	0.041 (0.013)
$\ln(L)_{it}$ labor	1.134 (0.037)	0.582 (0.033)	0.529 (0.031)	0.521 (0.031)
$\ln(K)_{it}$ capital		0.201 (0.029)	0.167 (0.027)	0.159 (0.026)
$\ln(N)_{it}$ materials		0.285 (0.041)	0.291 (0.026)	0.279 (0.025)
General Controls	No	No	Yes	Yes
Noise Controls	No	No	No	Yes

All models are estimated using OLS. Standard errors are in parentheses under coefficient estimates and allow for arbitrary heteroskedasticity and serial correlation (clustered by firm).

“General controls” comprise firm-level controls for \ln (average hours worked), \ln (firm age), a dummy for being listed, a dummy for consolidated accounts, the share of the workforce with degrees, and the share of the workforce with MBAs.

“Noise controls” are 44 interviewer dummies, the seniority, gender, tenure in post and firm, number of countries worked in of the manager who responded, the day of the week the interview was conducted, the time of the day the interview was conducted, the duration of the interview, and an indicator of the reliability of the information as coded by the interviewer. Other noise controls such as prior work experience in the United States and number of prior contacts with the firm before obtaining the interview were found not to be significant in the pilot, and hence omitted in the above specifications.

All regressions include a full set of three-digit industry dummies and country dummies interacted with a full set of time dummies.

Discussion:

The first specification above reports the results of a levels OLS regression, only including dummy controls for labor, country and time. The management score is clearly positively correlated with firm productivity (as measured by sales) and statistically significant.

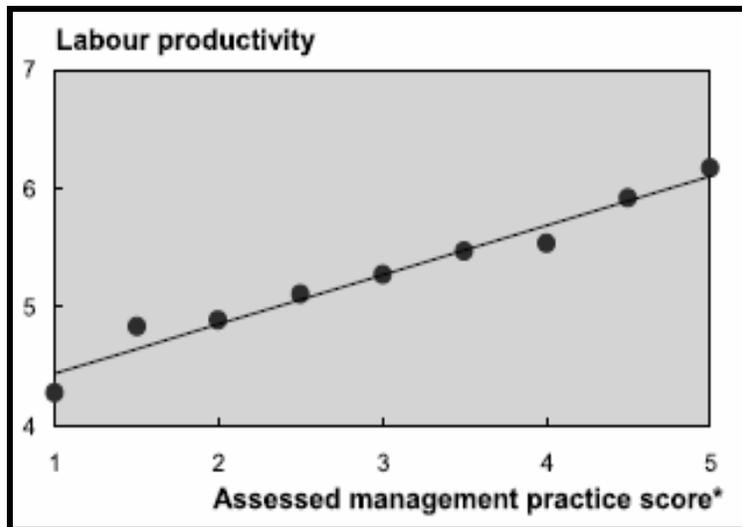
The second specification includes capital and materials as explanatory variables, reducing the management coefficient by almost 50%.

The third specification includes the “general controls” mentioned above. This reduces the management coefficient further, but it remains positive and significant.

The fourth specification is the most “complete” in the sense that in addition to all the explanatory variables above, it also includes the set of interview noise controls to reduce bias across interviewers and types of interviewees. Interestingly, this increases the management coefficient indicating that adding the noise controls reduces the measurement error in the management score.

Thus, all four specifications clearly indicate that the management score is positively and significantly correlated with firm productivity. This finding is illustrated in the chart below.

Link between Labor Productivity & Management Score *



* Figure reproduced from a McKinsey & Company presentation based on our dataset

Additionally, Bloom and Van Reenen (2007) find in a smaller sample of approximately 700 firms, that management score is positively and significantly correlated with alternative measures of firm performance such as return on capital employed (ROCE – a profitability measure), Tobin’s Q (ratio of market value to book value) and average annual sales growth.

Therefore, we conclude that there is substantial external validation that the measures of managerial performance used in the survey are indeed correlated with firm productivity rather than “interview noise”. In the next chapter, we proceed to describe the distribution of management scores and attempt to explain the factors driving this distribution.

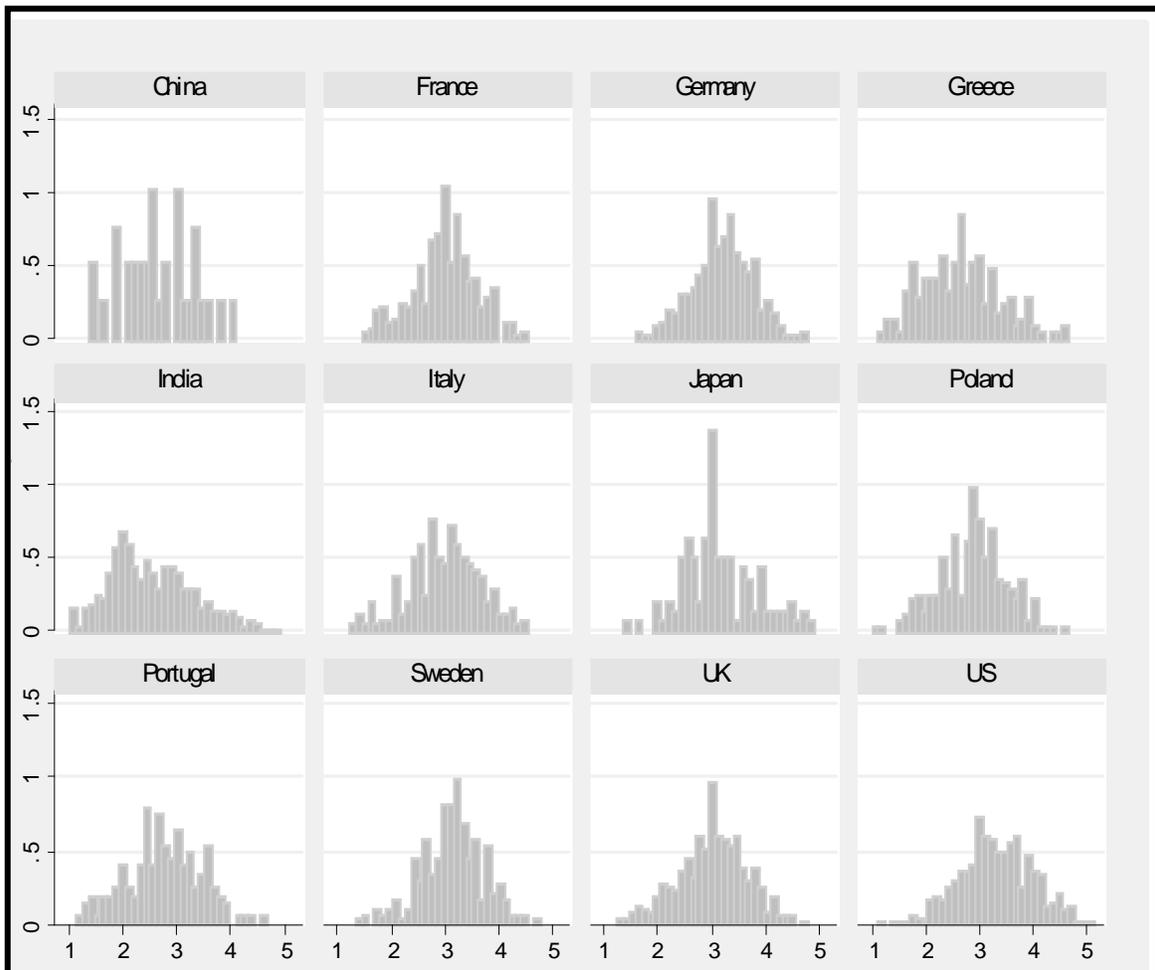
Chapter V: The Distribution of Management Practices- Inferences from the Data

