CHMURAECONOMICS&ANALYTICS

Rebooting the Workforce

September 12, 2011

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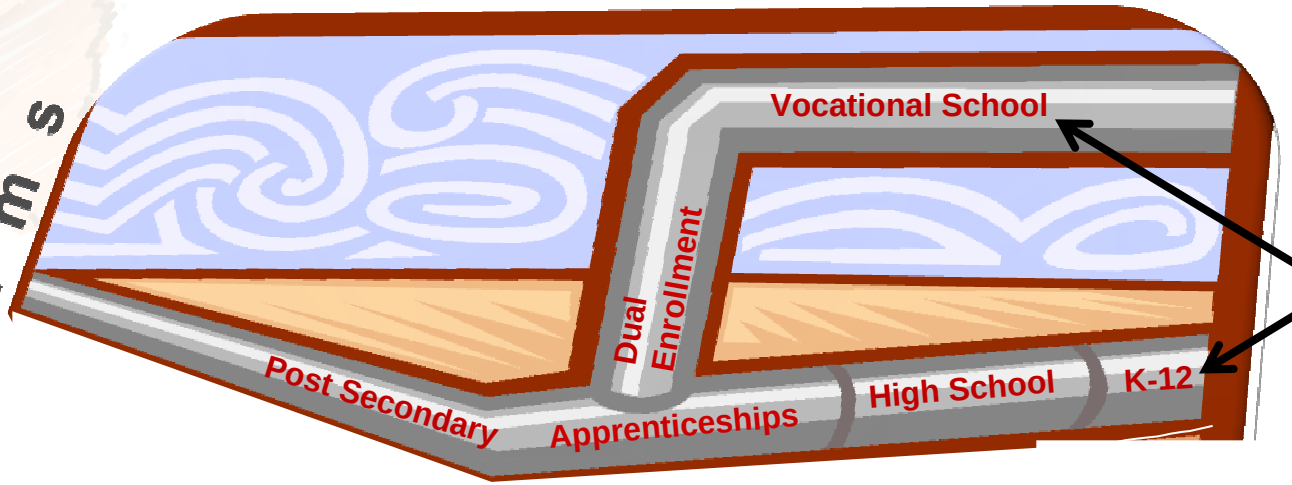
Session Description

A model is presented that identified a **pipeline of workers** for Southwest Alabama Workforce Development Council (SAWDC) target industries. **Real-time information** from firms is meshed with public data to obtain an understanding of the future environment. Thought leaders, with a sense of urgency about approaching workforce planning in the changing mix of industries, were used to identify best practices in workforce planning and to communicate a model for workforce planning implementation that has a best practices core.

