The Leader/Talent Matrix:
An Empirical Perspective on Organizational Culture

Tim Kane

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Abstract

The United States military has a peculiar management dilemma: there is a strong consensus about the need – highlighted by numerous recent Secretaries of Defense – to reform personnel policies but uncertainty about how to proceed. In order to make private sector experiences and academic insights more relevant, this study presents a new, forty-element assessment of organizational leadership culture and talent management practices. Results from a survey of more than 566 respondents identify strengths and weaknesses between military and nonmilitary organizations. Although US armed forces are evaluated higher on a few elements of leadership culture, they have deep weaknesses in talent management. Regression analysis reveals which elements are significant factors for organizational performance.

1   Introduction

How should the Pentagon reform its personnel policies? During his farewell address to the cadets at West Point, Secretary of Defense Robert M. Gates lamented the "institutional concrete" of military personnel policies that was his top worry for the future of the army. The current secretary of defense, Ashton Carter (2015) emphasized fixing personnel policies as vital to building "the force of the future" in his first speech. Based on recent studies of the unique paradoxes of military talent management (Kane 2012, Wardynski et al. 2010, Coumbe 2010, Barno 2013) and statements by high-ranking military leaders (Moran 2014), the dominant narrative is that the Pentagon is unable to manage talent effectively because of its personnel bureaucracy and legal constraints, despite its strong and ancient leadership culture.

This peculiar management dilemma is poorly served by traditional management scholarship. Unlike the typical business school case study, top leaders in uniform do not lack the qualities that are championed by golden-age management experts (Drucker 2001, Bennis 1989), such as vision, passion, and values. Instead, the armed forces are headed by superior leaders who feel unable to manage well because of the bureaucracy.

Because the military's leadership culture is intertwined with personnel rules, both of which are based on obedience to authority unlike anything in the private sector, there is a real concern that fixing one might irreparably ruin the other. How can personnel (a.k.a. talent or human resource) policies be distinguished from leadership culture? Which pieces are most important for retention, productivity, and morale? The management literature offers no simple answers for the armed forces, but utilizing firm-level survey data in the manner of Bloom et al. (2014) offers a way to think about the problem.

The next three sections describe how I defined and then measured organizational features covering leadership culture and personnel policies. I developed a 40-point Leader/Talent matrix and then deployed it in a survey to measure employee perceptions at hundreds of firms and five US military services. Later sections describe the data, relationships among the variables, and how they relate to organizational performance.

2   Defining Organizational Leadership and Management

The golden age contrast between leadership and management at the individual level is unhelpful when thinking about organizations. The Drucker-inspired leadership literature concerns the individual personality of the CEO as the fundamental issue for firm performance. Leadership is often contrasted with "mere" management. Warren Bennis, in his 1989 book *On Becoming a Leader,* claims that "the manager administers; the leader innovates" and that "the manager accepts the status quo; the leader challenges it." Likewise, Peter Drucker (2001) went so far as to suggest that "one does not 'manage' people . . . [because the] task is to lead people."

Because this study's focus is on organizational features, I distinguish "management", by which I mean personnel/talent/human resource (HR) policies, from "leadership" which includes

all the elements of organizational culture. The phrase "talent management" was coined in a 1997 McKinsey study and then a 2001 book by Ed Michaels, Helen Handfield-Jones, and Beth Axelrod called *The War for Talent*. Although that so-called war is often perceived as a recruiting battle, it is only the starting point for talent management, as O'Reilly and Jeffrey Pfeffer articulated in their 2000 book *Hidden Value*. When concerns about low retention rates of the most talented military officers and soldiers arose in 2006, the term "talent management" became common in military circles. In the years since, it has become synonymous with personnel policies in general, not just retention policies for top soldiers.

A reading of top papers on these topics from the *Harvard Business Review,* textbooks on personnel economics (Lazear and Gibbs 2009) and on human resources management (Baron and Kreps 1999, Dessler 2011) guided my development of the Leader/Talent matrix. I define a *well-managed* firm as one that has effective personnel policies. The well-managed firm has thought carefully about how to treat employees fairly, with good training programs, ample use of merit-based compensation, and useful performance evaluations. It optimizes firm performance by getting the right people in the right jobs with a level of independence that balances creativity and focus. Likewise, effective policies give employees enough control over their own careers so that they can specialize or generalize just enough to maximize morale without distracting from overall productivity.

On the other hand, *well-led* firms develop a strong team ethos in the classic definition of leadership: assembling a group of people in a coordinated effort to achieve a common goal. In business, that usually means producing something of top quality; in the military, that means accomplishing a mission. But in all organizations, leadership encompasses independence, values, common purpose, adaptability, and individual development.

Figure 1. Dimensions of Organizational Leadership & Management
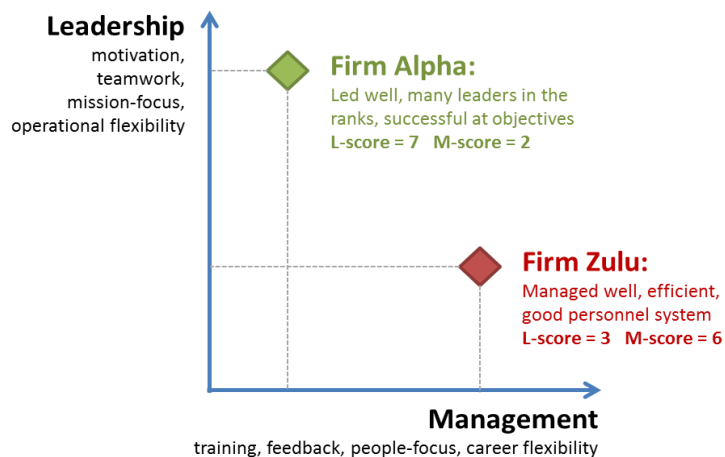
In this view, organizational leadership and organizational management are different but not opposites. Mathematically, we would say that they are orthogonal. An organization can be well (or poorly) managed and well (or poorly) led or any combination thereof. In practice,

organizations are more complicated mixtures than the four simple theoretical states, and we can imagine two quantifiable dimensions, shown as axes in figure 1. Firm Alpha in the figure has a relatively high measure of leadership but a low measure of talent management policies, its M-score. Another firm, Zulu, measures high on M but low on the L axis.

Although it is likely that chief executives typically imagine their firms are strong in both leadership and management, ideal firms are rare. In the real world, organizations are diverse; thus their place on figure 1 will be suboptimal for a number of reasons: some industry-specific, some intentional, and some a simple function of firm size and age. One example is the firm that focuses on short-term objectives, and organizes itself to optimize mission success without much thought to human resources or long-term planning. That firm's scores will look different than the baseline. A second example is the typical start-up firm in which the whole apparatus of talent management is neglected until some good fortune expands the headcount to a size indicating that professional management is overdue. Growing firms often play catch-up in such things as performance evaluations, promotion/transitions, formal training, and recruitment. One hypothesis we might want to test with empirical data is whether smaller firms in fact suffer from lower scores on these sorts of talent management functions. A third example is the firm with a messianic CEO that perhaps yields higher L scores on average but with higher variations in its L scores as well.

3   Hypotheses about Organizational Leadership and Management

There is a rich precedent of applying quantitative measures to organizational culture (O'Reilly et al. 2014) using applied surveys. One pioneering effort launched a decade ago is the World Management Survey (WMS) (Bloom et al. 2014), which uses an intensive interview-based survey to measure eighteen management practices on a five-point scale. The WMS data are already yielding insights on complementarities among practices, correlations with total factor productivity, and the importance of managers vis-à-vis management, but the authors emphasize that many organizational measures are left out of the WMS, notably leadership and other, more strategic aspects. To my knowledge, there is no precedent applying the methodology at the intersection of leadership culture and talent management or any effort to distinguish the two, assess interactions, and assess the relative importance of different aspects of both on firm performance.

My first goal here is to explore whether leadership and management are distinct dimensions of organizations. Properly constructed, this is

Hypothesis 1: Measures of leadership culture in organizations can be categorically distinguished from measures of talent management.

