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Workforce Planning and Analytics

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Workforce Planning and Analytics

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June 9, 2005

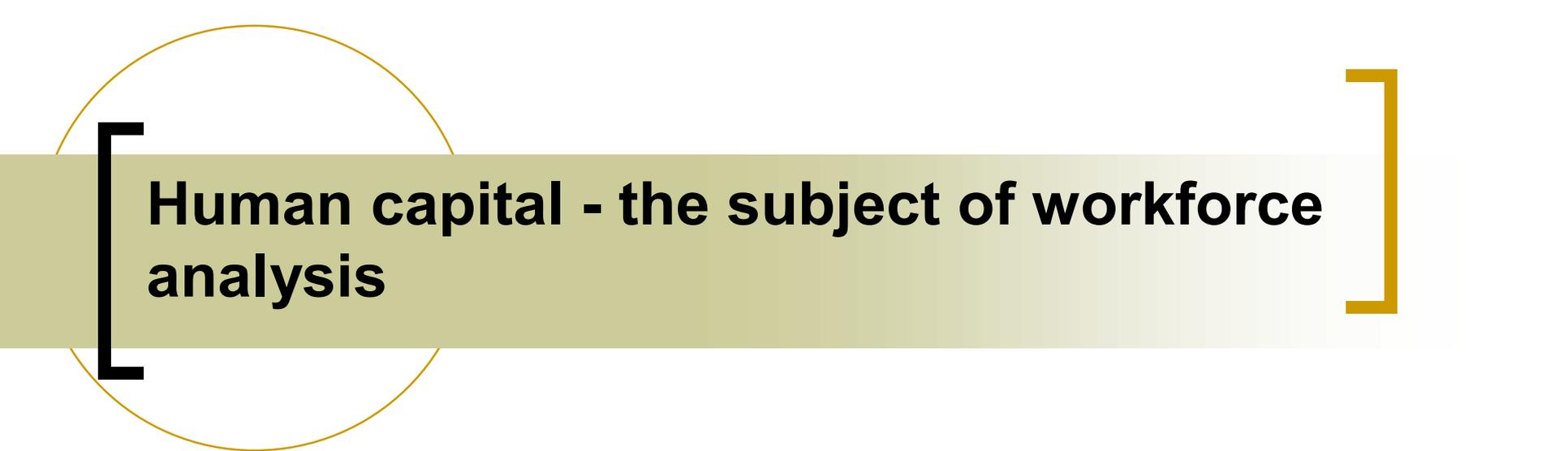
Workforce Planning and Analytics

Workforce planning -- the process of getting the right people, with the right competencies, in the right jobs at the right time.

Analytics -- using numbers and contexts to explain the present and predict the future.

“The business of computing is insight
not numbers”

Richard Hamming, mathematician, pioneer computer
scientist



Human capital - the subject of workforce analysis

What is human capital?

- The knowledge, skills and abilities of talented and productive people

Why is human capital important?

- The strategic use of human capital is the key to competitive advantage in a knowledge economy



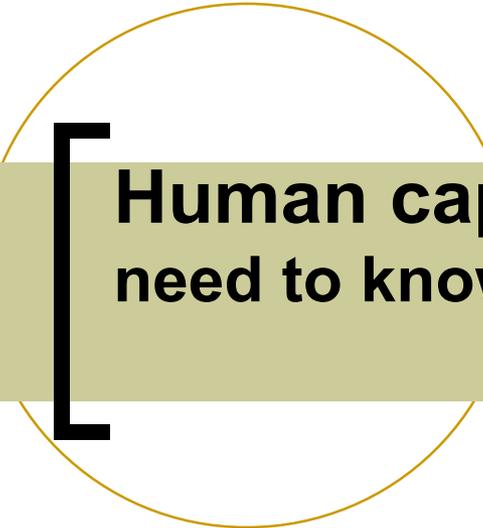
Information design – a method for workforce analysis

What is information design?

- The gathering, analyzing and presenting of pertinent information to explore a topic, or to focus decision-making or action

Why is good information design important?

- Provides insight and provides an organization with a strategic basis for making human capital decisions
- It is a way for the HR professional to become a strategic player and provide critical input on business issues



Human capital – what does management need to know?

- **Current status of the workforce**
- **Alignment of the this workforce to current projects**
- **Gap analysis of the results**
- **Recommendations for action**
- **Analysis of strategic positioning**



Workforce Analysis – gathering information inside the organization

Official internal information source data on employees

Institutional databases, archived data and information

- do you have access?
- have you archived past data?