In the previous chapter, we conducted a battery of tests to establish the validity of our dataset. We now use the data to attempt to explain the distribution of management practices across firms, and document key correlations between a subset of managerial practices and firm characteristics, and our management scores. It is important to note at the outset that this is very much a work-in-progress, and the results featured here are preliminary.

Distribution of Management Scores Across Countries:

The figure below documents the distribution of the average management scores per firm across all eighteen questions, plotted by country.

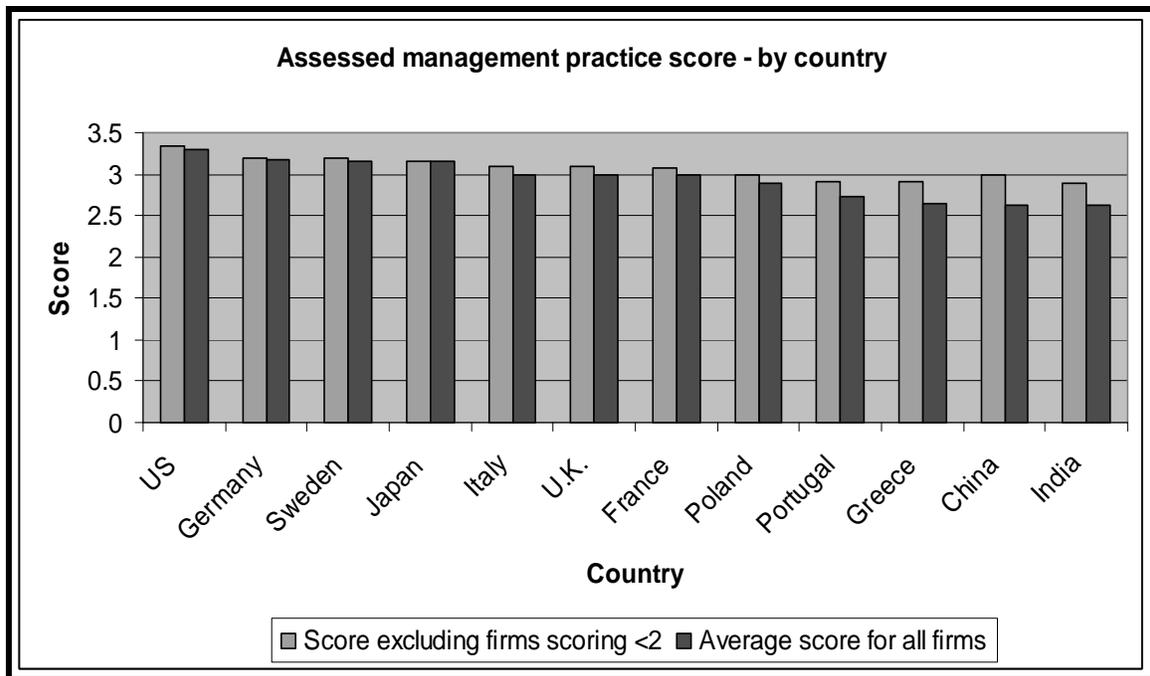
Distribution of firm level management scores, by country



From the graph above, we observe a large amount of heterogeneity within each country, with firms spread across most of the distribution. This variation is particularly glaring given the fact that a management score of 1 indicates industry worst-practices, while a score of 5 indicates industry best-practices. In addition, countries with poor management practices (for example, India) have a “long tail” of badly managed firms, as compared to their better-managed peers such as the United States and Sweden.

Average Management Scores:

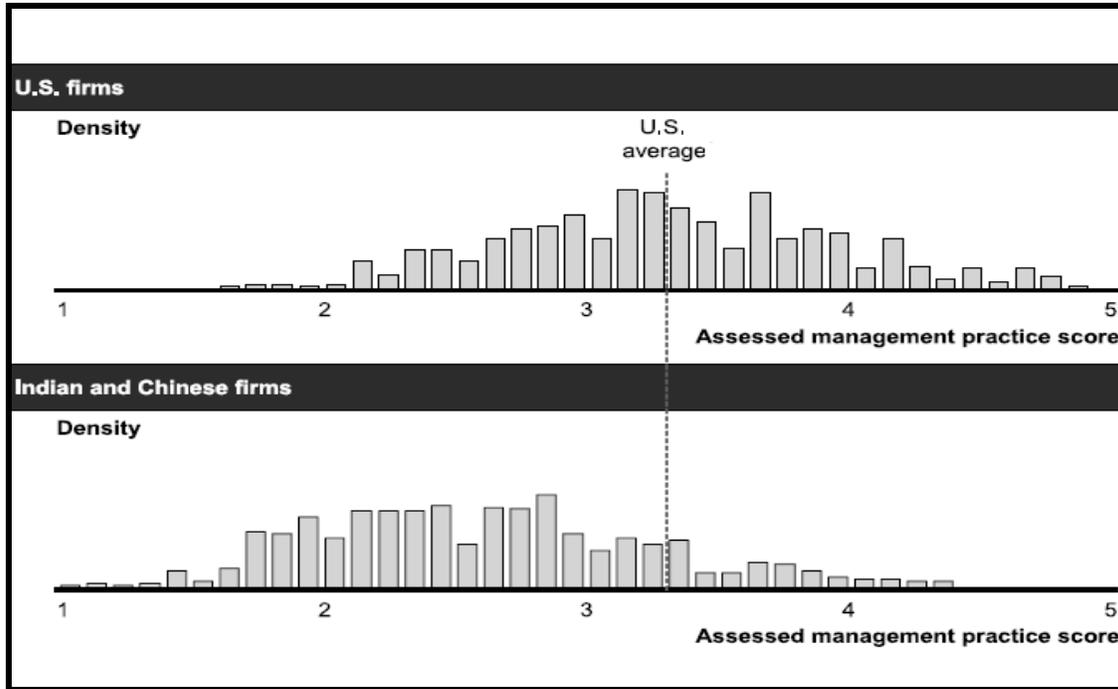
Country Rankings: The chart below ranks the survey countries by average management score.