Another motivation for the survey is its ability to identify differences among organizations, notably between military and nonmilitary organizations. Distinguished critics such as General Walt Ulmer who was superintendent of West Point in the early 1980s have warned that the

current mixed signals between strong leadership culture and stifling talent rules will affect the qualities of top officers, particularly the high number of toxic leaders (an army term for abusive leaders). The Leader/Talent data allow me to formally test these narratives as

Hypothesis 2: The US military services score higher than other organizations on measures of leadership culture.

Hypothesis 3: The US military services score lower than other organizations on measures of talent management.

Hypothesis 4: The US military services score higher than other organizations on measures of executive traits (integrity, work ethic, competence, entrepreneurship, and passion).

I do not have a sense of which elements of culture and talent management are strongly related to firm performance. My instinct is that all aspects matter and that both dimensions are significantly and simultaneously correlated with performance. Survey data allow us to identify those elements that matter the most and also that some elements do not matter on any measure of performance. Those findings will be presented below. As for a testable hypothesis, I believe we can assess

Hypothesis 5: Organizational performance can be explained by measures (employee perceptions) of both organizational culture and talent management.

Many of the business leaders who helped brainstorm the Leader/Talent matrix suggested that a firm is likely to modify its practices and even culture based on its size, age, industry, and even profitability. Thus an expanding firm in an entrepreneurial sector will be able to, perhaps need to, hire a more risk-loving and diverse mix of people. In contrast, firms facing weak or negative growth that must reduce headcount will likely modify their talent practices. At a minimum, perceptions of employees will likely be more negative in downsizing firms (the Leader/Talent matrix is based entirely on employee perceptions). We can also expect firms with products and services that are more commoditized would need to focus more on management, less on visionary leadership. Unfortunately, it is impossible to answer these questions about firms with the internal Leader/Talent data alone. Although we can examine how firm size and type relate to subjective Leader/Talent variables as perceived by employees, a fuller study requires supplementary objective data on the firms such as profits, growth, and other financials. Ultimately, time series would be needed to explore many of these questions.

4 Measuring Organizational Leadership and Management

With an advisory team of scholars, business executives, and military officers, I developed a Leader/Talent employee survey that can be applied to all kinds of organizations. I combed the literatures on talent management and leadership culture for a list of distinct elements.

The basic structure of an element is a descriptive statement. Respondents are asked to evaluate their employer in terms of each element using a five-point scale. For example, one element is "Young leaders are given serious responsibilities." The five possible responses are "always true" (4), "often true" (3), "sometimes true/neutral" (2), "often false" (1) or "always false" (0). The elements are randomized in each survey, so that respondents do not know which elements are in which categories (or even what categories or dimensions I use to analyze the results).

With input from my advisory team and trial runs with focus groups, I refined the phrasing of elements. For example, one senior military officer insisted, rightly, that the L/T matrix should try to measure how an organization deals with poor performers. Could they be easily discharged? Were they never promoted? The full, final forty elements used in the Leader/Talent survey are listed and described in appendix 1. Half (19) the elements fall under leadership culture and the remainder (21) fall under talent management practices. The forty elements comprise five broad leadership categories and five broad talent management categories.

The leadership categories are
- *Independence (encouraging individual judgment, risk, and creativity)*
- *Development (early responsibility, opportunity, and mentorship)*
- *Purpose (passion, group purpose, and shared vision)*
- *Values (teamwork, trust, and sacrifice)*
- *Adaptability (mission focus, dynamism, and flexibility)*

The management categories are
- *Training (occupational, on-the-job, and recurring)*
- *Job matching (local control, efficiency, and removal)*
- *Compensation (merit, bonuses, and benefits)*
- *Evaluations (usefulness, peer/360 degree, and recognition)*
- *Promotions (merit, differentiation, and specialization)*

By design, I constructed the elements to be distinguishable while also covering core aspects of culture and policy. To take one example, training can mean different things to different people. So it might not be accurate to ask employees to rate a broad statement such as "training provided by this employer is valuable." To get a more accurate assessment, I included distinct forms of training to include (1) the major occupational training that firms often provide to newly hired employees and/or those employees being reassigned such as for pilot training, (2) on-the-job training, (3) smooth successions, which reveal how well pre-training for necessary skills is managed, and (4) avoidance of the overtraining epitomized by excessive meetings.

Some aspects of managing people do not neatly fall along one or the other dimension; none was more difficult to describe than feedback from a boss to a subordinate. Most aspects of development seem to be cultural, such as mentoring. But it also seemed important to distinguish the kind of informal feedback employees should receive from their supervisors from the formal performance evaluations that are common. I thus included both the informal (as leadership) and formal (as management).

In addition to the forty Leader/Talent elements, the survey also asks five questions about organizational performance and the qualities of top officers. A list of all variables in the dataset is provided in appendix 2.

5   Data

I began collecting Leader/Talent survey responses in mid-2014 using an online survey platform that promised anonymity to respondents. The initial contacts had participated in a West Point graduate survey (Kane 2012), and I also reached out to class presidents/secretaries of graduating classes from the US Naval Academy and US Air Force Academy. Participants were encouraged to propagate a web link among fellow veterans of all ranks that was also made public on social media. In late 2014, two organizations participated in the survey. The first was a profitable technology firm; the other was a class of high-potential senior US Air Force officers. Lastly, on April 1, 2015, the *Military Times* included another public link to the survey in its daily "Early Bird Brief" e-mail newsletter; that link was also posted by the prominent MarginalRevolution.com economics blog.

There are 566 respondents in the final, clean dataset including 167 who provided assessments of two different employers, yielding 733 total unique observations. The respondents primarily evaluated US military (N = 389) and private sector (N = 244) employers, but there were numerous observations of government and nonprofits as well.

Table 1. Overview of Dataset

	Private Sector	Govt.	US Military	Non-profit
N	244	61	389	39
Tenure, years	5.2	8.7	14.8	6.0

Pairwise correlations among variables in the dataset are high, averaging 0.39. They are slightly higher among the nineteen leadership (L) elements than among the twenty talent management (T) elements. Consistently positive pairwise correlations among so many variables suggests that organizations tend to be perceived consistently, perhaps because happy employees tend to evaluate their employers above average in all things. With that said, clear distinctions are seen across the elements. A summary look at the forty elements reveals mean scores that are as low as 1.0 (*use of bonuses*) and as high as 2.7 (*leader succession*). All but one variable has a

standard deviation higher than 1.0. Table 2 summarizes the ten categories, which also show similar standard deviations but dissimilar means. The baseline scores are higher for the five leader categories than the five talent management categories, but we will see below that these are driven primarily by low talent scores for the armed forces.

Table 2. Mean and Standard Deviation of Ten Leader/Talent Categories (N = 733)

Name	Variable	Mean	Std. Dev.
Independence	CL_ind	1.9	0.94
Development	CL_dev	2.3	0.86
Purpose	CL_purpose	2.5	0.80
Values	CL_value	2.5	0.85
Adaptability	CL_adapt	2.2	0.86
Training	CT_train	2.2	0.75
Job Matching	CT_job	1.7	0.94
Compensation	CT_comp	1.5	0.94
Promotions	CT_promo	1.9	0.89
Evaluations	CT_eval	1.7	0.93

Principal Component Analysis

To test hypothesis 1, I considered a principal components analysis (PCA) of the forty Leader/Talent elements with varimax rotation to derive the factor structure. The first PCA (table 3) extracted as many independent factors as possible, yielding four factors total. The first factor is defined by eighteen of the nineteen leadership elements and none of the talent elements. Only one nominal leadership element is not included in the first factor is a statement about bureaucracy. Only three of the elements have significant cross loadings, and each of the three falls under the category *Independence*.

The second factor is cleanly defined by thirteen items, all coded elements under talent management. These are primarily defined by policies and procedures around job matching, promotions and half of the compensation items (pay and bonus). Those items oriented at training and the other compensation items generally do not load on this dimension. The third factor is defined by six items, related either to compensation or to evaluations, which is interesting in that evaluations are elements known to be difficult to differentiate between formal HR functions and informal mentoring functions. The fourth factor is defined by two items related to training. The results, consistent with Hypothesis 1, are impressive given the high pairwise correlations among all forty elements.

I looked at a second PCA (table 4) constrained to only two extracted factors. Here we see seventeen of the nineteen leadership items loading on the first factor and fifteen of the twenty-

one management items on the second factor. Elements that do not align are from similar categories, notably Independence, Training, and Evaluations.