Learning Objectives

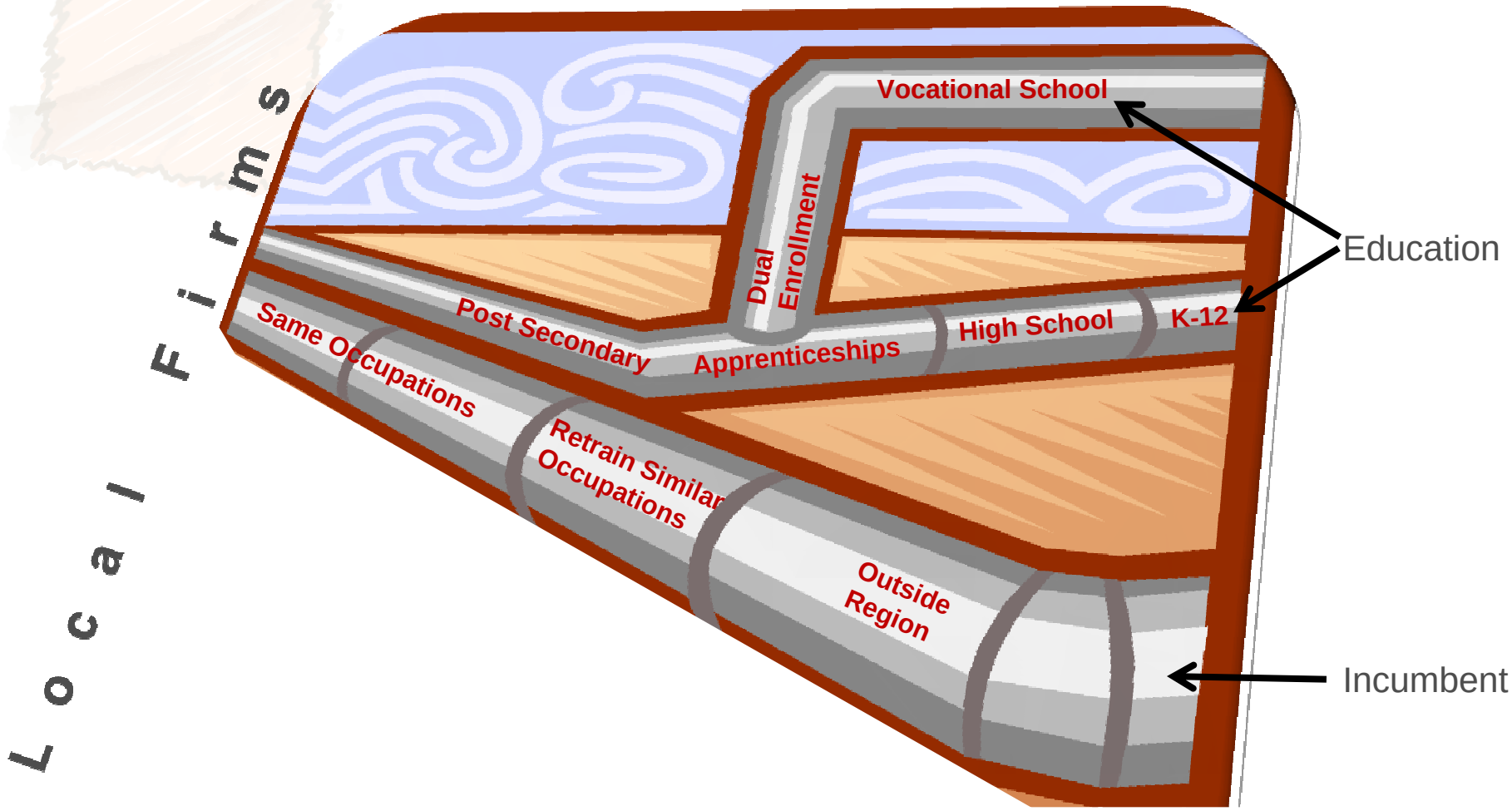
1. Learn about best practices to **create a pipeline of workers** that reaches into middle school.
2. Learn how to **supplement (secondary) public data with firm-specific (primary) information** that is communicated to higher education and training providers.
3. Through the application of best practices, learn how to **recalibrate your baseline of skilled workers to benchmark what businesses say they need** from their labor market.

Talent Pipeline



Local Firms

Talent Pipeline



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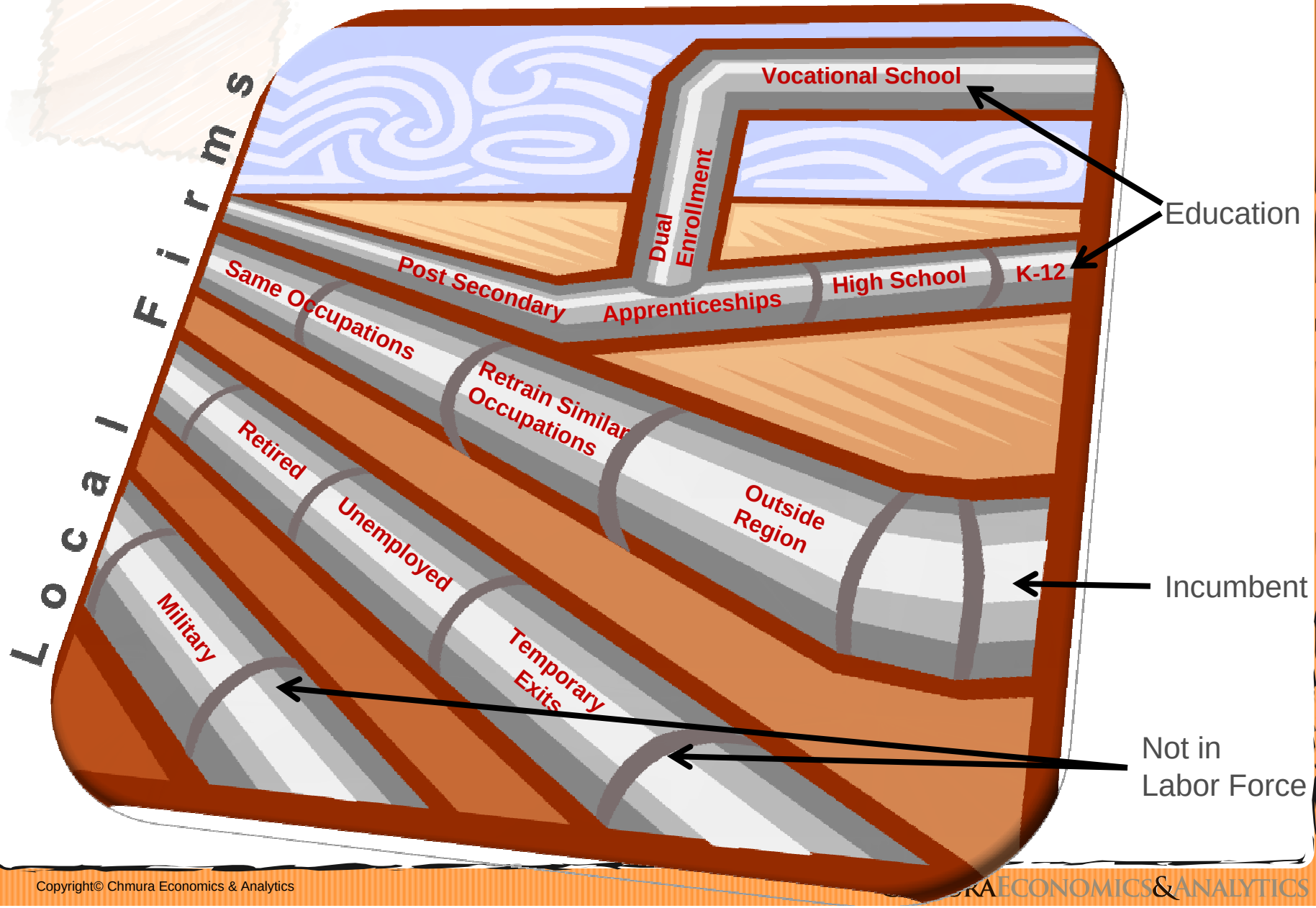


