

## Industrial Management article

### **“Employee Turnover & Retention: Understanding the True Costs and Reducing them through Improved Selection Processes”**

By Matthew O’Connell, Ph.D. & Mei-Chuan Kung

#### *Brief Summary*

*Employee turnover is costly, often more than one would expect. In addition to replacement fees, the true cost of turnover involves hidden costs such as productivity loss, workplace safety issues, and morale down spiral. To track and uncover the causes of costly turnover, several matrices other than turnover rate are discussed: new hire turnover rate, retention rate, and turnover functionality ratio. An improved selection process that assesses candidate’s turnover risk and motivational fit early in the hiring process would help to significantly reduce turnover that then translates into organization profitability.*

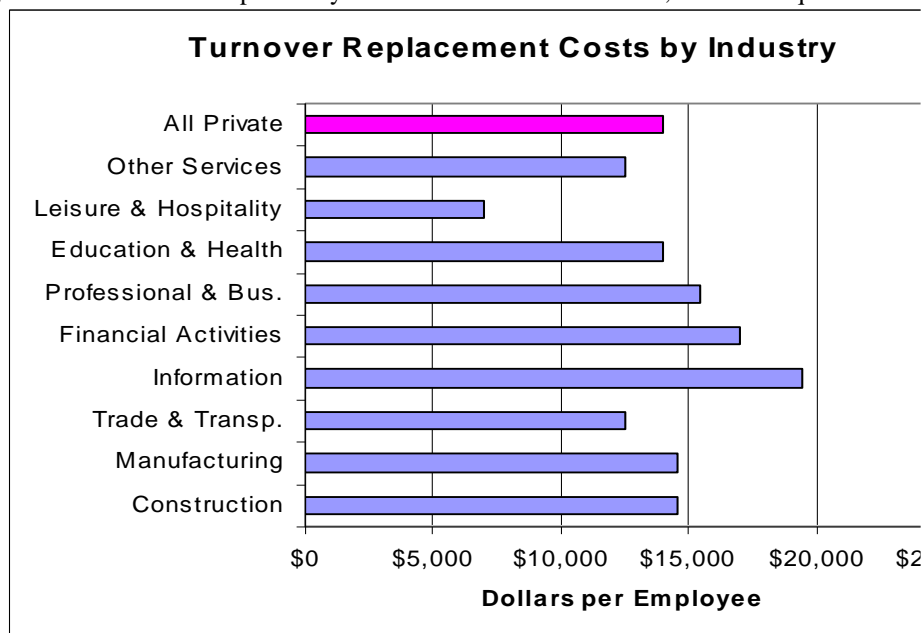
#### **Introduction**

Employee turnover remains one of the most persistent and frustrating problems that organizations face. Whether it’s involuntary, such as termination due to poor performance, or voluntary, such as resignations, turnover is extremely costly. According to a conservative estimate by the Bureau of Labor Statistics, average employee replacement costs are \$13,996 per employee (see Figure 1).

As the economy grows and more jobs are created, voluntary turnover also increases. In the 12 months ending January 2005, 24 percent of workers voluntarily quit their jobs, which was a 13 percent increase over the previous year according to the Employment Policy Foundation. These figures cannot be explained by voluntary retirements, because on average, retirement rates across all private industries were only 2.7 percent in 2005 and 2.6 percent in 2004. Therefore, approximately 89 percent of voluntary turnover can be attributed to people leaving their current employer to find another job somewhere else.

Figure 1. Turnover Replacement Cost by Industry

Per voluntary resignation or retirement replaced by new hires. Full-time workers, 2004 four-quarter average.



Source: Employment Policy Foundation tabulation and analysis of Bureau of Labor Statistics, Employer Cost of Employee Compensation data.

Using these averages, a manufacturing organization with 1,000 employees would have lost 150 employees in 2005 with an estimated replacement cost of slightly more than \$2 million.

Despite these figures, organizations tend to underestimate the true cost of turnover. Perhaps it's because there isn't a line-item in most profit and loss statements, nor is it typically adequately defined in the budget, and no one submits an invoice at the end of the month for "turnover." Yet, collectively, turnover costs organizations billions of dollars a year.