I interpret these results as an affirmation of hypothesis 1: firms manage employees along two distinct dimensions. Further, those dimensions of culture and policy are complementary as evidenced by positive pairwise correlations among the subcategories of each.

TABLE 3 HERE

TABLE 4 HERE
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6   Analysis

Do the US armed forces score differently than private-sector firms on measures of leadership culture, talent management, performance, and officer traits? Comparing the 360 observations of uniformed military to the 244 observations of private-sector employees, I found significant differences.

6.1 Assessing the US military using the Leader/Talent Matrix

The average US military score across all leadership elements was 2.5 (on a 4-point scale), whereas the average talent management element was a 1.5. The highest score on any element was the military's 3.0 on *LP_purp*: "This organization has a strong sense of purpose," which was higher than the private sector score of 2.8. The lowest military scores were in *Compensation* and *Job Matching*.

Table 5 presents the average response of private sector employees against uniformed military employees, and also includes a p-value from the Wilcoxon rank-sum which signifies whether the distributions of the two samples are significantly different (a lower p-value implies greater confidence in rejecting the hypothesis they are the same). Figure 2 presents the average scores graphically. A similar table (Table 6) and pair of charts are appended that show these results across all forty elements.

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Table 5. Leader/Talent Category Averages with nonparametric p-values

	Private Sector	Uniformed Military	p-value
Independence	2.4	1.6	0.00
Development	2.4	2.3	0.13
Purpose	2.5	2.5	0.82
Values	2.5	2.6	0.65
Adaptability	2.5	2.0	0.00
Training	2.4	2.2	0.00
Job Matching	2.5	1.2	0.00
Promotions	2.4	1.5	0.00
Compensation	2.2	1.1	0.00
Evaluations	2.0	1.6	0.00
Tenure	5.2	15.0	
N	244	360	

Figure 2. Average Scores in Leader/Talent Categories

5 Leadership and 5 Talent Aspects of Organizations
(each aspect rated on 4-point scale)
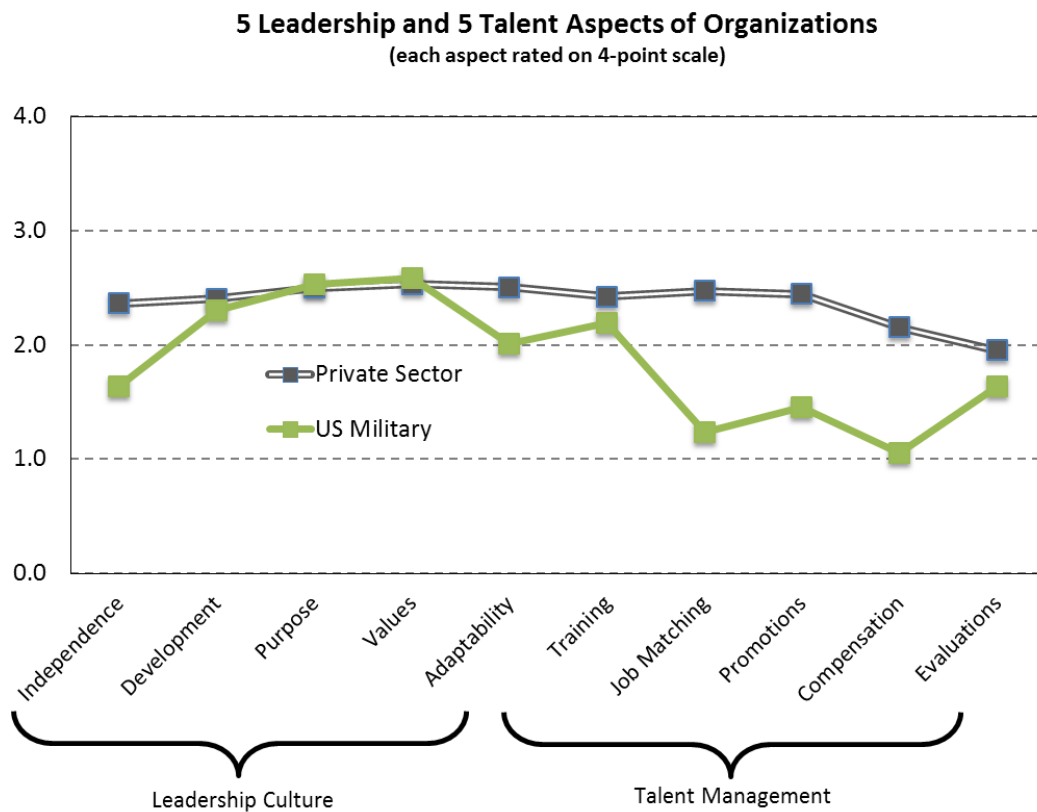
The military and private sectors have similar scores in most leadership culture categories, except *Independence* and *Adaptability*. In terms of talent management, the military services score far below the average private company in every category, although they are not far below in the *Training* category. Although the military has a low score on *Evaluations*, performance evaluations also seem to be a weakness in other kinds of organizations.

The weakest military categories are *Job Matching*, *Promotions, and Compensation*. The average score for *Job Matching* is 1.2 for the armed forces (indeed, this is the score for each of the individual services, although those are not reported here nor tested for significance) but 2.5 for the private sector. Military performance in those three categories is weak not just relative to the private sector but compared to its own performance in other categories. The elements within those three categories merit further explanation.

When the summary table shows the average private-sector firm has a higher score on *Compensation* than the military, it does not mean that the private sector compensates with larger paychecks. Rather, it means that the compensation process is superior according to perceptions of employees on the four assessed, which are (1) pay is closely aligned with performance; (2) bonuses are used effectively to reward good work; (3) fringe benefits are efficiently set but not wasted or lavish; and (4) retirement and retention programs help keep top talent and enhance the long-term success of the organization. Among those four elements, the military-civilian gap is largest on (1) and (2).

Histograms, presented in appendix 3 for visualization only, show that they do not appear normally distributed for many of the elements but rather tend to skew to the right; in other words, the frequency of low marks tends to be greater than high marks. Using nonparametric methods, we can determine whether the military sample is significantly different than nonmilitary observations (not just those in the private sector) as a way of testing hypotheses 2-4. The null hypothesis is that both groups–military and nonmilitary–are sampled from populations with identical distributions. Using the rank-sum test to determine any differences in the distribution of the *Compensation* variable for military and nonmilitary samples, the p-value of 0.00 rejects the null hypothesis. This is no surprise given the disparity in means. Results of the rank-sum tests reported in table 5 reject the hypothesis that the military scores are similar to nonmilitary scores for seven of the ten categories. For talent management, that means the military is scoring categorically worse, even in training. Those results seem to confirm hypothesis 3.

The results are more nuanced for hypothesis 2, which is that the military would have higher scores for L categories. Surprisingly, we cannot reject that the military is similar to the private sector in scores for *Values* and *Purpose*, even though its average scores are generally higher. On the downside, the military is significantly lower in terms of *Independence* and *Adaptability*. The final assessment of hypothesis 2 is that there is no simple conclusion. Although the military scores significantly lower in two other categories and insignificantly differently in the final three categories. Without better data, no conclusion can be confidently drawn.

6.2 Does the survey sample bias the results?

The respondents to the survey were almost entirely voluntary, with over two-thirds coming in April 2015 through a web link promoted in a military publication's daily newsletter and a same-day reposting on prominent blogs and twitter accounts. That kind of sample can be vulnerable to self-selection bias. Although bias in any survey is impossible to remove completely, there are ways to test for and manage it.

The biggest concern is that voluntary respondents to a survey are more interested in the subject than nonvolunteers, making the volunteers either too critical (sour grapes) or too enthusiastic. One way to control for this is to look for common patterns because bias can affect absolute levels but make no impact on inter-variable differences. Specifically, respondents to the Leader/Talent survey consistently show similar relative patterns in rating the forty elements, elements which are presented in randomized order for each respondent. For example, the element with the highest average score, at 2.84, is *LP_purp* ("This organization has a strong sense of purpose") compared to the lowest, which, at 1.09, is *TC_bons* ("Bonuses are used effectively to reward good work"). Even if one group, such as US Navy officers, gives responses that are biased upward, such a bias does not distort which elements are internally perceived as strengths and weaknesses.