As expected, the United States has the highest average management score (3.33), followed by Germany and Sweden (both 3.19), and Japan (3.15). China (2.63) and India (2.62) fare the worst in our survey. The United States’ top ranking is in agreement with Proudfoot (2003), which reports that US firms were “least hindered by poor management practices.” The largest difference between high performing nations and the rest is to be found in the tail of low performing companies. Eliminating the worst managed firms (those with an overall practice score of less than 2) from the sample has little effect on the average score of the leading countries, but it raises the score of low performing countries significantly.

It is also interesting to note that while the United States is the global leader in management and productivity, emerging markets (in particular, India and China) are rapidly catching up (see figure below).

Management Score Distribution: US versus Emerging Markets *



* Figure reproduced from a McKinsey & Company presentation based upon our dataset.

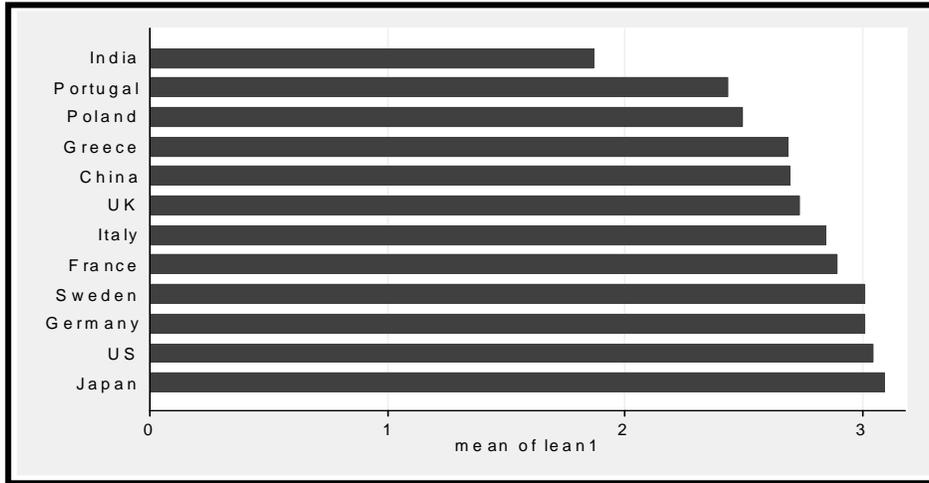
As illustrated above, while the average US firm is still significantly better managed than the average Indian and Chinese firm, almost 15% of firms in these emerging markets are now better in terms of management practices included in the survey. Our data indicates that these firms typically are export-oriented units, and thus direct competitors for US firms in global markets.

Country rankings by practice area:

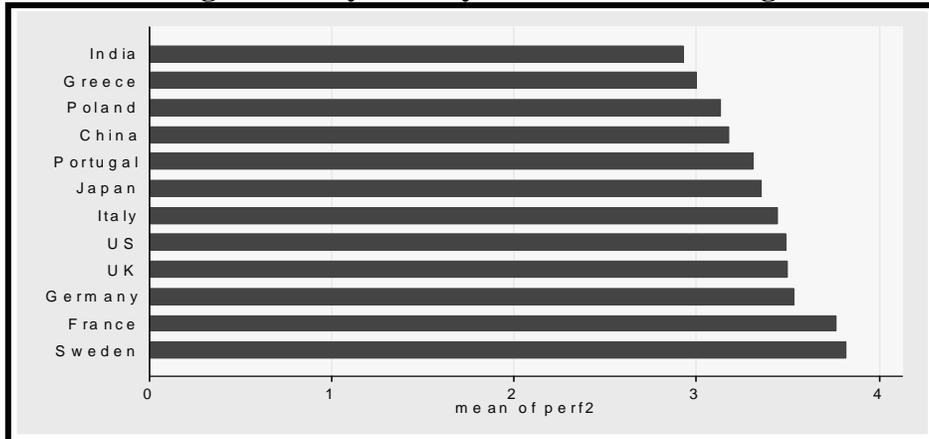
As noted earlier, the survey was divided into 3 main practice areas: lean/operations management, performance management and talent management.

We now provide a country ranking by average scores within each individual area, in order to provide some sense of countries' relative strengths and weaknesses compared to others (see graphs on the following page)

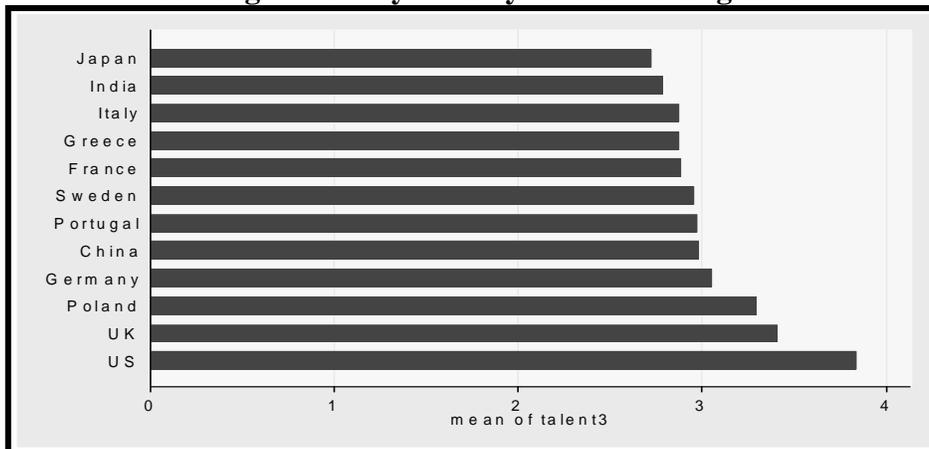
Average scores by country: Lean Management



Average scores by country: Performance Management



Average scores by country: Talent Management



Interestingly, while Japan ranks the highest for lean management scores, it does significantly worse along the performance dimension and fairs the worst in the sample for talent management. This makes intuitive sense, since while the philosophy of lean was pioneered by Japanese firms, Japanese society is very hierarchical and age and tenure often play a critical role in firm promotions, a fact reflected by Japan's weaker performance and talent management scores.