Workforce Analysis – if possible, capture and archive ‘raw’ data, not standard summary reports

Snapshots in time – usually available in institutional databases

- Unique identifier (name, employee number)
- Organization information (multiple levels)
- Job information (multiple items: title, appt type, mgmt levels, etc.)
- Education information (degree, year, school, discipline)
- Standard demographic information (gender, ethnicity, age, etc.)
- Company specific demographic information (service, ratings, etc.)
- Dates (hire, termination, job dates, organization dates, etc)

Activity reports – usually available in institutional databases

- Records of internal movement (job changes, org changes, etc.)
- Records of hires and terminations

Other reports – may be available, may have to hunt for or create

- Applicant pool information / posting and vacancy information
- Skills and competencies
- Participation in training, special programs

Educate yourself
about what the data means, how it is collected, possible errors and inconsistencies.

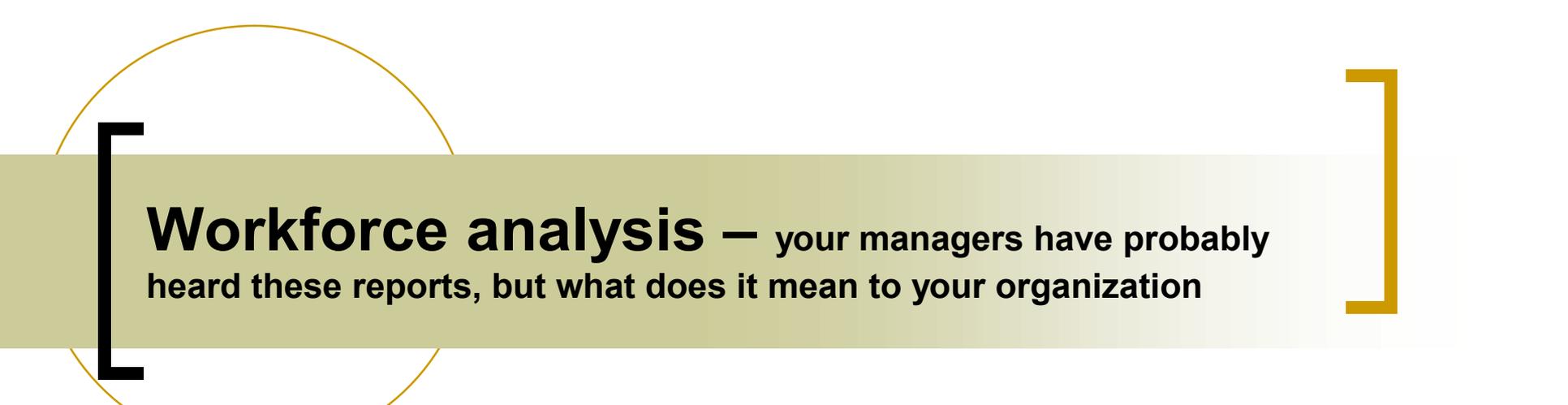
Create standard summary fields
that are meaningful to your organization. For example: job families, age cohorts, etc.



Workforce analysis – gathering information outside the organization

Global, national, local trends that effect your business

- Industry trends
- Benchmarking of like organizations
- Online demographics
 - Census data (<http://www.census.gov/>)
 - National Science Foundation (<http://www.nsf.gov/>)
 - State of California (<http://www.dof.ca.gov/>)
 - Others (county information, Dept of Labor, Professional Organizations, etc.)



Workforce analysis – your managers have probably heard these reports, but what does it mean to your organization

The aging workforce

One-fifth of this country's large, established companies will be losing 40 percent or more of their top-level talent in the next five years. At the same time, the number of young adults (ages twenty-five through thirty-four) is due to sink abruptly between now and approximately 2006. (source: Hudson Institute)