Consider the patterns across the different branches of the military. Army and air force got their highest marks on *Values* (2.6, 2.5) and lowest to *Compensation* (1.0, 1.0). Even though the hundred-plus army respondents were generally more positive about leadership culture than the hundred-plus air force respondents, the pattern among the Leader/Talent categories looks like a carbon copy.

Another concern is that veterans who leave the military after their first commitment (around five years) might be more critical than active-duty troops. Yet active-duty respondents in my sample made up three-quarters of military observations and were more critical than veterans, consistently across ranks, including veterans who served until retirement (twenty-plus years of service). Thus we see in table 7 that active-duty members rated their military employer as weaker in terms of *Retention* ("retaining the most talented people" where a ten rating is the best) than veterans by a large margin. Enlistees on active duty (with an average of fifteen years of service) gave the lowest average rating, and retired senior officers gave the highest rating. Likewise, the average Leader element and average Management element got much lower average scores from active-duty respondents from all ranks, with the gap ranging from 0.2 to 0.8 lower for ratings by active duty respondents.

Table 7. Comparison of US Military Respondents

	Enlisted		Jr. - Mid Officer		Sr. Officer	
	Veteran	Active Duty	Veteran	Active Duty	Veteran	Active Duty
N	24	14	28	147	32	85
Yrs. of Svc.	13	15	10	12	20	20
Retain	5.2	3.6	4.6	4.2	6.7	5.6
Avg. "L"	2.4	1.6	2.6	2.0	2.7	2.4
Avg. "M"	1.7	1.1	1.6	1.3	1.9	1.7

A third check on bias in the survey is two subsamples that validate the overall findings. A rule of thumb among management scholars is that the best way to determine weaknesses in organizational culture is to talk with high potentials: the young executives most likely to be promoted to senior ranks. A group of high-potential air force officers at a selective service school were asked by their dean to participate anonymously in the Leader/Talent survey (all but one did). Their responses were nearly identical to the self-selected air force respondents; their average L element score was 2.19 compared to 2.15 for other air force respondents. Their average M score was 1.93 versus 1.79 for others.
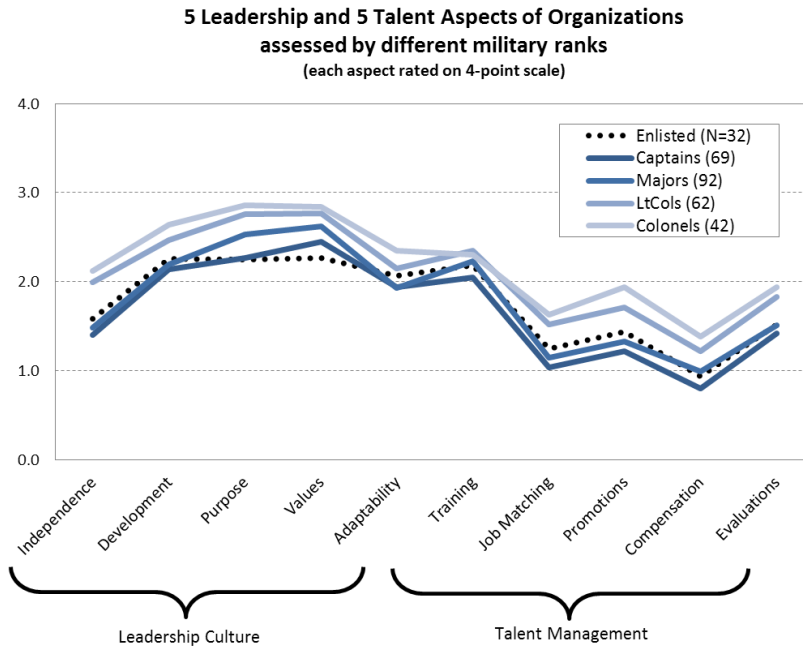
Figure 3. Average Scores in Leader/Talent Categories: Respondents with Two Observations
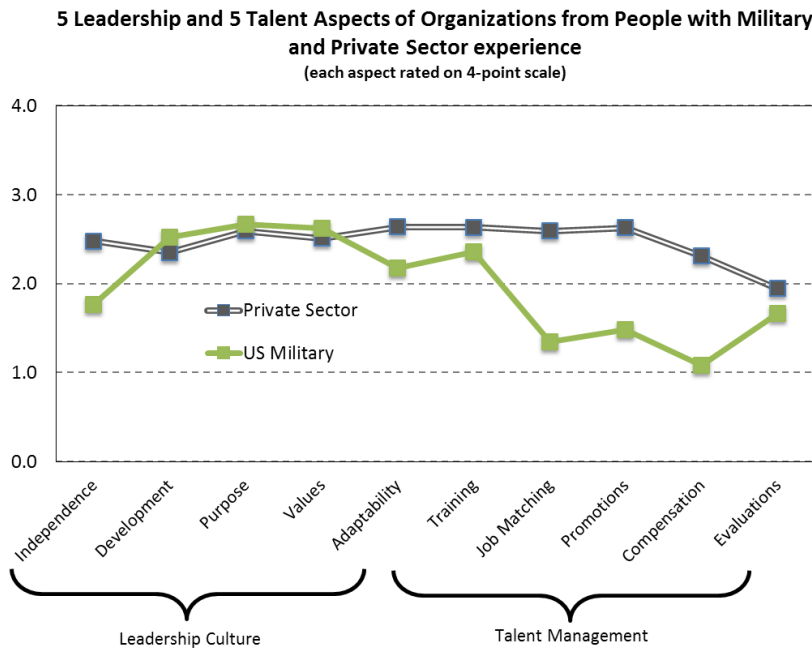
Fourth, to confirm the private-military differences, a subsample of sixty-six respondents assessed two employers: one a military branch and one a private firm. Their assessment was

identical to the overall sample (see figure 3, which is almost identical to figure 2 above). Thus, we can be confident that the overall conclusions are not an aberration of two unrelated populations. Rather, the contrasting perceptions of two unrelated populations with no cross-reference about their employer are the same as perceptions of people who have experience in both types of organizations. This fourth point does not rule out bias, but it does rule out the assertion that an experiential gap makes military service incomparable to other kinds of work.

Figure 4. Average Scores in Leader/Talent Categories, across Ranks

5 Leadership and 5 Talent Aspects of Organizations
assessed by different military ranks
(each aspect rated on 4-point scale)

Finally, I broke out the scores for military respondents by rank: colonels, lieutenant colonels, majors, captains, and enlistees; see figure 4, which shows that rank clearly has its biases. Each senior rank is more favorable in its level assessment of the Leader/Talent measures than the rank below. The pattern consistency, however, is perhaps the most striking result in this study; every military rank considers talent management, not culture, to be the weak link in the way the armed forces operate in the human dimension.

6.3 Organizational performance and leadership traits

The survey asked questions beyond the Leader/Talent matrix, primarily to examine how those elements correlated with such practical concerns as morale, productivity, and employee integrity. One such concern is that the US armed forces face a retention crisis, particularly the loss of talent and related problems of motivating the workforce during times of war and when the wartime mission comes to an end. I've conjectured (Kane 2012) that the US military traditionally enjoyed a more entrepreneurial group of leaders than is typically found in other organizations, which led to including a question in the survey about officer traits.

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The question about organizational performance was phrased "Using any number from 0 to 10 (where 10 is the best in the world) rate this organization at

... retaining the most talented people.
... recruiting excellent people.
... making its employees happy and proud about their work.
... making the best product / service for customers.
... getting the highest quality work possible from the employees it has.

Table 8. Measures of Organizational Performance (10 is Best)

	Private Sector	Government (non-mil.)	US Military
Retain Talent	6.3	5.2	4.8
Recruit Excellence	7.0	6.2	6.4
Morale	6.7	5.8	6.5
Best Product	7.3	5.6	6.5
Quality Work	6.9	5.3	5.8

In table 8 we see the private sector outperforming the military across the board on organizational performance as perceived by employees, but the largest delta is in talent retention, with a 1.5 point gap. Interestingly, the military outperforms other government organizations in all categories except talent retention.