Chicken or the Egg?

Creating a Pipeline of Workers

- SAWDC Worlds of Opportunity
- Sector-specific (health care)
- Target sectors

SAWD Worlds of Opportunity 2nd Annual

- September 28-29, 2011
- Greater Gulf State Fairgrounds, Mobile AL

Video www.sawdc.org

SAWDC Worlds of Opportunity

- Opportunity for 8th graders to explore careers and begin career plan
- Hands on
- 8,000 students from 66 schools (8 counties)
- 112 businesses and 500 volunteers

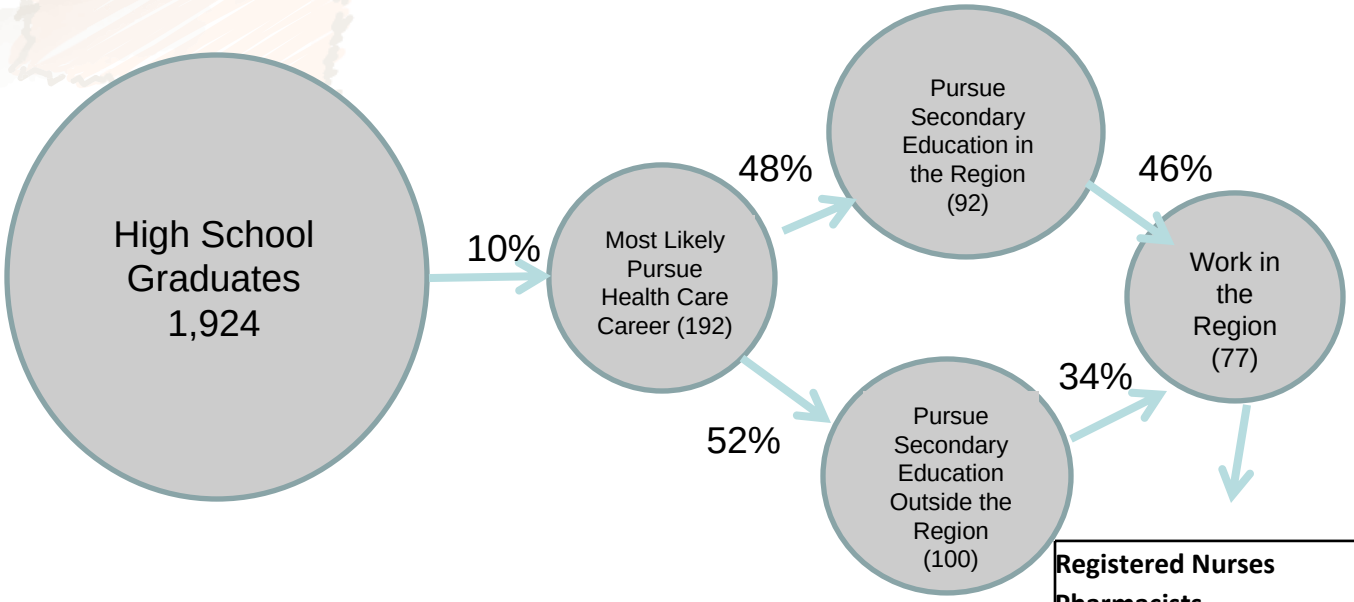
SAWDC Worlds of Opportunity: Sectors Represented

