

Recruiting & Retention Trends among Production Workers at Western Electric

Research and Summary Report Prepared By
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Overview

This report is written in fulfillment of a request by Western Electric to discover recruiting and retention trends and to make recommendations regarding hiring criteria and talent management decisions.

Western Electric employs primarily production workers, who are paid by the piece, at an average of \$8.56 per hour. Research has yielded the following overview data:

- The majority (64.3%) of workers have twelve years of education; 10.2% have over fifteen years of education.
- The most effective hiring source is advertising, as 70.1% of employees applied via newspaper and online ads. Employee referrals are also a strong source, at 19.9%.
- Women account for 43.3% of production workers.
- There is a large turnover rate. In fact, 26.8% quit within the first six months.

Given the costs associated with hiring, including dexterity testing, Western Electric has retained this firm to provide a better understanding of retention, specifically, what is the typical profile of workers who have the longest tenure and best performance, and how can they more effectively recruit to this profile?

Worker Profiles

Data was collected on the following criteria:

1. Gender
2. Output per hour in units
3. Score on dexterity exam
4. Retention within six months
5. Total tenure in days
6. Method of hire
7. Years of education
8. Hourly wages
9. Type of metropolitan area

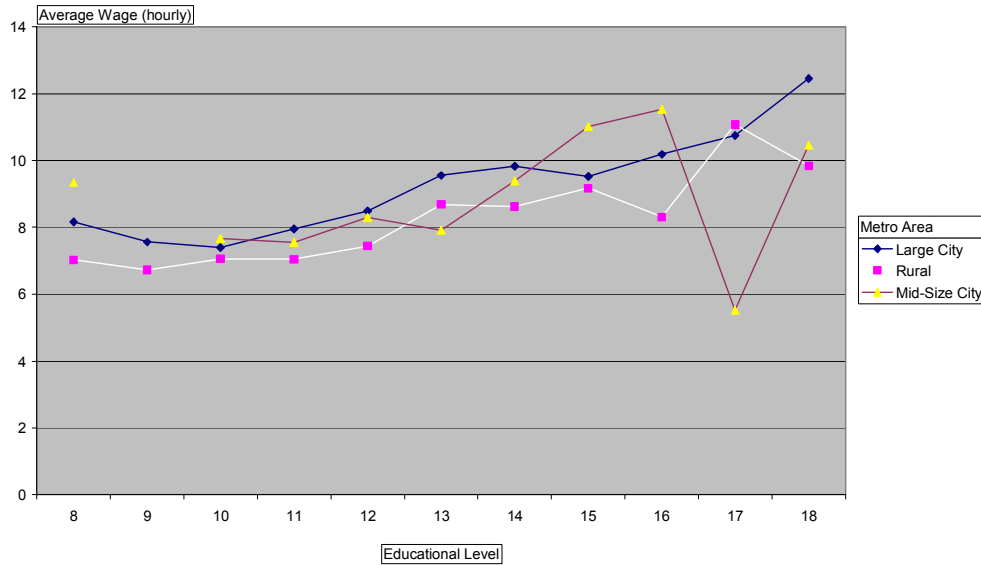
Based on manipulating the data in the above categories, we were able to create profiles that are useful in answering the recruiting and retention issues.

Cost per Educational Level in a Given Metro Area

Workers with eight to thirteen years of education are consistently the lowest cost, in terms of average salary, across all types of metro areas (with those from large cities