Figure 5. Measures of Organizational Performance (10 is Best)
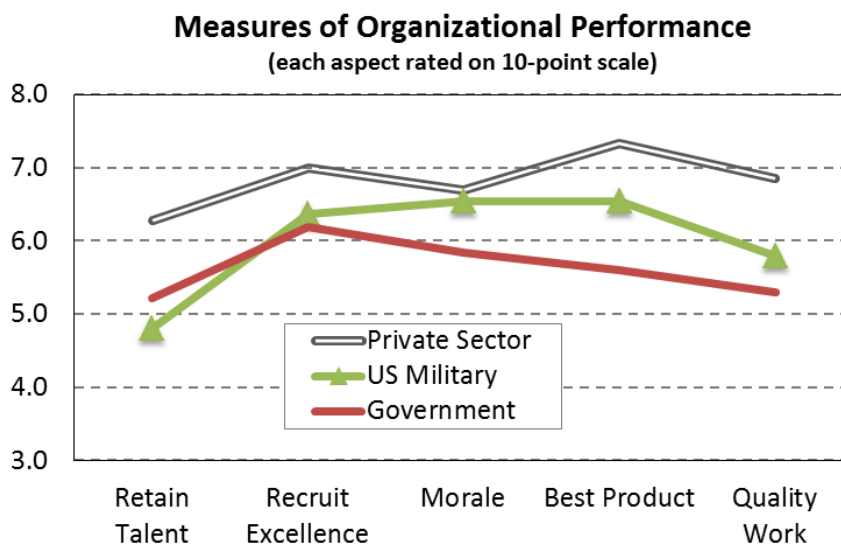
Turning to traits of officers in the organization, the survey question was "Among 10 officers in this organization, how many would you say are the following?" followed by five

words in random order, each of which could be rated from zero to ten: "competent, hardworking, trustworthy, entrepreneurial, passionate." In table 9 we see the average score given to three kinds of organizations.

Table 9. Measures of Officer Traits (10 is Best)

	Private Sector	Government (non-Mil)	US Military
Competent	7.7	6.2	7.2
Hardworking	8.4	6.8	7.8
Trustworthy	7.2	6.1	7.7
Entrepreneurial	6.4	4.4	4.2
Passionate	7.1	6.2	6.6

Figure 5. Measures of Officer Traits (10 is Best)

Five Measures of Officer Traits
(# of 10 officers exhibiting each trait)
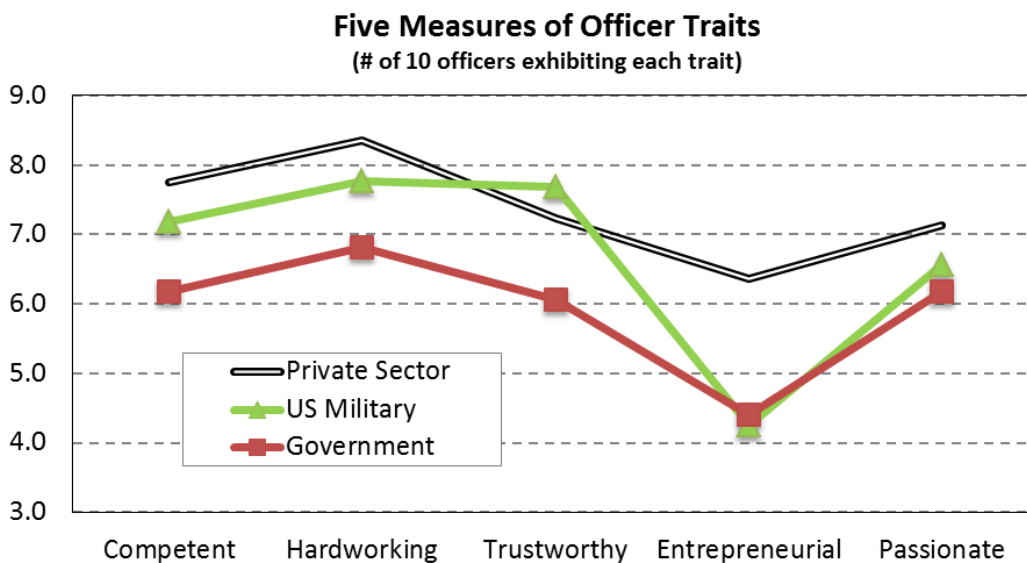
US military officers are perceived internally to be trustworthy, hardworking, and competent, with an estimated seven to eight officers out of ten having those traits (see figure 5). In contrast, only four of ten officers are typically considered entrepreneurial. Compared to the private sector, military officers have similar traits, except for the low marks in entrepreneurship. This does not imply that the top military officers are more or less intense in any of these categories; rather, it assesses how common those qualities are.

6.4 What Leader/Talent elements matter for organizational performance?

To test whether Leader/Talent elements and categories explain organizational performance, I ran linear regressions using the model

$$Performance_i = \alpha + \sum_{j=1}^{n} \beta_j Element_{ji} + \lambda V_i + \varepsilon_i$$

in which *Performance* is one of the five measures of organizational performance, *Element* is one of the forty elements, or composite categories, from the L/T survey, and *V* is a variable included in robustness tests such as gender, tenure, military dummy, active-duty status, and an officer dummy. For example, the first model used Retain as the Performance variable, all ten L/T categories, and additional variables. Many explanatory variables were statistically insignificant, so I conducted a most-to-least specification search by dropping variables that were insignificant at the 5 percent level until a robust set remained. A regression analysis implies that seven variables explain 58 percent of the variation in an organization's retention score: Tenure, three L categories, and three M categories (see table 10).

Table 10. Linear Regression Results for Dependent Retain Variable with Leader/Talent Categories as Explanatory Variables

	Coeff.	t
Independence (L)	0.27	2.27
Development (L)		
Purpose (L)	0.78	6.04
Values (L)	0.30	2.58
Adaptability (L)		
Job-Matching (T)	0.29	2.51
Training (T)		
Compensation (T)	0.42	4.22
Promotions (T)	0.61	4.64
Evaluations (T)		
Tenure	-0.42	-2.63
Adj. R-squared	0.58	0.58
Observations	730	730

Initially I found that the L/T categories were good predictors of the five performance metrics, with adjusted R-squares that explain half the variation in retention, worker happiness, and quality work from employees. The results in table 12 report the results of a specification search for the robust explanatory variables, which serve as a test of hypothesis 5 (*organizational performance can be explained by measures [employee perceptions] of both leadership culture and talent management*).

Table 11. Linear Regression Results of Organizational Performance (Five Dependent Variables) with Leader/Talent Categories as Explanatory Variables

	Retain	Recruit	Happy	Best	Quality
Independence (L)	0.27 (2.27)				
Development (L)			0.41 (3.58)		
Purpose (L)	0.78 (6.04)	0.62 (4.33)	0.74 (6.06)	0.66 (4.63)	0.66 (5.10)
Values (L)	0.30 (2.58)	0.58 (4.57)	0.62 (5.73)	0.56 (4.40)	0.58 (5.10)
Adaptability (L)				0.70 (5.99)	0.27 (2.34)
Job Matching (T)	0.29 (2.51)	0.28 (2.58)	0.34 (4.83)		0.35 (3.45)
Training (T)				0.35 (2.93)	
Compensation (T)	0.42 (4.22)	0.36 (3.32)			
Promotions (T)	0.61 (4.64)				0.33 (2.84)
Evaluations (T)					0.25 (2.94)
Tenure	-0.42 (-2.63)		0.02 (2.79)		
Adj. R-squared	0.58	0.32	0.53	0.46	0.54
Observations	730	728	731	731	730

t-statistics in parentheses

Hypothesis 5 cannot be rejected based on the regression tests shown in table 11 because each five measures of performance were explained by at least one leadership culture category and one talent management category. Even though both dimensions are correlated with better organizational performance, the results indicate that leadership culture matters more than talent management. In most cases, three of the five leadership factors were significant explanatory variables, compared to two of the five talent factors. It is also notable that the estimated coefficients on the leadership factors are roughly twice as large as talent coefficients (whereas the variation for all ten factors was similar; see table 3 above).

These findings are consistent with the literature on transformational versus transactional leadership, pioneered by Bass and Avolio (1993). Chen, Hwang, and Liu (2012), for example, found that transformational leadership was directly associated with job satisfaction and trust in the voluntary military workforce in Taiwan.