- Aerospace
- Auto technicians
- Communications
- Construction
- Engineering and architecture
- Health Care
- Manufacturing
- Maritime
- Public service

Sector-Specific: Health Care

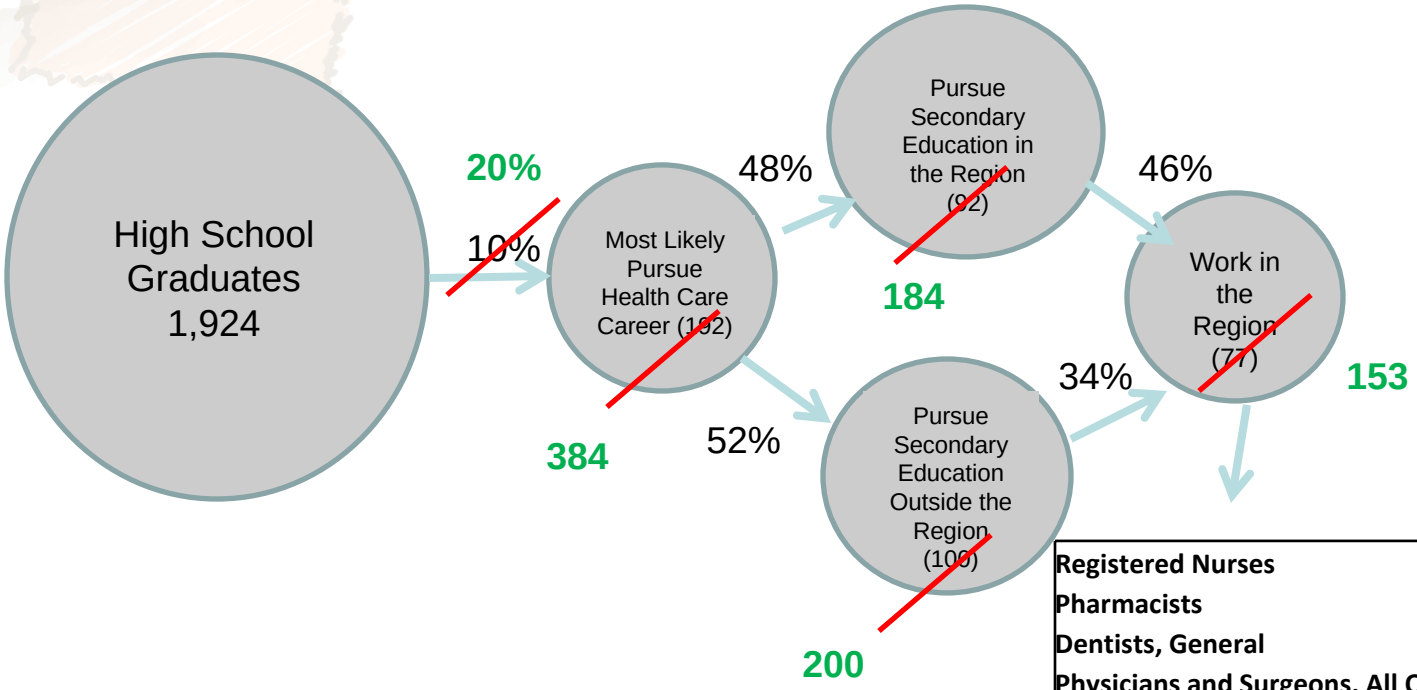
- Regional firms expected shortage of workers
- Assess potential gaps based on growth
- Assess interest of students
- Create strategies to increase student interest

Healthcare Talent Pipeline



Registered Nurses	**8**
Pharmacists	**4**
Dentists, General	**4**
Physicians and Surgeons, All Other	**4**
Licensed Practical and Vocational Nurses	**3**
Family and General Practitioners	**3**
Physical Therapists	**3**
Radiologic Technologists and Technicians	**3**
Healthcare Support Workers, All Other	**3**
Medical Assistants	**2**
Speech-Language Pathologists	**2**