Key Factors Affecting Managerial Performance:

We now examine 3 key factors that help explain the large variation in the distribution of management scores for firms within each country in our dataset. They include the firm's external business environment (as measured by the degree of competition and labor market flexibility), the firm's ownership structure and the level of employee skills.

1) External Business Environment

Our data indicates that a firm's external business environment plays a critical role in determining the quality of its management practices. The number of reported competitors as well as labor market flexibility were the two key variables that were found to be significantly correlated with firm management scores. This clearly has implications for the role governments may play in fostering better management practices, which in turn (as illustrated by the previous chapter) are strongly associated with increases in firm productivity and hence national wealth.

Product Market Competition:

Firms in the survey were asked to estimate the number of competitors operating in their product market. The null hypothesis was that the higher the number of competitors, the better managed a firm would be. Intuitively, this could be a result of competition forcing a rapid implementation of industry best practices, or poor practices being eliminated over time as firms with these practices perform poorly and exit the market.

Using an analogous approach to Bloom and Van Reenen (2007), we now proceed to test this hypothesis. We use a measure for firm competition known as the industry-specific Lerner Index (calculated as $1 - \text{profits}/\text{sales}$, and averaged over the entire firm level database), as well as firms' self-reported data on number of competitors (valued as 0 for no competitors, 1 for less than 5

competitors and 2 for 5 competitors or more). We estimate four separate specifications. The results are summarized in the table below.

Specification	(1)	(2)	(3)	(4)
Estimation Method	OLS	OLS	OLS	OLS
Dependent variable	Management z-score	Management z-score	Management z-score	Management z-score
Lerner Index (5-year lagged)	1.497 (0.591)	1.348 (0.532)		
Number of competitors			0.129 (0.049)	0.127 (0.041)
Firms	All	All	All	All
General Controls	No	Yes	No	Yes
Noise Controls	No	Yes	No	Yes

All models are estimated using OLS and a single cross-section of the data. Standard errors are in parentheses under coefficient estimates and are robust to arbitrary heteroskedasticity (clustered by country-industry pair).

In the first specification, we regress the management score on the lagged Lerner Index of competition and find a positive and significant correlation between the two.

In the second specification, we re-estimate the same equation but include the full set of both general and noise controls mentioned in Chapter IV. We find that even after including these controls, more competitive country-industry pairings are associated with firms that are on average, significantly better managed.

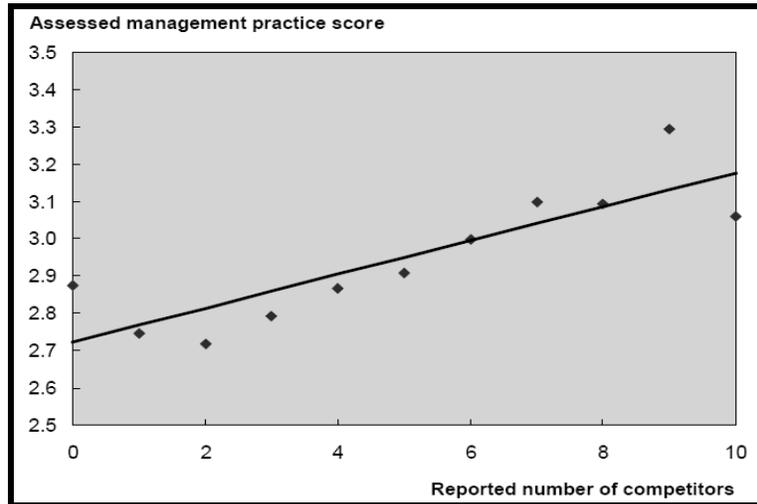
In the third and fourth specifications, we use the firms' self-reported data on competition and again find a significant positive correlation between management and product market competition, confirming our earlier result.

These results are in agreement with Bloom and Van Reenen (2007), who find a positive and statistically significant correlation between management scores and firm competition (as

measured by the Lerner index as well as firms' self reported data on number of competitors), on an earlier dataset of approximately 700 firms.

The following graph illustrates this result, displaying a clearly positive correlation.

Link between Management & Product Market Competition



It is important to note that these are conditional correlations, as we have no instrumental variable for competition. However, any endogeneity bias will likely cause better management to increase profitability and hence the Lerner Index, and attenuate the coefficients on the Lerner Index and number of competitors variables towards zero. This will hence only make it harder to identify a positive relation between product market competition and firm management, and therefore does not dilute our result.

Labor Market Flexibility:

Secondly, in terms of the business environment, labor market conditions appear to play a vital role in determining the quality of people management practices. Companies operating in countries with more flexible labor policies (measured using the World Bank' employment law rigidity index) scored markedly better in people management, with the US, with its extremely flexible employment laws, having by far the best people management record.

This lends credence to the hypothesis that flexible labor markets encourage implementation of superior people management practices by firms, so as to attract and retain the best talent. The

following graph illustrates this strong positive relation between a country's average people management score and its labor market flexibility.