## **Defining Turnover Costs**

There are three main components associated with the cost of turnover:

1. **Staffing** – in addition to the cost of recruiting and hiring the person initially, the organization must now spend a similar amount to hire the replacement.
2. **Vacancy** – the period of time where that person isn't working in the company results in lost productivity and potentially lost business.
3. **Training** – employees aren't 100 percent productive from the moment they start. So, it's necessary to invest time and resources for training, on-boarding/orientation, and development.

It's important to realize how much money is associated with these factors. And, because there isn't much that can be done to dramatically reduce the costs associated with these factors, the most appropriate response is to reduce turnover itself.

## **Indirect Costs of Turnover**

Pure replacement cost estimates fail to cover the true estimate of the impact of turnover on an organization. For instance, things like lower morale, errors made by overburdened workers, inefficiencies of the departing employee and the person hired to replace them are hard to quantify and need to be added into the true cost of turnover. High turnover can also spill over into other areas, such as safety. In the manufacturing industry, high turnover/low retention often results in employees without sufficient experience being utilized to train others. This may have an impact not only on the quality of their work but also on accident rates due to insufficient training and experience. This inadequate training then snowballs, affecting all of those trained, and so on.

Once you take all of these factors into consideration, the true cost of turnover is much larger than the simple replacement cost described earlier. The Saratoga Institute, for instance, estimates that when all of the direct and indirect costs are taken into consideration, the average cost of turnover is equal to one times the annual salary.

## **Measuring Turnover and Retention**

Calculating turnover rates is actually quite straightforward. However, just looking at turnover by itself does not provide the most meaningful information. The following describes some additional measures that add insight into what is really going on with regard to turnover and retention of employees.

The following is a simple formula to accurately calculate an organization's turnover rate:

$$\text{Turnover Rate} = \# \text{ of terminations/year} \div \text{average active employees same year} * 100$$

For example:

An organization that currently employs 100 employees hires 10 new employees during the year. Four (4) employees leave during the year, regardless of when they were hired. The turnover rate for this organization would be:  $(4 \div 110) * 100 = 3.6\%$ .

While turnover rate is a useful index to compare to an industry benchmark, it fails to capture a lot of information about the health of the organization. If, in the example above, the four people who left the organization had been working there for 10 years, it's quite different than if the four people had been there less than a year.

Perhaps a more telling calculation is the New Hire Turnover Rate. This index focuses on how many people were hired in one year and how many of those people left in subsequent years. When employees leave within a short period of being hired, organizations don't have enough time to recoup the investment. The employees didn't provide enough output to make up for the investment the organization put into them in terms of staffing, compensation, training, etc. A high New Hire Turnover Rate is usually related to issues with the selection process, such as choosing candidates that aren't qualified or are a poor cultural or motivational fit.

**New Hire Turnover Rate = # of terminations within first year  $\div$  number of new hires \* 100**

For example:

An organization that currently employs 100 employees hires 10 new employees during the year. Four (4) employees leave during the year, with one of them being one of the 10 new hires. The turnover rate for this organization would be the same as before:  $(4 \div 110) * 100 = 3.6\%$ . However, the New Hire Turnover Rate would be  $(1 \div 10) * 100 = 10\%$ .

In this example we can say that the New Hire Turnover rate is almost three times as high as the standard turnover rate. While the sample size is very small, it may indicate a problem in the selection or on-boarding process.

## **Retention Rate**

As we have seen, while the annual turnover rate can be a useful statistic, it doesn't tell you that much. Combining it with the retention rate gives you more insight into what is really happening in the organization. Retention rate is always based on a fixed period of time. For instance, a one-year retention rate calculates the percentage of individuals who are still with the organization after one year.