Healthcare Talent Pipeline



Registered Nurses	**16**
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Dentists, General	**8**
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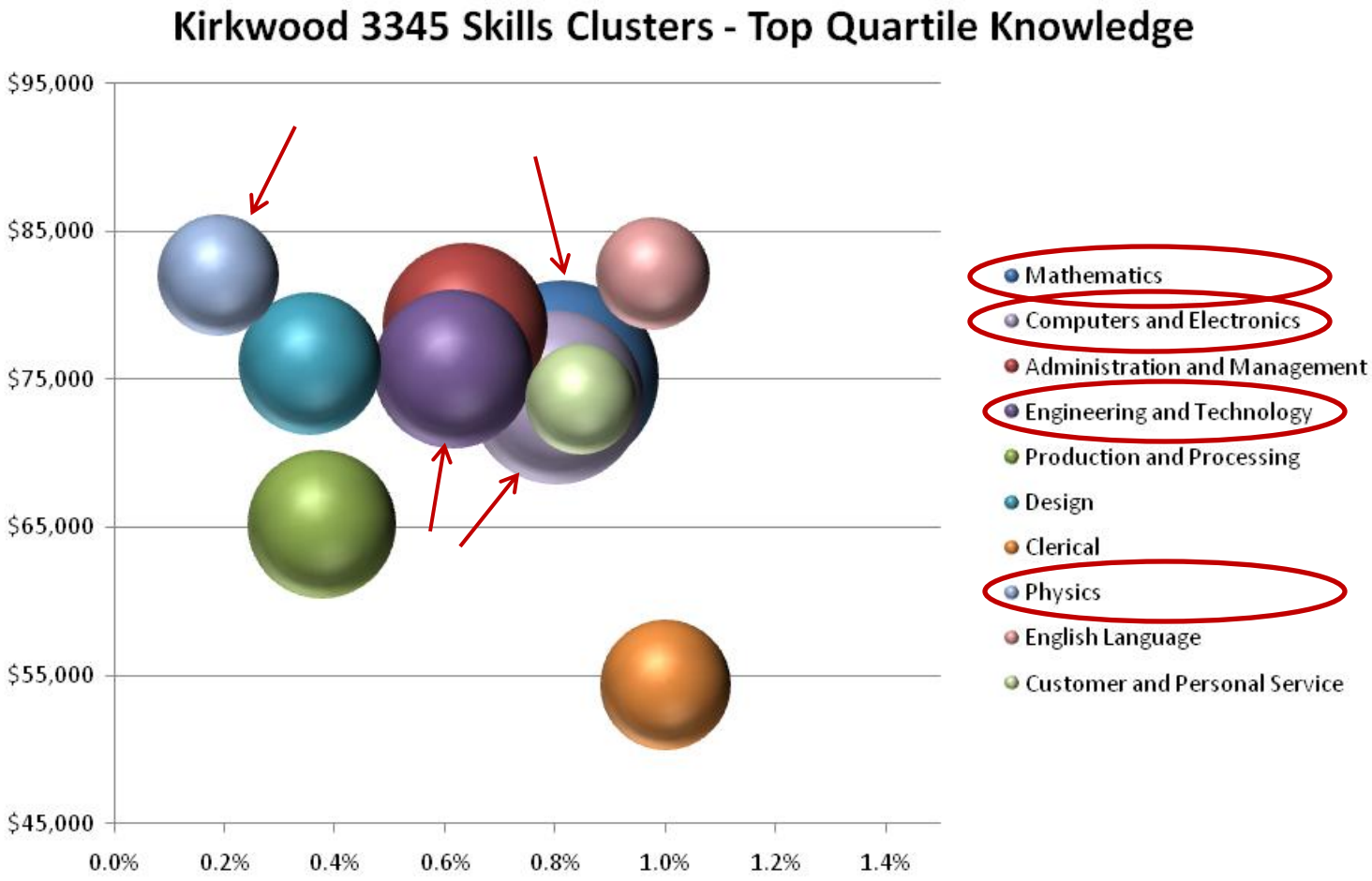
Iowa City Area Development Target Sectors (Worker Pipeline?)

- Advanced Manufacturing
- Biotechnology
- Educational Services
- Information Technologies
- Renewable Energy

For demonstration purposes, we are narrowing the focus to one target within Advanced Manufacturing:

- 3345 – Navigational, measuring, electromedical, and control instruments manufacturing
- Assume we have a potential new firm with 759 jobs