Link between People Management and Labor Market Flexibility *

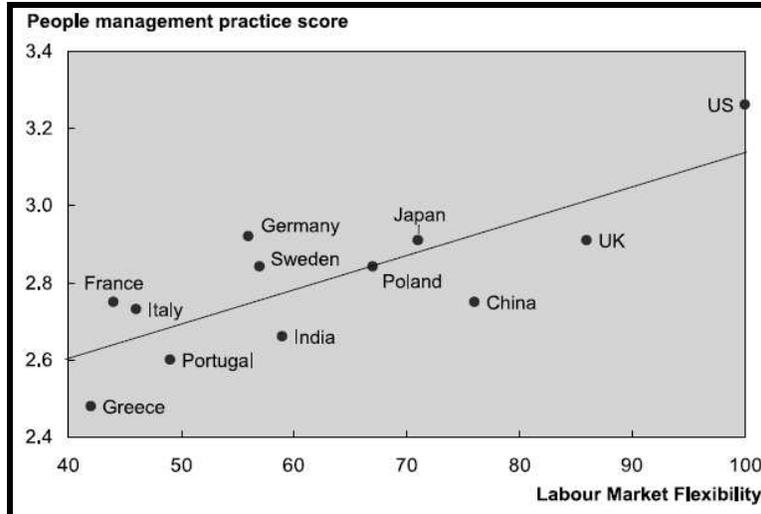
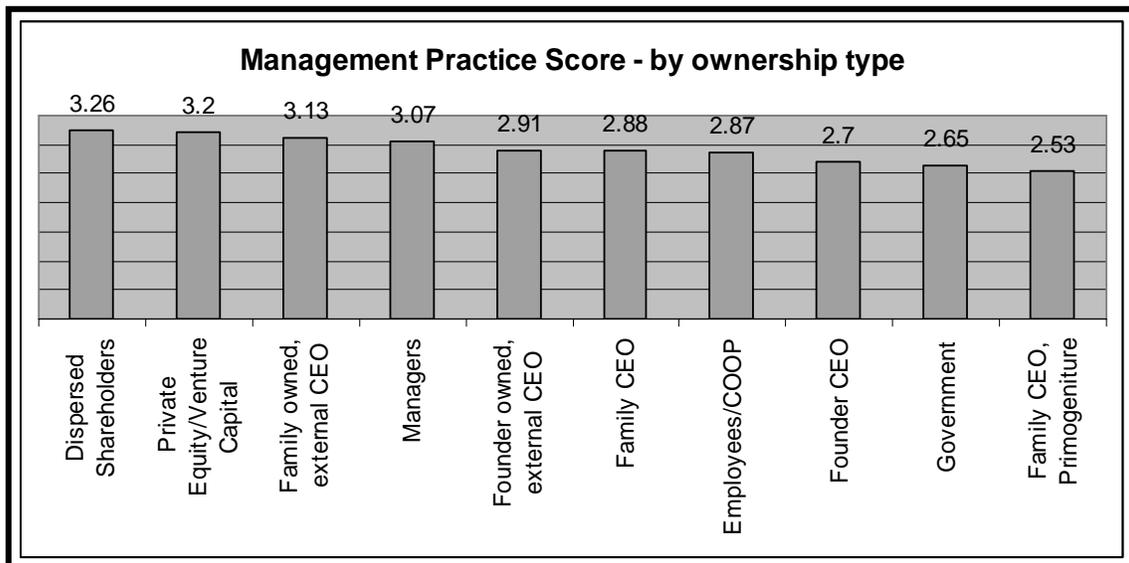


Figure reproduced from a McKinsey & Company presentation based upon our dataset.

2) Firm Ownership

The second characteristic that appears to be significantly correlated with management scores is firm ownership. When the firms in our survey were grouped according to ownership type, there were significant differences between their management scores. The graph below illustrates this point.



Companies with dispersed ownership perform the best, while organizations owned and run by their founders or members of the founder’s family perform relatively poorly. Worst performing of all, were family-owned firms run by the founder’s eldest son with an average management score of 2.53.

One possible interpretation of this result is that family management decreases the average managerial quality available by restricting the talent pool to only family members. Another possibility is that family firms, due to their hierarchical natures, are culturally not progressive and implement “old fashioned” management techniques. In the pilot dataset of approximately 700 firms, Bloom and Van Reenen (2007) test this hypothesis and find a significant negative relationship between family firms and management scores, that worsens when firms are automatically inherited by the oldest son (primo geniture). We use an analogous approach for our dataset. The results are outlined in the table below.

Specification	(1)	(2)	(3)	(4)
Estimation method	OLS	OLS	OLS	OLS
Dependent variable	Management z-score	Management z-score	Management z-score	Management z-score
Family largest shareholder	0.013 (0.089)			0.295 (0.181)
Family largest shareholder and family CEO		-0.112 (0.088)		-0.159 (0.188)
Family largest shareholder, family CEO and primo geniture			-0.368 (0.114)	-0.471 (0.113)
Firms	All	All	All	All
Country controls	Yes	Yes	Yes	Yes
General controls	Yes	Yes	Yes	Yes
Noise controls	Yes	Yes	Yes	Yes

All models are estimated using OLS and a single cross-section of the data. Standard errors are in parentheses under coefficient estimates and are robust to arbitrary heteroskedasticity. In addition to country controls, we include the full set of both general and noise controls mentioned in Chapter IV, in all four specifications.

In the first specification, we regress the management score on an indicator variable of the family as the single largest shareholder in a firm’s ownership structure, in addition to the full set of controls. We observe that family ownership has a weakly positive but insignificant effect on

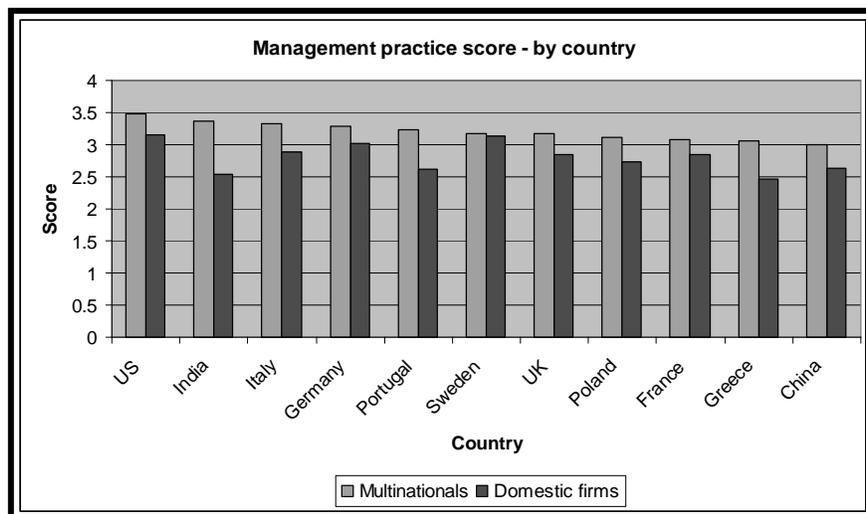
management score. This lends credence to the hypothesis that family ownership, per se, is not detrimental to firms, and in some situations, may even be a positive factor.

In the second specification, we regress management score against an indicator variable of both family ownership AND family management (as indicated by a CEO from within the family), and find that its coefficient is negative as compared to the first case, but still insignificant. The negative sign on the indicator should be noted, as this alludes to our point that family management has a negative impact on firm management.

In the third specification, we regress management score against an indicator of family ownership, family management AND primo geniture CEO succession (where the CEO position is always handed down to the eldest son in the succeeding generation). Here we see a strongly negative and significant coefficient, indicating that a further reduction in the available management talent pool (as compared to the second specification) has a clearly adverse effect on the management score.

The fourth specification includes all the three indicator variables used in the prior specifications, revealing that it is indeed the primogeniture family managed and owned firms that are driving the result. From these tests, we establish a negative relationship between family management and management quality in agreement with our null hypothesis.

At the other end of the spectrum, multinationals (which typically exhibit dispersed shareholder ownership), tend to outperform domestic firms across all countries in the dataset (see graph below). It appears that in addition to advantages of scale, these firms also foster speedy and faithful cross-pollination of industry best-practices across countries.