**One-year Retention Rate = # of specific people hired in previous year (x-1) still employed in current year (x)  $\div$  People hired in previous year (x-1) \* 100**

For example:

In 2004, company hired 12 people  
In 2005, 8 of those people are still employed  
In 2006, 6 of those people are still employed  
In 2007, 4 of those people are still employed

## Retention Rate Calculations:

$$1\text{-year Retention Rate} = (8 \div 12) * 100 = \mathbf{67\%}$$

$$2\text{-year Retention Rate} = (6 \div 12) * 100 = \mathbf{50\%}$$

$$3\text{-year Retention Rate} = (4 \div 12) * 100 = \mathbf{33\%}$$

Based on this information we see that the organization lost four people the first year, two more the second year, and two more the third year. However, even though the organization lost half as many people in year three than it did in year one, the three-year retention rate is considerably lower than the one-year retention rate.

This apparent contradiction points out an important characteristic of retention rates. The retention rate for a particular time period, e.g. three years, can never be higher than that for the previous year, e.g. two years. It could be the same if no one left between years two and three, but it cannot be higher. In other words, organizations can't make up for what's initially lost; it's always going to be trending down. Therefore, a low one-year retention rate creates problems that last well into the future.

## Turnover Functionality vs. Frequency

Up to this point we have looked at measures of how many people are leaving (turnover), how many are leaving within the first 12 months (new hire turnover), and how long are people staying (retention rates). It's also important to look at *who* is leaving. If the majority of turnover is among the better performing employees, that is a problem that needs to be addressed quickly. If, on the other hand, it's mostly the lower performers who are leaving, that may not necessarily be a serious problem. In fact, according to B.D. Smart, during the 90s, a popular practice of many organizations was top-grading, where they routinely tried to eliminate the lowest 10 percent of their performers to improve the quality of the organization as a whole.

Focusing on the quality of those that are leaving vs. simply the frequency with which they leave is referred to as Turnover Functionality. A straightforward way to quantify turnover functionality is to calculate a Functionality Ratio.

$$\mathbf{\text{Functionality Ratio} = (\# \text{ of poor performers who leave} - \# \text{ of good performers who leave}) \div \text{total number who leave}}$$

For example:

<b>Organization A</b>	<b>Organization B</b>
100 employees	100 employees
5 good performers leave	10 good performers leave
10 poor performers leave	5 poor performers leave
T.O. Functionality = $(10 - 5) \div 15 = 5 \div 15 = 33\%$	T.O. functionality = $(5 - 10) \div 15 = (-5) \div 15 = -33\%$

The ratio is designed such that when: (1) if the ratio is positive (organization A) more poor performers are leaving; (2) if the ratio is negative (organization B) more good performers are leaving; and (3) if the ratio is zero, then an equal number of good & poor performers are leaving.

As a general rule, if the ratio is positive then turnover is not a problem in the organization. In fact, to the extent that the organization is able to replace the poor performing employees with higher-

performing employees, it may be a very positive thing for the organization. On the other hand, negative ratios indicate potentially more serious problems that might be related to systemic, cultural problems within the organization. Simply put, a negative ratio means that better-performing employees are leaving while poorer performers are staying.

### **Reducing Turnover through Better Selection**

Simply improving the selection process is not a cure-all for reducing turnover. Turnover is a process and not an event that is related to factors such as role ambiguity, workload, stress, leadership behaviors, opportunity for advancement, etc. Hiring high potential employees into a bad environment may actually increase turnover.

At the same time, there are tools that can be put in place in the hiring process that can significantly improve overall turnover, new hire turnover and retention rates. The following provides a discussion of two primary approaches that have been shown to be beneficial.

### **Evaluating Risk Factors**

Certain applicants have a higher propensity for turnover, and those characteristics can often be identified prior to hire. Research has shown that the way candidates respond to some questions on an application form correspond to a reduced (or increased) likelihood for turnover. Barrick and Zimmerman have cited, for instance, new hires are less likely to leave the company if they: a) are referred by a current employee; b) have friends and relatives working in the organization; and c) have longer tenure in their previous job. These factors make intuitive sense as people with more contact in the organization are apt to better understand the nature of the job and the organization. It may act as a “vaccination effect” that reduces job dissatisfaction and turnover. Additionally, applicants with a history of short tenure in previous jobs are likely to repeat their past behavior and thereby are more prone to change jobs after a short period of time.