Skills Clusters for Kirkwood, Navigation Mfg – High Knowledge



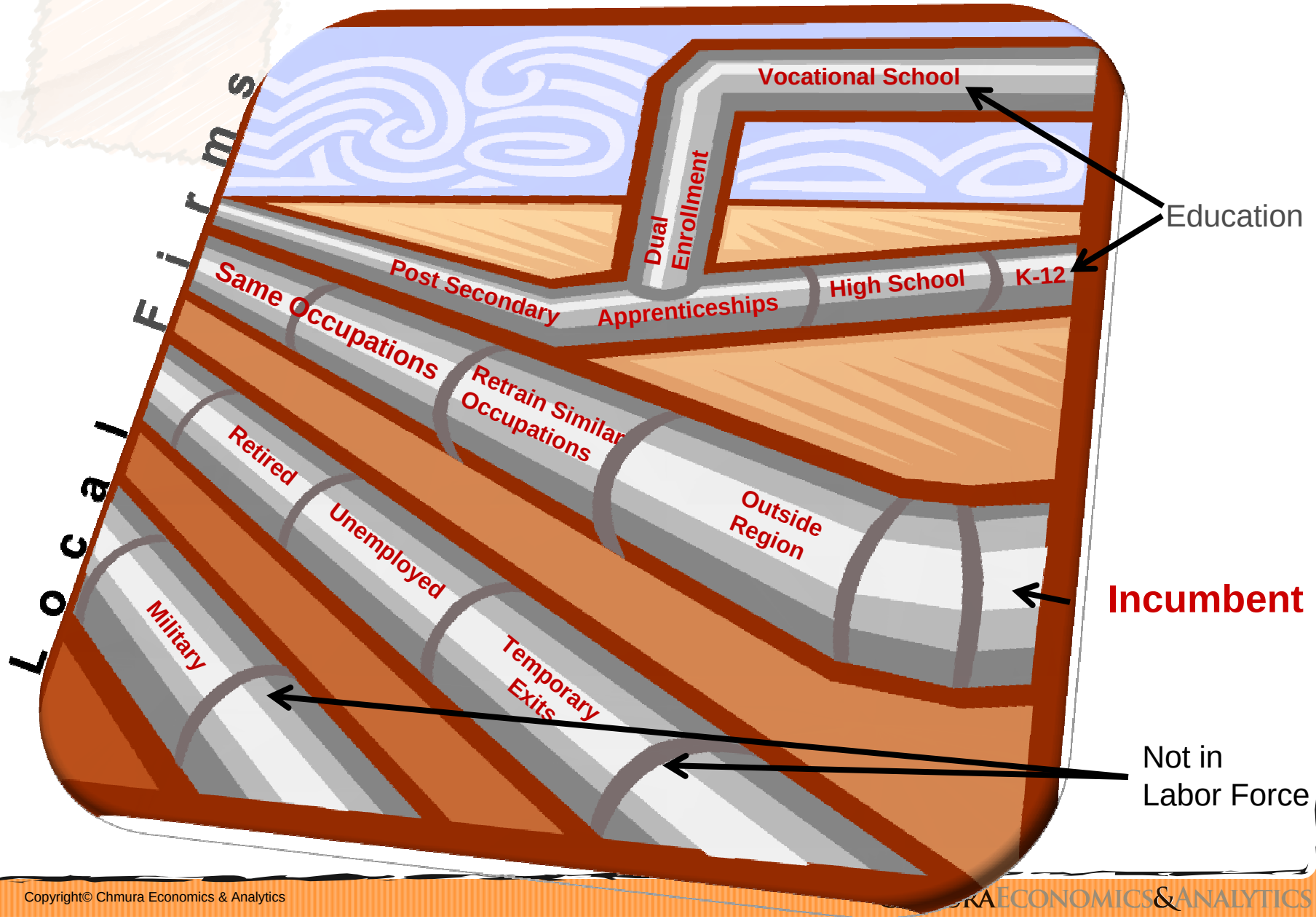
Why are Skills Important?

- Provides educators with direction for teaching emphasis
- Skills matched to job requirements increases bottom-line earnings
  - Research shows core foundational skills are very beneficial to predicting job performance

Mismatch of Skills From Recessions and 'Creative Destruction' Are Amplified by Lack of Information

- Without information, resources don't flow to their best uses
- For the workforce, that means
  - Higher unemployment;
  - Longer periods of unemployment;
  - Leaving the region;
  - Retraining multiple times
- For firms, that means skills shortages
- For policy makers, it means suboptimal use of public funds
- Good information should decrease unemployment rate; increase participation rate

Talent Pipeline



Pipeline

Employed at other firms

Inventory of Workers

Kirkwood Community College District, Iowa, **Navigational Manufacturing, Firm Size 759**