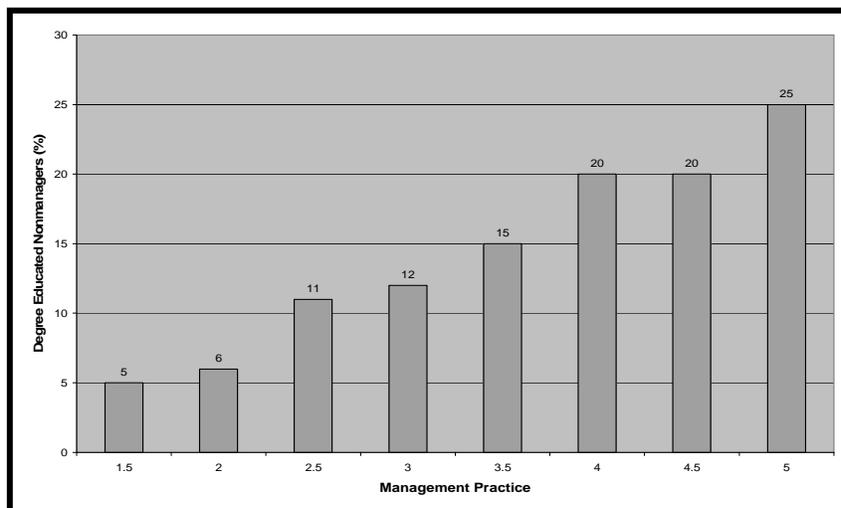
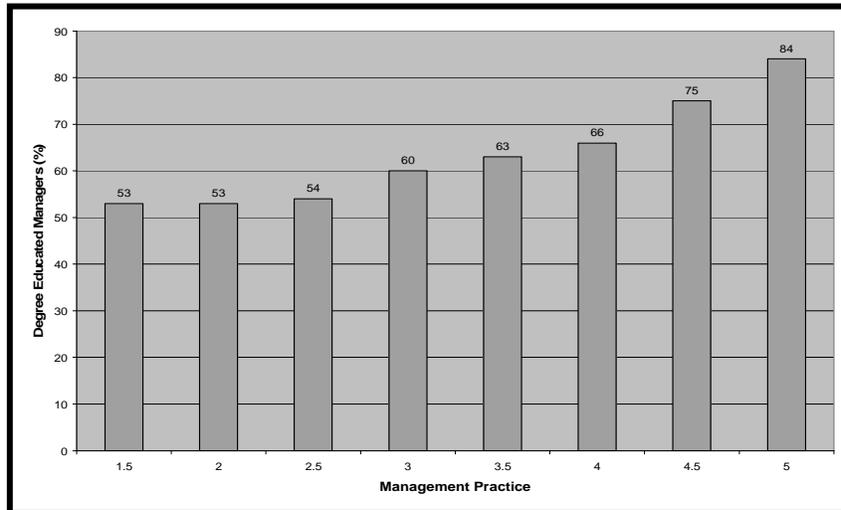


In conclusion, the spread of management scores according to ownership type lends credence to the hypothesis that firms that are able to leverage their global presence to transfer best practices, and those that employ professional managers and promote them on the basis of merit, tend to be better managed and exhibit stronger performance.

3) Employee skills

The third factor that affects the spread of management scores across firms is the level of employee skills, amongst management as well as the non-managerial workforce. In our dataset, 84% of managers in the highest scoring firms were educated to degree level or higher, as were 25% of the non-managerial work force. Among the lowest scoring firms, by contrast, only 53% of managers and only 5% of the wider workforce had degrees. The following pair of graphs illustrates this point, for managers and non-managers respectively.

Degree-educated managers and non-managers, grouped by firm management score



The correlation between employee skill level and management score is another compelling reason for governments to ensure the development and dissemination of a high-quality education system throughout their countries, rather than have isolated pockets served by a handful of high-caliber institutions.

To summarize, we find that the external business environment (including industry competition and labor market conditions), firm ownership structures, a global presence and employee skill levels have a significant impact on the quality of management practices across firms. Our findings lend support to the key implications of both the “optimal choice” and “managerial inefficiency” models mentioned in Chapter II.

In the next chapter, we summarize our key findings from the data to date. In conclusion, we briefly outline the implications of our results for both firms and policymakers, and outline future areas for research based upon our work.

Chapter VI: Conclusions

This project represents the culmination of over five years of work undertaken jointly by the London School of Economics along with McKinsey & Company. We have examined practices and performance of approximately 4,000 medium-sized manufacturing firms in Europe, the United States and Asia. In doing so, we have built a unique dataset that we hope will serve to fill a glaring void in quantitative work in the field of management, created due to a paucity of breadth and depth in the available empirical data.

First, our work established a clear correlation at the firm level, between implementation of proven management practices and stronger performance. This suggests that an improvement in management practice is one of the most effective ways for a firm to outperform its peers.

Second, the size and breadth of the study allowed us to gain a deep understanding of a range of factors (both external and internal) affecting a firm's management performance. Among factors in the firm's external business environment, we documented that greater competition is associated with improved management practice, while labor market flexibility leads to particularly good people management skills. Internal to the firm, we found ownership to be particularly important. The less likely a firm is to make use of professional managers and to promote on merit, the poorer its performance - with government and family-managed firms (particularly those with primogeniture CEO succession) exhibiting the worst performance of all. On the other hand, multinational companies (owned by dispersed shareholders) tended to outperform local competitors across all countries, benefiting from an exchange of best practices across geographies and the need to implement superior management techniques in order to achieve strong performance in challenging and varied global markets. We also found that better-managed firms also had a more highly educated workforce, among managers and non-managers alike.

Managerial best practices are very much in the public domain, and are extremely well documented in the literature. Yet, surprisingly few firms have made any attempt to gain insight into the quality of their management behaviors and potential improvements. In fact, our survey discovered that firm managers often had little idea of the overall management performance of their own organizations. Those firms that consciously undertake this exercise and ensure long-term and faithful implementation of established best practices, give themselves the opportunity to build a time- and cost-effective yet sustainable competitive advantage over their peers.

Governments too, can play a complementary role in fostering good management practices in firms within their geographies. Encouraging strong competition and ensuring the creation of flexible labor markets, can lead directly to improved management performance. Improvements in education and its universal dissemination are also critical. Better-managed firms need more highly skilled workers and they make better use of them. Given the link between management and productivity, implementing these measures may be the single most cost-effective way for policymakers to improve the performance and competitive position of their respective economies.

This thesis represents but a tiny fraction of the possible hypotheses that can be tested using our unique dataset. Colleagues at Stanford University and the LSE are currently engaged in assessing the role of work-life balance as well as plant autonomy and a decentralized control structure, in enhancing the managerial quality of firms. Much further work remains to be done.