Knowing this, an organization can dramatically reduce the turnover rate by including a Turnover Risk Index in the hiring process to filter out applicants with higher turnover risks. As an example, Table 1 shows a simple and straightforward point system. A candidate with six years of manufacturing experience, who felt that three unexcused absences per year was fine, had no significant gaps in employment history in the last five years, and had only one job in the past five years would get  $1 + 0 + 1 + 1 = 3$  points on the sample Turnover Risk Index. The candidate must then meet a pre-set cutoff score to move on or be screened out.

Table 1. Sample Turnover Risk Index

Questions	1 point	0 point
Years of manufacturing experience	4 or more	0-3
Number of unscheduled absences candidate feels are acceptable	0-1	2 or more
Unexplained gaps in employment of six months or more	0	1 or more
Number of jobs over a five year period	1	2 or more

In a longitudinal study with a large US manufacturer of fiberglass and glass during the years of 2001 and 2005, we found that applying a similar index like this early in the selection process would significantly reduce the turnover rate (see Figure 2).

More than 90 percent of individuals who left the company for one reason or the other would fail the Turnover Risk Index. In contrast, approximately 70 percent of the people who stayed employed would pass the Turnover Risk Index.

Figure 2. Comparison Pass/Fail and Employment Status



### Motivational Fit

Another approach to reducing turnover is to target the compatibility or motivational fit between the individual and the work environment. Organizations have learned that finding qualified individuals may not be enough. Having both able and motivated employees is the only way to ensure a productive and stable workforce. The focus, therefore, must go beyond the question of “Can a candidate do the job well?” to “Will the candidate do the job, despite certain unpleasant job demands?”

Individual motivation in employee selection is generally defined as “fit.” Fit can be characterized as *person-job-fit*, such as the fit between the individual’s preferences for the type of work and the actual job requirements, or *person-organization-fit*, which is the congruence between the organizational culture and the person’s personal preferences, described by Kristof-Brown, Zimmerman and Johnson. As one would expect, research consistently shows that fit does matter. Higher levels of motivational fit are associated with greater job satisfaction, organizational commitment and lower turnover.

There is a large and growing body of evidence showing that job fit, when evaluated objectively in the hiring process, can predict future turnover behavior and job performance. For instance, in the same large manufacturing company, we also found that the level of job fit was related to both voluntary and involuntary turnover. Essentially, employees with a higher fit were less likely to be terminated or leave the company. In fact, candidates who passed the Fit Index were two times more likely to stay with the job than candidates who didn’t. Moreover, the combination of motivational fit and Turnover Risk Indices as pre-screening tools lead to a 63 percent reduction in the overall turnover.

Considering the high cost of turnover, a reduction of 50 to 60 percent in turnover within the first two to three years is a huge cost savings. The costs associated with designing and implementing such up-front screenings were a fraction of the long-term cost savings and productivity improvements. The evidence is clear that putting in the effort up front in the hiring process pays significant dividends in the future.

## Selection Solutions

To make the most effective use of these selection tools in reducing turnover, organizations should take the following steps in implementing an improved selection system:

1. Include a professionally developed, objectively scored measure of motivational fit and turnover risk as early in the selection process as possible. Often, this is the first part of the hiring process and can be conducted either over the phone or the Internet and scored automatically.
2. Before spending time on an interview, organizations could follow up the initial screening with a validated assessment to measure the “can-do” aspects. This may include web-based assessments, personality inventories, situational judgment tests, cognitive ability measures, etc.
3. After narrowing the applicant pool down considerably, a customized, structured behavioral interview conducted by a trained interviewer could assist in selecting the best qualified candidates who have the right kind of key competencies for success and motivational fit to grow with the organization.