Because retaining talent is of intense interest in the US armed forces today, and in all firms generally, I explored which of the disaggregated Leader/Talent elements proved to be robust explanatory variables of *Retain*. The presence of relatively high pairwise correlations in the aggregated categories and, to a lesser extent, in the disaggregated elements suggests potential issues with multicollinearity. As a remedy, I proceeded methodically to prune insignificant

variables and also checked for variance inflation factors in postestimation analysis. The final group of explanatory variables that proved robust in explaining talent retention is seen in table 12 (with codes for variable names described in the appendix).

Table 12. Linear Regression Results for Dependent Retain Variable with Leader/Talent Elements as Explanatory Variables

Dep: Retain	Coeff.	t
lp_pass	0.19	2.29
lp_purp	0.25	3.44
lp_motv	0.25	2.90
li_risk	0.19	2.35
li_crea	0.26	2.94
lm_bury	0.26	3.65
tj_skil	0.41	4.92
tc_reti	0.42	6.78
tp_quik	0.30	3.95
Adj. R-squared	0.60	
Observations	719	

The results are interesting for at least three reasons. First, the importance of an organization's sense of purpose is validated: three of the nine elements fall under the *Purpose* category. Second, the results are consistent with the category-level findings in table 11. Only one element from the irrelevant categories had any explanatory power (*LM_bury,* which stands for "Bureaucratic rules are streamlined and do not get in the way"). None of the four measures of performance evaluations (coded *TE_**) when individually added to the model were statistically significant, which we can interpret to mean that instituting a 360-degree evaluation system may not help retain talent. Third, the explanatory power in terms of the adjusted R-squared of the nine disaggregated elements was slightly more than the aggregated categories. Notably, none of the control variables were robust in the disaggregate regression, including Tenure.

I would caution reading too much into these few regressions because the sample explored here is preliminary and skewed with a large number of military observations. Even though the military and officer dummies were knocked out, we should expect that a panel exclusively made up of for-profit respondents would yield somewhat different results.

With those caveats in mind, the model in table 12 gives the clearest guidance possible about what military leaders should focus on to improve talent retention. The good news is that retention is powerfully affected by a purposeful leadership culture, one of the few areas of unequivocal strength the armed forces have over the typical private-sector firm. The military's culture, however, is not as supportive of risk-taking and creativity, which is hurting retention. Although the bureaucracy is often a punch line in military humor, its "streamlined bureaucracy" score in the Leader/Talent matrix is 0.9 compared to 2.2 in for-profit firms. Three other areas that would boost retention are (1) making a better match between skills, (2), promoting talent more quickly, and (3) improving the retirement program. Of those three factors, the first two are

areas in which the armed forces scores are especially low, meaning that improvements there would have the biggest impact.

7   Discussion

After a review of management textbooks and the long literature on leadership, I developed a 40-point organizational assessment. Survey data from nearly 600 respondents with 733 observations of different employers allowed me to analyze a correlation matrix of those organizational elements. The data confirm my core hypothesis that leadership culture is distinct and complementary to talent management. Indeed, firms that tend to be strong in one category of "leadership" will also tend to be strong in other categories, and will also tend to be score higher on talent management categories as well.

I confirmed that the U.S. armed forces are very similar to one another in their Leader/Talent scores, which is interesting because they are truly distinct organizations but operate under the same set of management rules by law and regulation from the federal government. The military services score far lower than on three talent management categories than on any of the leadership categories. This finding is confirmed in a subsample of high-potential USAF officers who were not self-selected. The finding is also confirmed in the trend lines of five different military ranks: colonels, lieutenant colonels, majors, captains, and enlistees have different levels of ratings, but their trends across the ten Leader/Talent categories are nearly identical. For every rank, core talent management functions of the US military are perceived to be 1.5 points below leadership culture on a 4 point scale.

Lastly, linear regression analysis presented here shows which Leader/Talent aspects of an organization matter most for five different measures of organizational performance. Three categories are especially important for all aspects of performance – an organization's sense of purpose, its values, and its efficiency at job matching. In general, the five performance metrics correlated most significantly (and with larger coefficients) with Leadership aspects of a firm than its Management aspects. And even though every one of the ten categories was statistically significant as an explanatory variable for at least one performance measure, the fact is that two Management categories were barely influential at all – performance evaluations and training.

These results are not intended to be definitive. Rather, what this study contributes is another piece of quantitative analysis to the relatively new empirical economics of management. By exploring the intersection of leadership culture and talent management, these findings offer a new way to affirm and debunk narratives from the management literature. Future work is necessary to validate these preliminary findings with more in-depth, truly random surveys and other empirical methods. At a minimum, the findings substantiate and can help focus contemporary concerns in the U.S. military about talent management reform.

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Appendix 1. Leader/Talent Categories and Elements

Management Categories

1. **Training**
   types of training: core, on-the-job, recurring, meetings
   a. Major occupational training is valuable.
   b. On-the-job training is valuable.
   c. The organization avoids excessive management briefings and meetings.
   d. The succession process, when a new manager fills an existing job, tends to be seamless.

2. **Job-matching**
   concepts of decentralization, autonomy, efficiency, design
   a. Local supervisors have primary hiring authority, not the central bureaucracy.
   b. Poorly performing employees can be easily removed, relocated, or fired.
   c. Job requirements and personal skills are usually well-matched.
   d. Jobs are flexibly redefined whenever the operating environment changes.

3. **Compensation**
   performance, bonuses, benefits, pensions
   a. Pay is closely aligned with performance.
   b. Bonuses are used effectively to reward good work.
   c. Fringe benefits are efficiently set, but not wasted or lavish.
   d. Retirement and retention programs help keep top talent and enhance the long-term success of the organization.

4. **Evaluations**
   concepts of performance feedback, assignment data, peer/360 degree rating, ranking, recognition
   a. Performance evaluations provide valuable info for employee feedback.
   b. Performance evaluations provide valuable info for job assignments and promotions.
   c. Assessments of supervisors by their peers and subordinates are considered by senior executives.
   d. Performance evaluations make useful distinctions between top, middle, and weak performers.
   e. A respected program of commendations, medals, and/or awards exists to recognize top performers.

5. **Promotions**
   concepts of merit, differentiation, lateral entry, specialization, abusive bosses
   a. Promotions are based on merit, not on seniority or favoritism.
   b. Individuals are free to specialize rather than seek managerial promotions.
   c. Abusive bosses are not tolerated and are removed.
   d. Great talent is promoted quickly.

Leadership Functions

1. **Independence**

   concepts of individual judgment, risk, creativity, autonomy

   a. Individual leaders are empowered to use their own judgment.
   b. Leaders are willing and encouraged to take risks
   c. Creativity is rewarded more than conformity.

2. **Development**

   concepts of responsibility, opportunity, mentorship

   a. Young leaders are given serious responsibilities.
   b. All workers are given the opportunity to truly excel.
   c. There are many great leaders in the organization.
   d. Mentors and mentoring are common.
   e. People get honest, informal feedback from bosses.

3. **Purpose**

   concepts of employee passion, group purpose, charisma, and shared vision

   a. People are passionate about their work.
   b. This organization has a strong sense of purpose.
   c. Leaders are very motivational.
   d. Top leaders communicate a clear and compelling vision.

4. **Values**

   concepts of teamwork, trust, integrity, camaraderie

   a. Teamwork is strong throughout the entire organization.
   b. There is a high degree of trust among bosses, peers, and subordinates.
   c. Personal integrity is valued, and low integrity is not tolerated.
   d. People sacrifice for each other within and across departments.

5. **Adaptability**

   concepts of success, dynamism, bureaucracy

   a. The focus here is on mission success, regardless of barriers.
   b. Leaders are dynamic: able to change direction when the mission changes.
   c. Bureaucratic rules are streamlined, and do not get in the way.