The global workplace

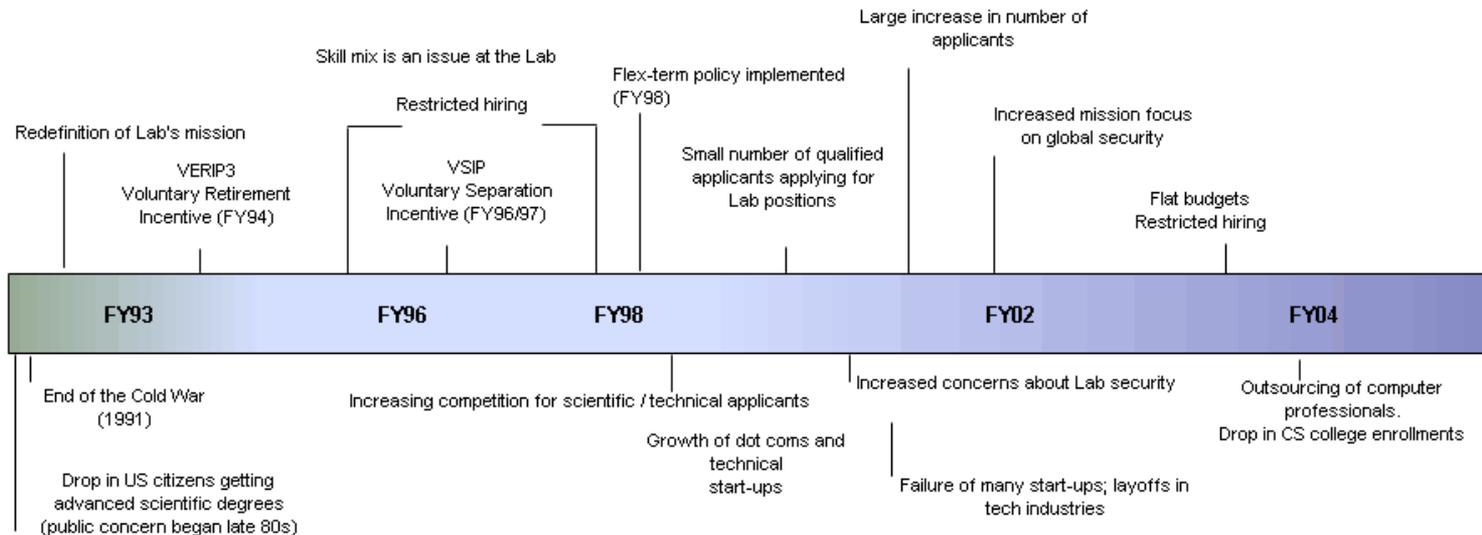
45% of the Fortune 500 were doing off-shore software development in 2003. US companies using off-shore software development will increase by 50% in the next two years. (source: Forrester Data Group)

The changing expectations of workers

88% of “Emergent” employees believe that loyalty is not related to the length of employment but rather to the level of contribution an employee makes to an organization. 94% of “Traditional” workers believe that loyalty is about the willingness to stay with an employer for the long haul (source: Spherion, Inc.)

Workforce analysis – even when your managers are aware of the context, they probably won't remember it

INTERNAL



EXTERNAL

Workforce analysis – putting it all together

Gap analysis of the results

Description	Trending	Metric Analysis	Predictive Analysis
What ... How many ... Distributions and comparisons...	Look across time or events Longitudinal study of career movement / life changes	Is the result meeting a particular goal or expectation? Can it assist in strategic planning?	Given several scenarios, can we tell where we're heading in the future? How will we know it?
Number / rate of terminations and hires by job category for fiscal year 2005	How does this number / rate compare to the last five years? (remember to plug in any relevant context)	Is the organization able to replace key losses? Is the hire/term activity an opportunity to change skill mix?	If one scenario states that the organization will have 25% more computer scientists in five years ... what indicators will you be tracking?

Workforce analysis – putting it all together

Gap analysis of the results

The tools you need may be simple – you can do a lot with the Microsoft Office suite.

- Do you currently get information electronically or hardcopy?

Downloads from institutional databases can easily be imported into EXCEL or ACCESS

- Are you proficient with any analytic tools -- especially Excel?

You can use EXCEL to quickly summarize and graph your information.

- Will you need to combine data from several sources?

Archiving your data in ACCESS gives you the ability to easily retrieve 'slices' of data or to join different data sources

Workforce analysis – putting it all together

Harvard Univ	Experimental Physics	30-34	31.2	1974-02-19	Female	XX	Chemistry & Materials
Univ Of CA, Davis	Chemistry	30-34	31.2	1974-02-17	Male	BD	Bio Directorate
Univ Of CA, Berkeley	Chemistry	30-34	31.2	1974-02-14	Male	BC	Chemistry & Materials
Univ Of CA, Berkeley	Chemistry	30-34	31.2	1974-02-06	Male	XX	Chemistry & Materials
Univ Of CA, Berkeley	Bio	30-34	31.3	1974-01-25	Female	XX	Bio Directorate
Univ Of CA, Berkeley	Electronics Engineering	30-34	31.3	1974-01-25	Female	BH	Electronics Engineeri
Univ Of CA, Berkeley	Chemistry	30-34	31.3	1974-01-17	Male	XX	Chemistry & Materials
Univ Of CA, Berkeley	Chemistry	30-34	31.3	1974-01-17	Female	BC	Chemistry & Materials
Univ Of CA, Berkeley	Chemistry	30-34	31.3	1974-01-11	Male	BC	Chemistry & Materials
Stanford Univ	Mechanical Engineering	30-34	31.3	1974-01-07	Male	BG	Mechanical Engineeri
Univ Of CA, Berkeley	Occupational Health And Safety	30-34	31.3	1973-12-27	Female	BZ	Occupational Health And
Stanford Univ	Mechanical Engineering	30-34	31.3	1973-12-27	Female	BZ	Mechanical Engineeri
Univ Of CA, Berkeley	Biological Sciences - General	30-34	31.3	1973-12-27	Female	BZ	Biological Sciences - Ge
Univ Of TX, Arlington	Computer Science/Engineering	30-34	31.3	1973-12-27	Female	BZ	Computer Science/Engin
Univ Of CA, Davis	Molecular Biology	30-34	31.3	1973-12-27	Female	BZ	Molecular Biology
CA State Univ, Hayward	Biological Sciences	30-34	31.3	1973-12-27	Female	BZ	Biological Sciences
CA State Univ, Hayward	Biological Sciences	30-34	31.3	1973-12-27	Female	BZ	Biological Sciences
Univ Of MI, Ann Arbor	Nuclear Engineering	30-34	31.3	1973-12-27	Female	BZ	Nuclear Engineering
Northwestern Univ	Materials Engineering	30-34	31.3	1973-12-27	Female	BZ	Materials Engineering
CA State Univ, Hayward	Computer Science	30-34	31.3	1973-12-27	Female	BZ	Computer Science
Univ Of CA, Berkeley	Mechanical Engineering	30-34	31.3	1973-12-27	Female	BZ	Mechanical Engineering
Univ Of The Pacific	Chemistry	30-34	31.3	1973-09-26	Female	BC	Chemistry & Materials