Based upon the current data, issues of organizational span of control (measured by number of direct reports) at the level of the CEO and plant manager, may yield interesting insights on structuring the optimal firm. One could also consider linking the data with state-level population characteristics within countries, to investigate further the role for policymakers in improving firm management. In terms of growing the data, there are three clear directions for the future. First, it would be valuable to increase country coverage in the sample. For example, China, India and Eastern Europe are by far, the manufacturing hubs of the world – and it would be useful to gain insights on the evolution of management as their economies become progressively more open and transparent. Second, it would also be extremely informative to run a second wave of interviews (with new firms in the sampling frame as well as the ones currently included) in a couple of years, so as to generate a time series investigating the evolution of management practices within countries and firms over time. This would also provide direct evidence of the Darwinian view of ‘managerial inefficiency’, which hypothesizes that poorly managed firms should exit the market. Third, analogous surveys can be implemented focusing on other sectors beyond manufacturing, such as retail, and public and private institutions in healthcare and education.

The richness of this dataset affords fantastic research opportunities. We are confident that all the ideas outlined above, representing but a small fraction of feasible and productive research directions to carry forward our work, will contribute substantially towards developing and implementing more robust theories and practices of firm management.

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APPENDIX

MANAGEMENT PRACTICE INTERVIEW GUIDE

Any score from 1 to 5 can be given, but the scoring guide and examples are only provided for scores of 1, 3 and 5. Multiple questions are used for each dimension to improve scoring accuracy.

(1) Modern manufacturing, introduction

- a) Can you describe the production process for me?
- b) What kinds of lean (modern) manufacturing processes have you introduced? Can you give me specific examples?
- c) How do you manage inventory levels? What is done to balance the line? What is the Takt time of your manufacturing processes?

Score 1: Other than JIT delivery from suppliers few modern manufacturing techniques have been introduced, (or have been introduced in an ad-hoc manner)

Score 3: Some aspects of modern manufacturing techniques have been introduced, through informal/isolated change programs

Score 5: All major aspects of modern manufacturing have been introduced (Just-in-time, automation, flexible manpower, support systems, attitudes and behavior) in a formal way

(2) Modern manufacturing, rationale

- a) Can you take through the rationale to introduce these processes?
- b) What factors led to the adoption of these lean (modern) management practices?

Score 1: Modern manufacturing techniques were introduced because others were using them.

Score 3: Modern manufacturing techniques were introduced to reduce costs.

Score 5: Modern manufacturing techniques were introduced to enable us to meet our business objectives (including costs)

(3) Process problem documentation

- a) How would you go about improving the manufacturing process itself?
- b) How do problems typically get exposed and fixed?
- c) Talk me through the process for a recent problem.
- d) Do the staff ever suggest process improvements?

Score 1: No, process improvements are made when problems occur.

Score 3: Improvements are made in one week workshops involving all staff, to improve performance in their area of the plant

Score 5: Exposing problems in a structured way is integral to individuals' responsibilities and resolution occurs as a part of normal business processes rather than by extraordinary effort/teams

(4) Performance tracking

- a) Tell me how you track production performance?
- b) What kind of Key Performance Indicators (KPIs) would you use for performance tracking? How frequently are these measured? Who gets to see this KPI data?
- c) If I were to walk through your factory could I tell how you were doing against your KPIs?

Score 1: Measures tracked do not indicate directly if overall business objectives are being met.

Score 3: Tracking is an ad-hoc process (certain processes aren't tracked at all)

Score 5: Most key performance indicators are tracked formally. Tracking is overseen by senior management. Performance is continuously tracked and communicated, both formally and informally, to all staff using a range of visual management tools.

(5) Performance review

- a) How do you review your Key Performance Indicators (KPIs)?
- b) Tell me about a recent meeting
- c) Who is involved in these meetings? Who gets to see the results of this review?
- d) What are the typical next steps after a meeting?

Score 1: Performance is reviewed infrequently or in an un-meaningful way e.g. only success or failure is noted.

Score 3: Performance is reviewed periodically with successes and failures identified. Results are communicated to senior management. No clear follow-up plan is adopted.

Score 5: Performance is continually reviewed, based on indicators tracked. All aspects are followed up ensure continuous improvement. Results are communicated to all staff

(6) Performance dialogue

- a) How are these meetings structured? Tell me about your most recent meeting.
- b) During these meeting do you find that you generally have enough data?
- c) How useful do you find problem solving meetings?
- d) What type of feedback occurs in these meetings?

Score 1: The right data or information for a constructive discussion is often not present or conversations overly focus on data that is not meaningful. Clear agenda is not known and purpose is not stated explicitly

Score 3: Review conversations are held with the appropriate data and information present. Objectives of meetings are clear to all participating and a clear agenda is present. Conversations do not, as a matter of course, drive to the root causes of the problems.

Score 5: Regular review/performance conversations focus on problem solving and addressing root causes. Purpose, agenda and follow-up steps are clear to all. Meetings are an opportunity for constructive feedback and coaching.

(7) Consequence management

- a) What happens if there is a part of the business (or a manager) who isn't achieving agreed upon results? Can you give me a recent example?
- b) What kind of consequences would follow such an action?
- c) Are there any parts of the business (or managers) that seem to repeatedly fail to carry out agreed actions?

Score 1: Failure to achieve agreed objectives does not carry any consequences

Score 3: Failure to achieve agreed results is tolerated for a period before action is taken.

Score 5: A failure to achieve agreed targets drives retraining in identified areas of weakness or moving individuals to where their skills are appropriate

(8) Target balance

- a) What types of targets are set for the company? What are the goals for your plant?
- b) Tell me about the financial and non-financial goals?
- c) What do CHQ (or their appropriate manager) emphasize to you?

Score 1: Goals are exclusively financial or operational

Score 3: Goals include non-financial targets, which form part of the performance appraisal of top management only (they are not reinforced throughout the rest of organization)

Score 5: Goals are a balance of financial and non-financial targets. Senior managers believe the non-financial targets are often more inspiring and challenging than financials alone.

(9) Target interconnection

- a) What is the motivation behind your goals?
- b) How are these goals cascaded down to the individual workers?
- c) What are the goals of the top management team (do they even know what they are!)?
- d) How are your targets linked to company performance and their goals?

Score 1: Goals are based purely on accounting figures (with no clear connection to shareholder value)

Score 3: Corporate goals are based on shareholder value but are not clearly communicated down to individuals

Score 5: Corporate goals focus on shareholder value. They increase in specificity as they cascade through business units ultimately defining individual performance expectations.