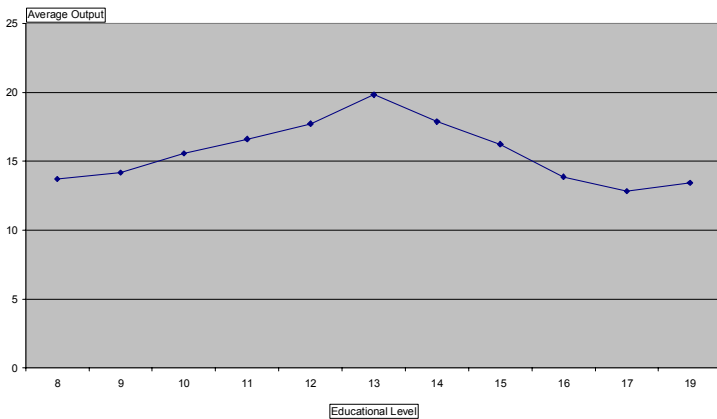
costing slightly more). As can be seen in graph 1, wages peak for workers who have between fifteen and eighteen years of education, in all metro areas. (An exception is the workers with seventeen years of experience in mid-size cities, but that is considered a

Graph 1: Average Hourly Wage by Metro Area and Educational Level



major outlier.)

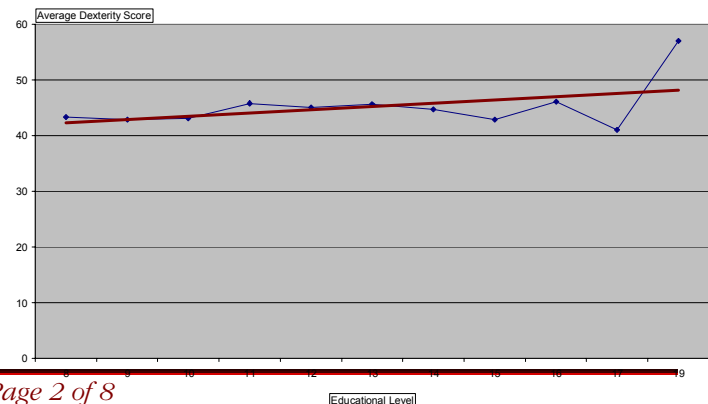
Graph 2: Average Output by Educational Level



Value of Workers by Educational Level
As can be seen quite clearly in graph 2, workers with thirteen years of education are the most productive, in terms of unit output per hour. Workers with the most amount of education actually have the lowest levels of production. The most valuable workers, based on this analysis, are those with ten to fifteen years of education.

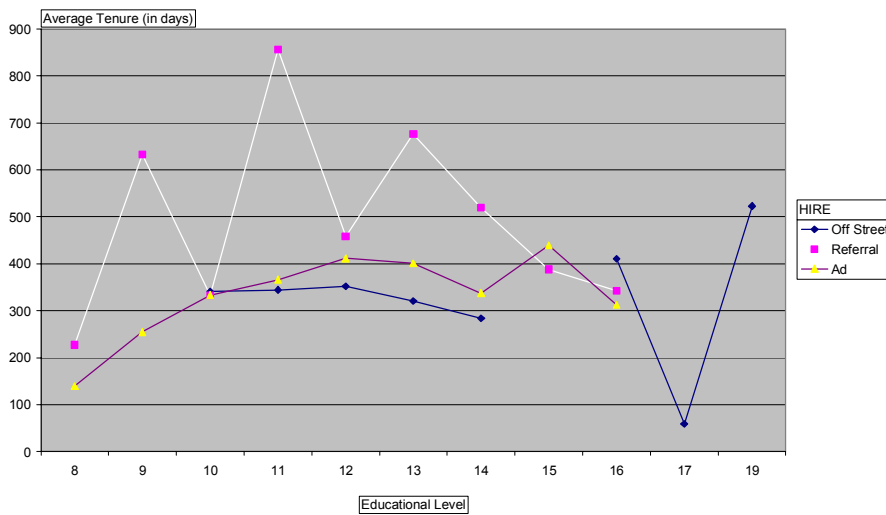
Dexterity Score by Educational Level
Scores on the dexterity test given prior to an offer are fairly consistent, averaging 44.95. Scores drop-off for those with seventeen years of experience, and peak for the one worker with nineteen years of experience, but this data can be considered outliers. Graph 3 displays

Graph 3: Dexterity Score by Educational Level



this average data, along with a trend line.