Appendix 2. Leader/Talent Data Description

Variable	Description
RID	Respondent ID#
Start	Start Date (corrupted)
Gender	Male = 1
Rank	If you served in the military, what was your final rank?
Name	Category of Organization
Organization	Specific Name of Organization
Job	What was your job level (if many, choose highest level)
Year1	What was your first year of employment here? (YYYY)
Year2	What was your most recent year of employment here? (YYYY)
Orgkind	What kind of organization is it (select one)?
Orgtype	If the organization was in the private sector / for-profit, what was its primary activity?
Orgsize	Size? (How many people did the organization employ?)
Z*	These 5 variables use 0-10 scale, 10 is best in world
ZHappy	... making its employees happy and proud about their work.
ZRetain	... retaining the most talented people.
ZRecruit	... recruiting excellent people.
ZQuality	... getting the highest quality work possible from the employees it has.
ZBest	... making the best product / service for customers.
LI_judg	Individual leaders are empowered to use their own judgment.
LI_risk	Leaders are willing and encouraged to take risks
LI_crea	Creativity is rewarded more than conformity.
LD_resp	Young leaders are given serious responsibilities.
LD_oppy	All workers are given the opportunity to truly excel.
LD_many	There are many great leaders in the organization.
LD_ment	Mentors and mentoring are common.
LD_fdbk	People get honest, informal feedback from bosses.
LP_pass	People are passionate about their work.
LP_purp	This organization has a strong sense of purpose.
LP_motv	Leaders are very motivational.
LP_comm	Top leaders communicate a clear and compelling vision.
LV_team	Teamwork is strong throughout the entire organization.
LV_trst	There is a high degree of trust among bosses, peers, and subordinates.
LV_inty	Personal integrity is valued, and low integrity is not tolerated.
LV_sacr	People sacrifice for each other within and across departments.
LM_sccs	The focus here is on mission success, regardless of barriers.
LM_dyna	Leaders are dynamic: able to change direction when the mission changes.
LM_bury	Bureaucratic rules are streamlined, and do not get in the way.
TT_Occu	Major occupational training is valuable.
TT_scsn	The succession process, when a new manager fills an existing job, tends to be smooth.

|	
TT_ojt	On-the-job training is valuable.
TT_meet	The organization avoids excessive management briefings and meetings.
TJ_hire	Local supervisors have primary hiring authority, not the central bureaucracy.
TJ_skil	Job requirements and personal skills are usually well-matched.
TJ_redf	Jobs are flexibly redefined whenever the operating environment changes.
TJ_fire	Poorly performing employees can be easily removed, relocated, or fired.
TP_meri	Promotions are based on merit, not on seniority or favoritism.
TP_spec	Individuals are free to specialize rather than seek managerial promotions.
TP_abus	Abusive bosses are not tolerated and are removed.
TP_quik	Great talent is promoted quickly.
TP_nevr	Poorly performing employees are never promoted.
TC_pay	Pay is closely aligned with performance.
TC_bons	Bonuses are used effectively to reward good work.
TC_bene	Fringe benefits are efficiently set, but not wasted or lavish.
TC_reti	Retirement and retention programs help keep top talent and enhance the long-term success of the organization.
TE_medl	A respected program of commendations, medals, and/or awards exists to recognize top performers.
TE_valu	Performance evaluations provide valuable information for job assignments and promotions.
TE_rank	Performance evaluations make useful distinctions between top, middle, and weak performers.
TE_360	Assessments of supervisors by their peers and subordinates are considered by senior executives.
yCompet	Competent (Rating of officers in organization)
yHard	Hardworking
yTrust	Trustworthy
yEntrep	Entrepreneurial
yPassion	Passionate
Smonkey	Survey Number (LT7 is most recent, only listed for first RID response)
L score	L score (average of L#_ scores)
M score	M score (average of T#_ scores)
Active	Currently working at firm (= 1)
Tenure	Number (Year2-Year1)
CL_Ind	Independence (average of LI_ scores)
CL_Dev	Development (average of LD_ scores)
CL_Purpose	Purpose (average of LD_ scores)
CL_Value	Values (average of LV_ scores)
CL_Adapt	Adaptability (average of LM_ scores)
CT_Job	Job-Matching (average of TJ_ scores)
CT_Train	Training (average of TT_ scores)
CT_Comp	Compensation (average of TC_ scores)
CT_Promo	Promotions (average of TP_ scores)
CT_Evals	Evaluations (average of TE_ scores)

Appendix 3. Distribution Charts
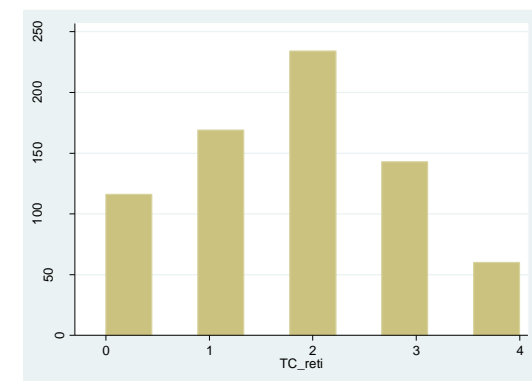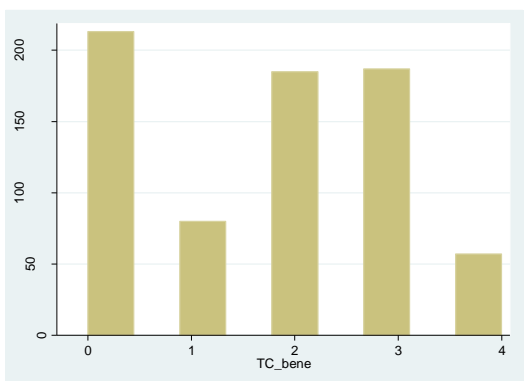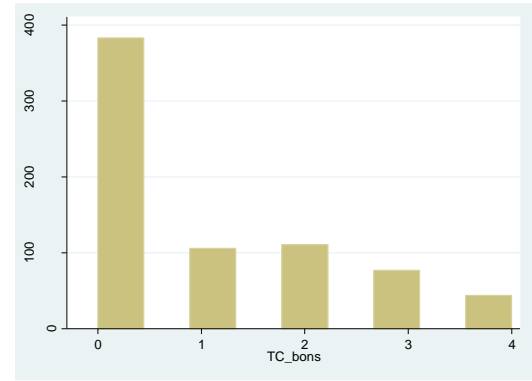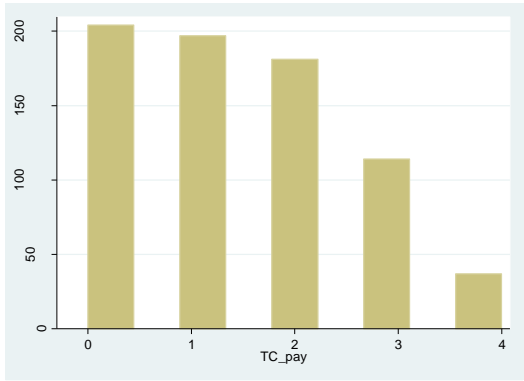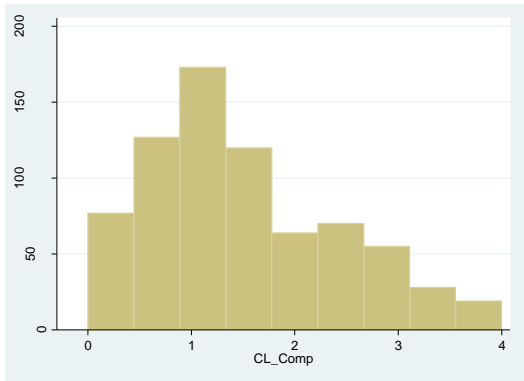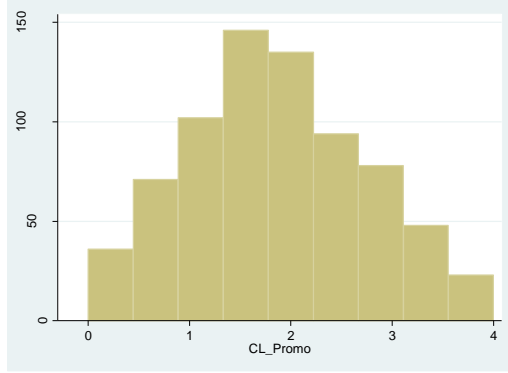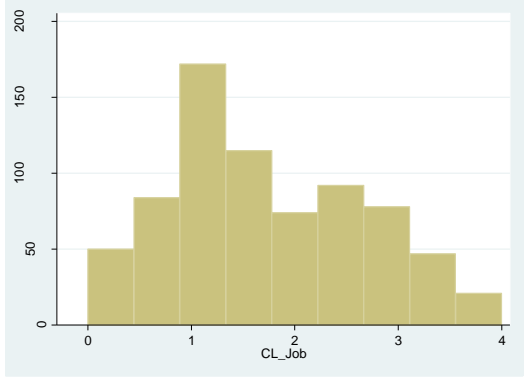
Table 4. Principal Component Analysis