Title	New Employer Demand	Current Empl	Regional Avg Wage	National Avg Wage	Empl Ext
Electrical and Electronic Equipment Assemblers	43	747	$33,700	$29,400	n/a
Team Assemblers	42	2,454	$27,600	$27,600	n/a
Computer Software Engineers, Systems Software	27	849	$75,600	$94,500	1,585
Electrical Engineers	27	516	$80,600	$85,400	2,084
Industrial Engineers	23	605	$67,800	$75,700	334
Electromechanical Equipment Assemblers	22	336	$33,100	$30,500	747
Mechanical Engineers	21	562	$71,800	$78,200	893
Electrical and Electronic Engineering Technicians	21	449	$52,000	$54,000	2,515
Engineering Managers	21	464	$116,500	$120,600	529
Electronics Engineers, Except Computer	21	414	$78,200	$88,700	2,381
Computer Software Engineers, Applications	19	922	$71,700	$87,900	1,585
Engineers, All Other	18	364	$63,100	$89,100	n/a
Inspectors, Testers, Sorters, Samplers, and Weighers	17	846	$36,100	$33,900	4,054
Customer Service Representatives	12	4,612	$29,500	$31,800	9,533
Machinists	12	716	$36,100	$37,500	1,551
Source: JobsEQ®					

Occupations with Similar Skills

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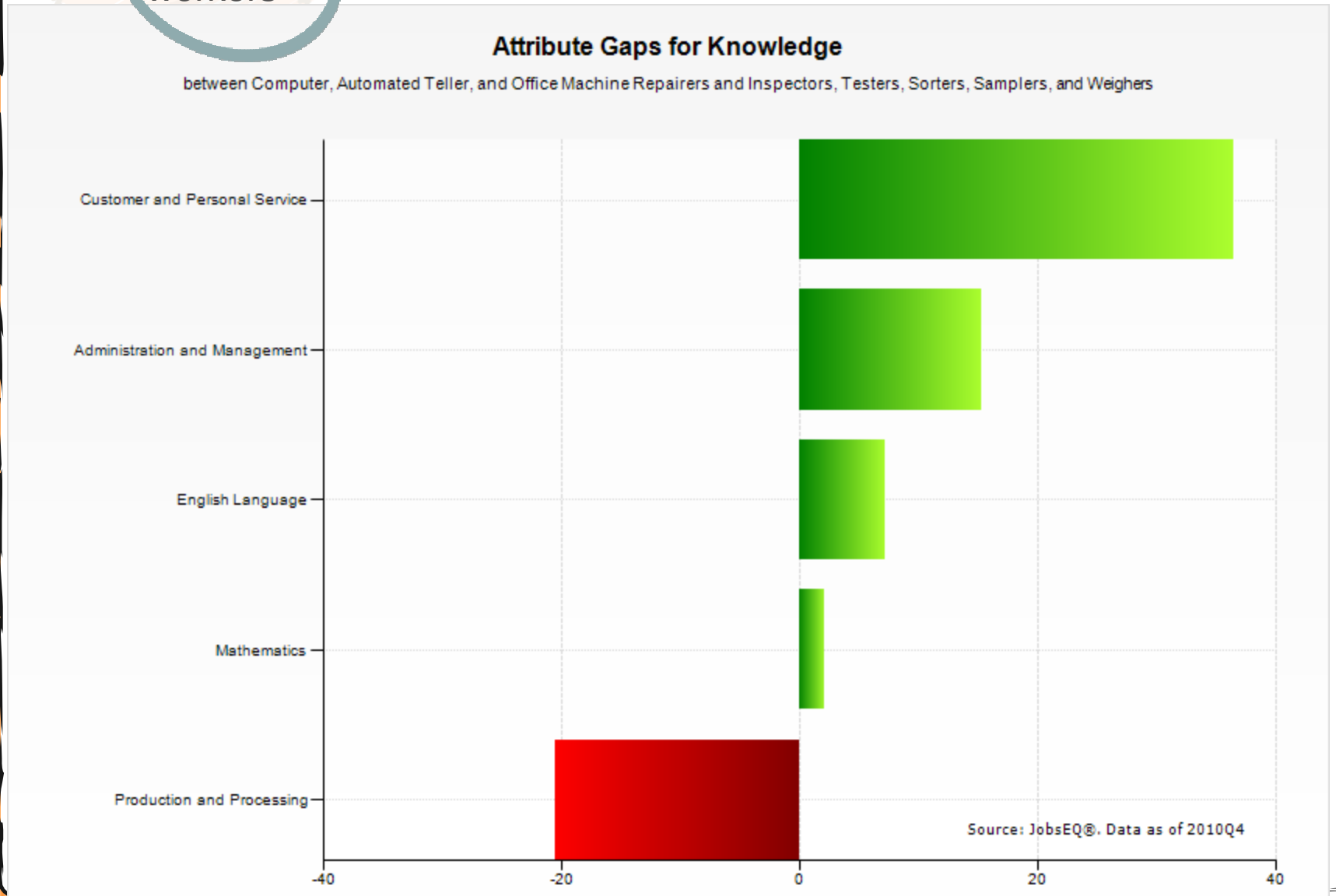
Up-skilling incumbent workers

