Labor turnover: measurement

Measuring labour turnover

- Indices:
  - Labour turnover index (% of the average number of workers)
  - Survival rate (% of the total entrants)
  - Half-life index (time taken to reducing a cohort to the half of its original size)
  - Stability index (those who had at least 1 yr service / those employed 1 yr ago)
- Length of service analysis (ratios of groups with different service levels, average service time, average service time of the leavers, etc.)
- Analysing reasons of leave (e.g. exit interviews = interviewing the leavers)
- Benchmarking turnover

Calculation of labor turnover index

- Number of separations in a year: 9
- Average number of employees in a year: 50

- Solution: 9/50 = 18%

Calculation of labor turnover index (individual work)

- Number of separations in a year: 10
- Average number of employees in a year: 60

- Solution: 10/60 = 17%

Calculation of the survival rate

Quit / Hired	2000	2001	2002	2003	2004	2005
2000: 20	1	4	2	0	2	0
2001: 10	-	1	0	2	0	0
2002: 5	-	-	0	1	0	1
2003: 0	-	-	-	-	-	-
2004: 2	-	-	-	-	2	-
All the new hires join on 1st January, all quits happen on 31th December.						

a) ***Compute the 1 year survival rates for those hired in: 2000, 2001, 2002, 2003, 2004.***

b) ***Compute the 5 year survival rate for the hires of year 2000.***

c) ***Compute the 3 year survival rates for those hired in 2002.***

Solution

a) 2000: (20-1)/20=19/20=95%
2001: (10-1)/10=9/10=90%
2002: (5-0)/5=5/5=100%
2003: no hires in 2003, thus it is not computable
2004: (2-2)/2=0/2=0%

b) [20-(1+4+2+0+2)]/20=11/20=55%

c) [5-(0+1+0)]/5=4/5=80%

Calculation of survival rate (individual work)

Hired per year	Separations per year					
	2000	2001	2002	2003	2004	2005
2000: 20	5	4	2	0	2	0
2001: 20	-	6	0	2	0	0
2002: 15	-	-	2	1	5	1
2003: 0	-	-	-	-	-	-
2004: 4	-	-	-	-	2	-
All the new hires join on 1st January, all quits happen on 31th December.						

a) ***Compute the 1 year survival rates for those hired in: 2000, 2001, 2002, 2003, 2004.***

b) ***Compute the 5 year survival rate for the hires of year 2000.***

c) ***Compute the 3 year survival rates for those hired in 2002.***

Solution

- Calculated in class

Calculation of the half-life index

Quit / Hired	2000	2001	2002	2003	2004	2005
2000: 10	1	4	2	0	2	0
2001: 10	-	3	2	2	1	0
2002: 10	-	-	0	1	3	0
All the new hires join on 1st January, all quits happen on 31th December.						

Compute the half-life index for the three cohorts above.

Solution:

2000: (1+4)=5 thus it is two years
2001: (3+2)=5 thus it is two years
2002: (0+1+3+0)<5 thus it is more than 4 years (the exact index is not calculatable from that data).

Calculation of the half-life index (individual work)

Quit Hired	2000	2001	2002	2003	2004	2005
2000: 10	2	4	2	0	2	0
2001: 20	-	3	2	2	1	3
2002: 10	-	-	5	1	3	0
All the new hires join on 1st January, all quits happen on 31th December.						

Compute the half-life index for the three cohorts above.

Solution:

2000: 2 years

2001: 5 years

2002: 1 years

Stability index calculation

- A given company has 1000 employees. Their work experience at the company:
  - 700 employees: less than 1 year
  - 100 employees: 1 years
  - 100 employees: 2 years
  - 50 employees: 3-5 years
  - 50 employees: more than 5 years
- One year ago, the total number of employees were 700. 400 with less then 1 year employment that time, 150 with 1 year, 50 with 2 years, other with more than 2 years.
- ***Calculate the stability index***

Solution: (100+100+50+50)/700≈**43%**

Stability index calculation (individual work)

- A company has 1000 employees. Their work experience at the company:
  - 300 employees: less than 1 year
  - 300 employees: 1 years
  - 400 employees: more than 1 year
- One year ago, the total number of employees were 1500. 600 with less then 1 year employment that time, 700 with 1 year, 200 with more than 1 year.
- ***Calculate the stability index***

Solution: (300+400)/1500≈**47%**

Stability index calculation (individual work)

- Compute the stability index for a firm that currently has 100 employees, and 75% of them is working for the company for at least 1 year. We know that 1 year ago the organization's headcount was 80 employees.

- Solution: (100*0.75)/80 = 93.75% ≈ 94%

What turnover indices can one calculate based on the following data? Compute its value.

- You hire 40 workers at ’time A’, and with them the headcount totals 240. During the first two years 3 and 7 of them leaves your company. In the third year 6 more, and in the fourth year another 5 quits.

- **Labor turnover index**: we do not know the total number of leavers.
- **Survival rate**s: 1 yr: 37/40=92.5%; 2 yr: 30/40=75%; 3yr: 24/40=60%; 4yr: 19/40=47.5%
- **Half-life index**: four years
- **Stability index**: neither we do know the headcount 1 year ago, nor the service times of the other employees except those entered at ’time A’.

What turnover indices can you calculate based on the following data? (individual work)

- A company that employed 2000 people in 2016 hired 100 new workers in the beginning of 2017. During the year 25 of the new employees left the company as well as 78 of the more experienced ones. Thus, the total headcount at the end of 2017 was 2025 (the average was 2060 for the whole year). We also know that 1600 of them worked for more than a year for this firm.
- **Labor turnover index**: 103/2060=5.0%
- **One year survival rate**: 75/100=75%
- **Half-life index**: more than 1 year
- **Stability index**: 1600/2000=80%