Graph 4: Average Tenure in Days by Educational Level and Hire Source



Tenure by Educational Level and Hiring Source

The average tenure among production workers is 413 days (thirteen and one-half months). As is displayed in graph 4, tenure is lowest among workers with seventeen years of education, and second lowest among those with eight years of education. Perhaps surprisingly, tenure is

longest with the one worker who brings nineteen years of education. Tenure is fairly consistent among workers between eleven and fifteen years of education. The most compelling information garnered from this data, however, is that even though referrals account for less than 20% of hire sources, it is the most effective in terms of retention, as all the referrals stayed longer at Western Electric than employees who came in off the street or via an ad.

Relative Retention

By combining the data from the above profiles, we can conclude that workers with eleven to fifteen years of education from rural areas and mid-size cities, who were referred by a current employee, are relatively the cheapest, most productive, most dexterous, and longest-lasting employees at Western Electric. Workers with eight to nine years of education, while costing less from a wage perspective, have low output levels and lack retention. On the other hand, workers with more than sixteen years of experience cost much more and have very low output levels.

Recommendations

In order to hire to their optimum profile and retain workers, Western Electric should:

1. Continue to put recruiting effort and dollars into print and online advertising, as this brings in many people with the ideal profile. Focus advertising in rural areas and in mid-size cities. In the ad, indicate that candidates with eleven to fifteen years of education are preferred, and that a dexterity score of at least 44 is required.
2. Institute a formal employee referral program to generate more hires from this source, with the goal of increasing referrals from 19.9% of hires to 50% of hires within two years. The proposed program will be open to employees who have been at Western Electric for over one year, and will award \$200 for each

referral resulting in a hire of someone who stays for more than six months. Not only will this program bring in more workers who have the potential to stay at the company for over a year (since workers tend to refer people similar to themselves), but this program will result in higher morale among current employees, which will mean they will stay even longer.

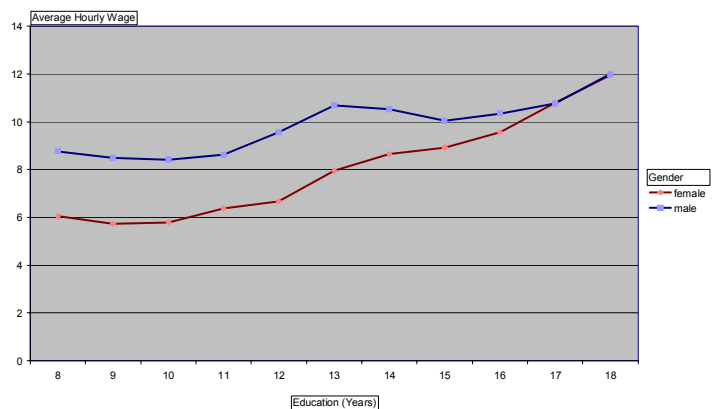
3. Conduct exit interviews with all workers who submit resignations, particularly with those who stay less than six months and with anyone who fits Western Electric's ideal profile. These exit interviews will lead to clearer understanding of the reasons workers are leaving and will provide anecdotal information to solve problems that cannot be identified by data alone.
4. Create a recognition program, rewarding employees for various achievements including maintaining high output levels and staying for over one year. The rewards should be substantial give certificates and other items that make employees feel valued and motivate them to continue to work hard and stay at Western Electric.
5. Provide additional vacation days to workers who have reached their one-year anniversary. It is important in not only rewarding and motivating them, but because even the most tenured employees leave after thirteen or fourteen months, this will re-energize them.

Following these recommendations will result in higher output and retention rates among production workers at Western Electric.