Workforce Analysis Pivot Table Fields

Columns: Workforce, As Of, Status, Per Status, Org Name, Emps

Rows: FY05 Hire, Gender, Org Name, Count of Emps, Percent

DATA: ROW, COLUMN

Excel's pivot table quickly explore and present information

FY05 Hire	(All)				
	Data	Gender			
	Pop		Percent		Total Pop
Org Name	Female	Male	Female	Male	
Org A	235	114	67.3%	32.7%	349
Org B	168	90	65.1%	34.9%	258
Org C	143	388	26.9%	73.1%	531
Org D	346	758	31.3%	68.7%	1104
Org E	119	167	41.6%	58.4%	286
Org F	127	289	30.5%	69.5%	416



Workforce analysis – presenting information to management

Talking in the language of numbers

- Issues translated into language and pictures that help managers understand
- Present the information as an analyst – not as an advocate.
- Give the manager time to explore the information themselves; they will gain more insight, and believe the numbers more, if they can draw their own conclusions.
- However, do give the viewer all the ‘clues’ to correctly interpret the analysis (definitions, relevant context, etc.)

Workforce analysis – presenting information to management

The evolution of a presentation

1

Organization	Age Cohorts	Total
Org XXX	20-24	44
	25-29	234
	30-34	377
	35-39	658
	40-44	1089
	45-49	1494
	50-54	1328
	55-59	1075
	60-64	396
	65+	85
Total		6780

3

Age Cohorts	0-4	05-9	10-14	15-19	20-24	25-29	30-34	35+	Total	Age Cohort %total				
20-24	41	3							44	0.6%				
25-29	181	49	4						234	3.5%				
30-34	210	141	26						377	5.6%				
35-39	222	245	145	44	2				658	9.7%				
40-44	198	228	238	294	130	1			1089	16.1%				
45-49	179	186	216	308	415	185	5		1494	22.0%				
50-54	101	114	130	215	357	318	88	5	1328	19.6%				
55-59	64	91	92	158	218	240	145	67	1075	15.9%	2687	39.6%	eligible for retirement	
60-64	30	41	40	63	77	63	47	35	396	5.8%	1317	19.4%	more likely to retire	
65+	2	11	12	14	12	15	6	13	85	1.3%	268	4.0%	most likely to retire	
Total	1228	1109	903	1096	1211	822	291	120	6780					
Service Cohort %	18.1%	16.4%	13.3%	16.2%	17.9%	12.1%	4.3%	1.8%						

2

Age Cohorts	0-4	05-9	10-14	15-19	20-24	25-29	30-34	35+	Total	Age Cohort %total
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4

Age Cohorts	0-4	05-9	10-14	15-19	20-24	25-29	30-34	35+	Total	Age Cohort %total				
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40-44	198	228	238	294	130	1			1089	16.1%				
45-49	179	186	216	308	415	185	5		1494	22.0%	625	9.2%	early career	
50-54	101	114	130	215	357	318	88	5	1328	19.6%				
55-59	64	91	92	158	218	240	145	67	1075	15.9%	2687	39.6%	eligible for retirement	
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Workforce planning – positioning yourself within the organization

Analysis of strategic positioning

Integration of human capital assessments and strategies with the organization's core business practices.

Analysis and metrics:

- Comprehensive workforce profiles
- Impact of an internal or external 'change' on the population
- Measures of flexibility in the workforce
- Information from employee surveys and focus groups