As a whole, this process should ensure fairness, accuracy and effective resource utilization. In addition, by following such a process and making adjustments when needed, organizations can save significant money and time spent on interviewing unqualified candidates, training people who are not likely to stay with the organization, and disciplining and ultimately releasing employees who do not meet organizational standards of performance. ***The bottom line: Assessing candidates for job fit and skill fit is your best defense against costly turnover and the best way to build a staff of capable, motivated people.***

Besides improving selection, an organization would also benefit by ensuring supervisors and managers have proper skills, training and understanding of turnover cause and cost. Effective orientation, on-boarding and training processes are crucial to keeping talent. If the on-boarding process isn't exceptional, new hires will frequently leave within a short period of time for a better job opportunity. In addition, exit interviews, when conducted properly, could provide critical insight into creating a better workplace that retains your top performers.

Through a better selection and organization management system, there is hope for organizations to substantially cut turnover cost and sustain competitive advantage.

## For Further Reading

- Mulvey, J. (2005). Employee turnover rises, increasing costs. *Factsheet*, March, Employment Policy Foundation.
- McCulloch, M. C. (2005). *Selecting for success: Strategies and tools for hiring top call center talent*. White Paper. LIMRA International, Inc.
- Davidson, B. & Fitz-enz, J. (1997). "Retention Management" study released by the Saratoga Institute, Santa Clara, California. New York: American Management Association.
- Waldman, J. D., & Arora, S. (2004). Measuring retention rather than turnover: A different and complimentary HR calculus. *Human Resource Planning*, 27, 6-9.
- Smart, B. D. (1999). *Topgrading: how leading companies win*. New York: Prentice Hall.
- Branham, L. (2005). *The 7 hidden reasons employees leave: how to recognize the subtle signs and act before it's too late*. New York: American Management Association.
- (Barrick, M. R., & Zimmerman, R. D. (2005). Reducing voluntary, avoidable turnover through selection. *Journal of Applied Psychology*, 90, 159-166.
- Doverspike, D., Kung, M-C., O'Connell, M.S., & Durham, A. B. (2006). *Assessing person-job fit in selection: An objective approach*. Paper presented at the 21th annual meeting of the Society for Industrial and Organizational Psychology, Dallas, TX.
- Kristof-Brown, A. L., Zimmerman, R. D., Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58, 281-342.
- Lawrence, A.D., Doverspike, D., & O'Connell, M.S. (2004). *An examination of the role job fit plays in selection*. Paper presented at the 19<sup>th</sup> annual meeting of the Society for Industrial and Organizational Psychology, Chicago, IL.

## Matthew O'Connell

Dr. Matthew O'Connell, Executive Vice President and Co-Founder of Select International, Inc., is a leader in the field of automated and web-based selection, and is very active in the field of leadership assessment. He has designed selection and assessment systems for more than 200 companies on four continents and is a co-author of the business best-selling book, *Hiring Great People*.

An adjunct professor of psychology at San Diego State University, Dr. O'Connell is a frequent presenter at professional conferences and is the author or co-author of more than 60 articles or book chapters on selection and assessment, leadership and work teams in such periodicals as *Human Performance* and *The Journal of Business and Psychology*. Dr. O'Connell is a national Best Paper award winner for the Academy of Management and is a member of the American Psychological Association (APA), the Society for Industrial and Organizational Psychology Inc. (SIOP), and the Academy of Management. He also serves on the Professional Practices Committee for SIOP.

Dr. O'Connell received his M.A. and Ph.D. in Industrial/Organizational Psychology from the University of Akron and his B.A. in Psychology from Earlham College.

## Mei-Chuan Kung

Mei-Chuan Kung is a Research Consultant based in the Pittsburgh office for Select International. At Select, Mei-Chuan focuses on conducting validation studies, acting as an internal technical expert on selection for project consultants and clients, analyzing assessment data to determine selection system effectiveness, validity, and fairness and providing recommendations for system improvement and development. Mei-Chuan remains active in applied research, with some of her research interests including personnel selection, feedback process, advanced measurement issues and international/multicultural implementations. She is a Ph.D. candidate in Industrial/Organizational Psychology from The Florida Institute of Technology, where she received her M.S. in the same field. She received her B.A. in psychology from National Chenchi University in Taiwan.