Addendum: Additional Concern

One additional concern of note is the disparity in hourly wages between females and males, as noted in graph 5. While males at Western Electric make an average of \$9.68 per hour, females in the same positions with the same education make an average of \$7.37 per hour, a difference of 24%. Wages do eventually converge, at seventeen years of education. This is a potential lawsuit issue related to Title VII, and one that Western Electric should address immediately. We recommend that Western Electric retain an employment law firm to address, and correct, this issue.

Graph 5: Hourly Wage Disparity Between Females and Males



Appendix: Pivot Table Data (attached)

Appendix

Pivot Table 1: Average Hourly Wages by Metro Area and Educational Level

Metro Area	Educational Level	Average Wage (hourly)
Large City		8.881639093
	8	8.165489333
	9	7.560900685
	10	7.400755859
	11	7.949253332
	12	8.487243679
	13	9.553612755
	14	9.826848646
	15	9.516779795
	16	10.18156637
	17	10.75152916
	18	12.45757154
Rural		7.684008028
	8	7.021316705
	9	6.728418283
	10	7.054099875
	11	7.047581741
	12	7.438355259
	13	8.681029825
	14	8.616328567
	15	9.167199338
	16	8.310109945
	17	11.06787152
	18	9.835191777
Mid-Size City		8.649037772
	8	9.34012233
	10	7.659156517
	11	7.557429568
	12	8.297722908
	13	7.912875058
	14	9.37851098
	15	11.01349099
	16	11.52860755
	17	5.525223392
	18	10.46322497
Grand Total		8.559258284

Pivot Table 2: Average Output by Educational Level

Educational Level	Average Output
8	13.726705
9	14.17854091
10	15.57852394
11	16.61756309
12	17.731938
13	19.84112085
14	17.88560277
15	16.249015
16	13.87949091
17	12.82718
19	13.4436
Grand Total	17.59008353

Pivot Table 3: Average Dexterity Score by Educational Level

Educational Level	Average Dexterity Score
8	43.25
9	42.81818182
10	43.06060606
11	45.76363636
12	45.00683371
13	45.52112676
14	44.65957447
15	42.8
16	46
17	41
19	57
Grand Total	44.95314788

Pivot Table 4: Average Tenure by Educational Level

Educational Level	Hire Source	Average Tenure (in days)
8		161.25
	Referral	227
	Ad	139.3333333
9		391.9090909
	Referral	632.5
	Ad	254.4285714
10		334
	Off Street	341.3333333
	Referral	332.3333333
	Ad	333.3703704
11		460.4363636
	Off Street	344.2222222
	Referral	856
	Ad	366
12		415.5170843
	Off Street	352.2051282
	Referral	458.0229885
	Ad	411.5910543
13		455.0704225
	Off Street	320.2857143
	Referral	676.6875
	Ad	400.8541667
14		370.4680851
	Off Street	283.6
	Referral	520.1
	Ad	337.28125
15		424.1
	Referral	388
	Ad	439.5714286
16		341.9090909
	Off Street	410.3333333
	Referral	342
	Ad	312.5714286
17		59
	Off Street	59
19		523
	Off Street	523
Grand Total		412.9136164

Pivot Table 5: Wage Disparity

Education (Years)	Gender	Average Hourly Wage
8		7.823551062
	female	6.038253424
	male	8.77178607
9		7.285604524
	female	5.727949764
	male	8.48800469
10		7.299790088
	female	5.7969439
	male	8.420677743
11		7.679783822
	female	6.378367792
	male	8.629878623
12		8.180368415
	female	6.659045454
	male	9.556882734
13		9.32963834
	female	7.957260229
	male	10.68478995
14		9.54710969
	female	8.659017682
	male	10.52057384
15		9.481352678
	female	8.934016753
	male	10.0439987
16		9.885590373
	female	9.566565057
	male	10.35639866
17		10.77520728
	female	10.78859137
	male	10.75884896
18		11.97327657
	female	11.95061255
	male	12.00113443
Grand Total		8.559258284