Rotated Component Matrix[a]

	Component			
	1	2	3	4
LI_judg	.517	.543	.181	.108
LI_risk	.519	.585	.227	.025
LI_crea	.445	.665	.155	.080
LD_resp	.665	.142	.226	.127
LD_oppy	.639	.333	.271	.063
LD_many	.744	.119	.287	.157
LD_ment	.591	.255	.343	.185
LD_fdbk	.588	.418	.279	-.049
LP_pass	.559	.210	.033	.362
LP_purp	.661	.111	.087	.242
LP_motv	.755	.259	.199	.065
LP_comm	.684	.293	.205	.128
LV_team	.734	.143	.249	.197
LV_trst	.722	.361	.184	-.036
LV_inty	.667	.201	.142	-.023
LV_sacr	.684	.008	.101	.135
LM_sccs	.669	.153	.072	.206
LM_dyna	.699	.316	.182	.007
LM_bury	.361	.687	.032	-.088
TJ_hire	-.103	.734	.140	.148
TJ_skil	.350	.670	.203	.113
TJ_redf	.312	.494	.250	.071
TJ_fire	.110	.726	.105	-.058
TT_Occu	.305	.005	.270	.755
TT_scsn	.391	.072	.556	.095
TT_ojt	.360	.117	.147	.722
TT_meet	.296	.704	.015	-.044
TP_meri	.401	.610	.270	.052
TP_spec	.118	.763	.015	.124
TP_abus	.290	.540	.335	-.087
TP_quik	.335	.623	.250	.125
TP_nevr	.205	.699	.096	-.012
TC_pay	.102	.747	.261	.104
TC_bons	-.018	.664	.335	.104
TC_bene	.028	.351	.492	-.009

TC_reti	.309	.267	.501	.238
TE_medl	.406	-.059	.512	.259
TE_valu	.373	.263	.670	.165
TE_rank	.329	.264	.661	.087
TE_360	.137	.358	.592	.055

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Table 5. PCA, constrained extraction to 2 factors

Rotated Component Matrix[a]

	Component	
	1	2
LI_judg	.512	.575
LI_risk	.500	.633
LI_crea	.421	.689
LD_resp	.695	.197
LD_oppy	.653	.398
LD_many	.796	.188
LD_ment	.676	.325
LD_fdbk	.569	.489
LP_pass	.602	.202
LP_purp	.682	.130
LP_motv	.738	.315
LP_comm	.694	.341
LV_team	.784	.200
LV_trst	.665	.418
LV_inty	.619	.250
LV_sacr	.682	.042
LM_sccs	.670	.171
LM_dyna	.660	.368
LM_bury	.253	.696
TJ_hire	-.057	.730
TJ_skil	.361	.698
TJ_redf	.344	.538
TJ_fire	.059	.737
TT_Occu	.589	.011
TT_scsn	.555	.190

TT_ojt	.579	.100
TT_meet	.201	.703
TP_meri	.415	.660
TP_spec	.090	.741
TP_abus	.301	.612
TP_quik	.371	.660
TP_nevr	.157	.709
TC_pay	.151	.777
TC_bons	.076	.707
TC_bene	.158	.445
TC_reti	.493	.355
TE_medl	.614	.041
TE_valu	.583	.394
TE_rank	.517	.398
TE_360	.307	.471

Extraction Method: Principal
Component Analysis.

Rotation Method: Varimax with Kaiser
Normalization.

a. Rotation converged in 3 iterations.

Table 6. Leader/Talent elements with average scores and p-values.

CATEGORY	ELEMENT		Military	Private	p-value	
Training	TT_occu		2.7	2.4	0.01	Major occupational training is valuable.
	TT_scsn		2.1	2.2	0.73	The succession process, when a new manager fills an existing job, tends to be smooth.
	TT_ojt		2.9	2.8	0.76	On-the-job training is valuable.
	TT_meet		1.1	2.3	0.00	The organization avoids excessive management briefings and meetings.
Job Matching	TJ_hire		0.6	2.5	0.00	Local supervisors have primary hiring authority, not the central bureaucracy.
	TJ_skil		1.7	2.6	0.00	Job requirements and personal skills are usually well-matched.
	TJ_redf		1.6	2.4	0.00	Jobs are flexibly redefined whenever the operating environment changes.
	TJ_fire		0.9	2.4	0.00	Poorly performing employees can be easily removed, relocated, or fired.
Promotions	TP_meri		1.6	2.4	0.00	Promotions are based on merit, not on seniority or favoritism.
	TP_spec		1.2	2.7	0.00	Individuals are free to specialize rather than seek managerial promotions.
	TP_abus		1.6	2.4	0.00	Abusive bosses are not tolerated and are removed.
	TP_quik		1.4	2.3	0.00	Great talent is promoted quickly.
	TP_nevr		1.3	2.4	0.00	Poorly performing employees are never promoted.
Compensation	TC_pay		0.9	2.3	0.00	Pay is closely aligned with performance.
	TC_bons		0.4	2.0	0.00	Bonuses are used effectively to reward good work.
	TC_bene		1.3	2.3	0.00	Fringe benefits are efficiently set, but not wasted or lavish.
	TC_reti		1.7	2.0	0.01	Retirement and retention programs help keep top talent and enhance the long-term org success.
Evaluations	TE_medl		2.4	1.9	0.00	A respected program of commendations, medals, and/or awards exists to recognize top performers.
	TE_valu		1.6	2.0	0.00	Performance evaluations provide valuable information for job assignments and promotions.
	TE_rank		1.5	2.0	0.00	Performance evaluations make useful distinctions between top, middle, and weak performers.
	TE_360		0.9	1.9	0.00	Assessments of supervisors by their peers and subordinates are considered by senior executives.

SCALE: 5-point Likert with the highest score (4) equal to "always true" and the lowest score (0) equal to "always false."

Table 6. Leader/Talent elements with average scores and p-values, continued.

CATEGORY	ELEMENT		Military	Private	p-value	
Independence	LI_judg		2.0	2.6	0.00	Individual leaders are empowered to use their own judgment.
	LI_risk		1.6	2.3	0.00	Leaders are willing and encouraged to take risks
	LI_crea		1.3	2.2	0.00	Creativity is rewarded more than conformity.
Development	LD_resp		2.7	2.5	0.06	Young leaders are given serious responsibilities.
	LD_oppy		2.2	2.5	0.00	All workers are given the opportunity to truly excel.
	LD_many		2.7	2.4	0.00	There are many great leaders in the organization.
	LD_ment		2.0	2.3	0.02	Mentors and mentoring are common.
	LD_fdbk		1.9	2.4	0.00	People get honest, informal feedback from bosses.
Purpose	LP_pass		2.6	2.7	0.28	People are passionate about their work.
	LP_purp		3.0	2.8	0.02	This organization has a strong sense of purpose.
	LP_motv		2.2	2.2	0.42	Leaders are very motivational.
	LP_comm		2.2	2.4	0.10	Top leaders communicate a clear and compelling vision.
Values	LV_team		2.7	2.6	0.32	Teamwork is strong throughout the entire organization.
	LV_trst		2.2	2.4	0.01	There is a high degree of trust among bosses, peers, and subordinates.
	LV_inty		2.8	2.8	0.82	Personal integrity is valued, and low integrity is not tolerated.
	LV_sacr		2.6	2.3	0.00	People sacrifice for each other within and across departments.
Adaptability	LA_sccs		2.8	2.8	0.97	The focus here is on mission success, regardless of barriers.
	LA_dyna		2.3	2.5	0.00	Leaders are dynamic: able to change direction when the mission changes.
	LA_bury		0.9	2.2	0.00	Bureaucratic rules are streamlined, and do not get in the way.