(10) Target time horizon

- a) What kind of time scale are you looking at with your targets?
- b) Which goals receive the most emphasis?
- c) How are long term goals linked to short term goals?
- d) Could you meet all your short-run goals but miss your long-run goals?

Score 1: Top management's main focus is on short-term targets

Score 3: There are short and long-term goals for all levels of the organization. As they are set independently, they are not necessarily linked to each other

Score 5: Long term goals are translated into specific short term targets so that short term targets become a "staircase" to reach long term goals

(11) Targets are stretching

- a) How tough are your targets? Do you feel pushed by them?
- b) On average, how often would you say that you meet your targets?
- c) Are there any targets which are obviously too easy (will always be met) or too hard (will never be met)?
- d) Do you feel that on targets that all groups receive the same degree of difficulty? Do some groups get easy targets?

Score 1: Goals are either too easy or impossible to achieve; managers provide low estimates to ensure easy goals

Score 3: In most areas, top management pushes for aggressive goals based on solid economic rationale. There are a few "sacred cows" that are not held to the same rigorous standard

Score 5: Goals are genuinely demanding for all divisions. They are grounded in solid economic rationale

(12) Performance clarity

- a) What are your targets (i.e. do they know them exactly)? Tell me about them in full.
- b) Does everyone know their targets? Does anyone complain that the targets are too complex?
- c) How do people know about their own performance compared to other people's performance?

Score 1: Performance measures are complex and not clearly understood. Individual performance is not made public

Score 3: Performance measures are well defined and communicated; performance is public in all levels but comparisons are discouraged

Score 5: Performance measures are well defined, strongly communicated and reinforced at all reviews; performance and rankings are made public to induce competition

(13) Managing human capital

- a) Do senior managers discuss attracting and developing talented people?
- b) Do senior managers get any rewards for bringing in and keeping talented people in the company?
- c) Can you tell me about the talented people you have developed within your team? Did you get any rewards for this?

Score 1: Senior management **do not** communicate that attracting, retaining and developing talent throughout the organization is a top priority

Score 3: Senior management believe and communicate that having top talent throughout the organization is a key way to win

Score 5: Senior managers are evaluated and held accountable on the strength of the talent pool they actively build

(14) Rewarding high-performance

- a) How does your appraisal system work? Tell me about the most recent round?
- b) How does the bonus system work?
- c) Are there any non-financial rewards for top-performers?
- d) How does your reward system compare to your competitors?

Score 1: People within our firm are rewarded equally irrespective of performance level

Score 3: Our company has an evaluation system for the awarding of performance related rewards

Score 5: We strive to outperform the competitors by providing ambitious stretch targets with clear performance related accountability and rewards

(15) Removing poor performers

- a) If you had a worker who could not do his job what would you do? Could you give me a recent example?
- b) How long would underperformance be tolerated?
- c) Do you find any workers who lead a sort of charmed life? Do some individuals always just manage to avoid being fixed/fired?

Score 1: Poor performers are rarely removed from their positions

Score 3: Suspected poor performers stay in a position for a few years before action is taken

Score 5: We move poor performers out of the company or to less critical roles as soon as a weakness is identified

(16) Promoting high performers

- a) Can you rise up the company rapidly if you are really good? Are there any examples you can think of?
- b) What about poor performers – do they get promoted more slowly? Are there any examples you can think of?
- c) How would you identify and develop (i.e. train) your star performers?
- d) If two people both joined the company 5 years ago and one was much better than the other would he/she be promoted faster?

Score 1: People are promoted primarily upon the basis of tenure

Score 3: People are promoted upon the basis of performance

Score 5: We actively identify, develop and promote our top performers

(17) Attracting human capital

- a) What makes it distinctive to work at your company as opposed to your competitors?
- b) If you were trying to sell your firm to me how would you do this (get them to try to do this)?
- c) What don't people like about working in your firm?

Score 1: Our competitors offer stronger reasons for talented people to join their companies

Score 3: Our value proposition to those joining our company is comparable to those offered by others in the sector

Score 5: We provide a unique value proposition to encourage talented people join our company above our competitors

(18) Retaining human capital

- a) If you had a star performer who wanted to leave what would the company do?
- b) Could you give me an example of a star performers being persuaded to stay after wanting to leave?
- c) Could you give me an example of a star performer who left the company without anyone trying to keep them?

Score 1: We do little to try and keep our top talent.

Score 3: We usually work hard to keep our top talent.

Score 5: We do whatever it takes to retain our top talent.

HUMAN RESOURCES INTERVIEW GUIDE

Run in parallel as the management survey

Workforce Characteristics

Total number of employees (cross check against accounts) (all employees)

% with university degree (all employees)

% with MBA (all employees)

Average age of employees (all employees)

% of employees (managerial/non-managerial)

Average hours worked per week (including overtime, excluding breaks) (managerial/non-managerial)

% union membership (all employees)

Organizational Characteristics [Response Choice]

Who decides the pace of work? [exclusively workers / mostly workers / equally /

mostly managers / exclusively managers]

Who decides how tasks should be allocated? [exclusively workers / mostly workers/ equally /

mostly managers / exclusively managers]

Market & firm questions [Response choice]

of competitors [none / less than 5 / 5 or more]

hostile take-over bids in last three years [none / one / more than one]

Interviewer's assessment of the scoring reliability

1 to 5 scoring system calibrated according to:

1 = Interviewee did not have enough expertise for interview to be valuable; I have significant doubts about most of the management dimensions probed

3 = Interviewee had reasonable expertise; on some dimensions I am unsure of scoring

5 = Interviewee had good expertise, I am confident that the score reflects management practices in this firm

Some Interesting “Insights” from the Management Interviews

[Female interviewer speaking to a US manager]:

Interviewer: I was wondering if you would have 30-40 minutes to talk with me about your production process?”

Manager: You’d have a better chance of coming in here and slitting my wrists with a razor than get me on the phone for that long!”

UK manager on staff retention:

Interviewer: How would you convince your top performers to stay?

Manager: Sex is a great thing. If he gets a girlfriend in another town, there’s nothing I can do about it.”

Swedish manager on individual goals:

Manager: “Workers’ individual goals? They just want to go home.”

Indian manager on modern manufacturing:

Manager: “Modern manufacturing? Yes, I have heard about it. But it doesn’t make any sense, does it?”

US manager on production abroad:

Interviewer: “How many production sites do you have abroad?”

Manager: “Well...we do have one in Texas.”

Indian manager on top performers:

Interviewer: “How do you identify your star performers?”

Manager: “This is India. Everyone thinks he’s a star performer!”

Italians on ownership:

Manager: “I think we’re owned by the Mafia.”

Interviewer: “I think that’s the “other” category, though I could put you down as Italian multinational.”