Occupations with Similar Skills

Related Occupations for Inspectors, Testers, Sorters, Samplers, and Weighers		
Occ Description	**Empl**	**Regional Avg Wage**
Graders and Sorters, Agricultural Products	62	$25,400
Computer, Automated Teller, and Office Machine Repairers	144	$34,800

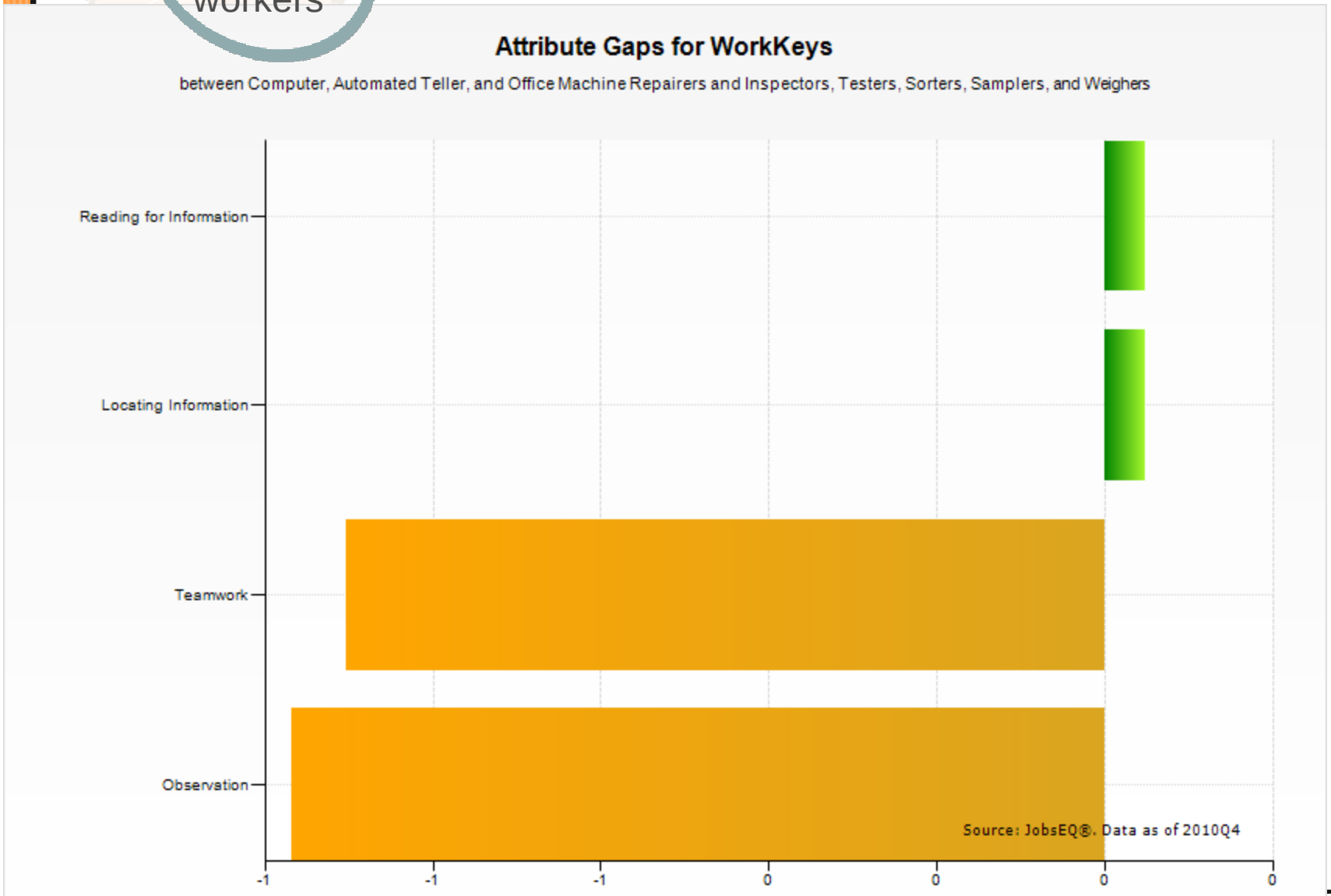
Up-skilling incumbent workers

New Skills Needed-Knowledge

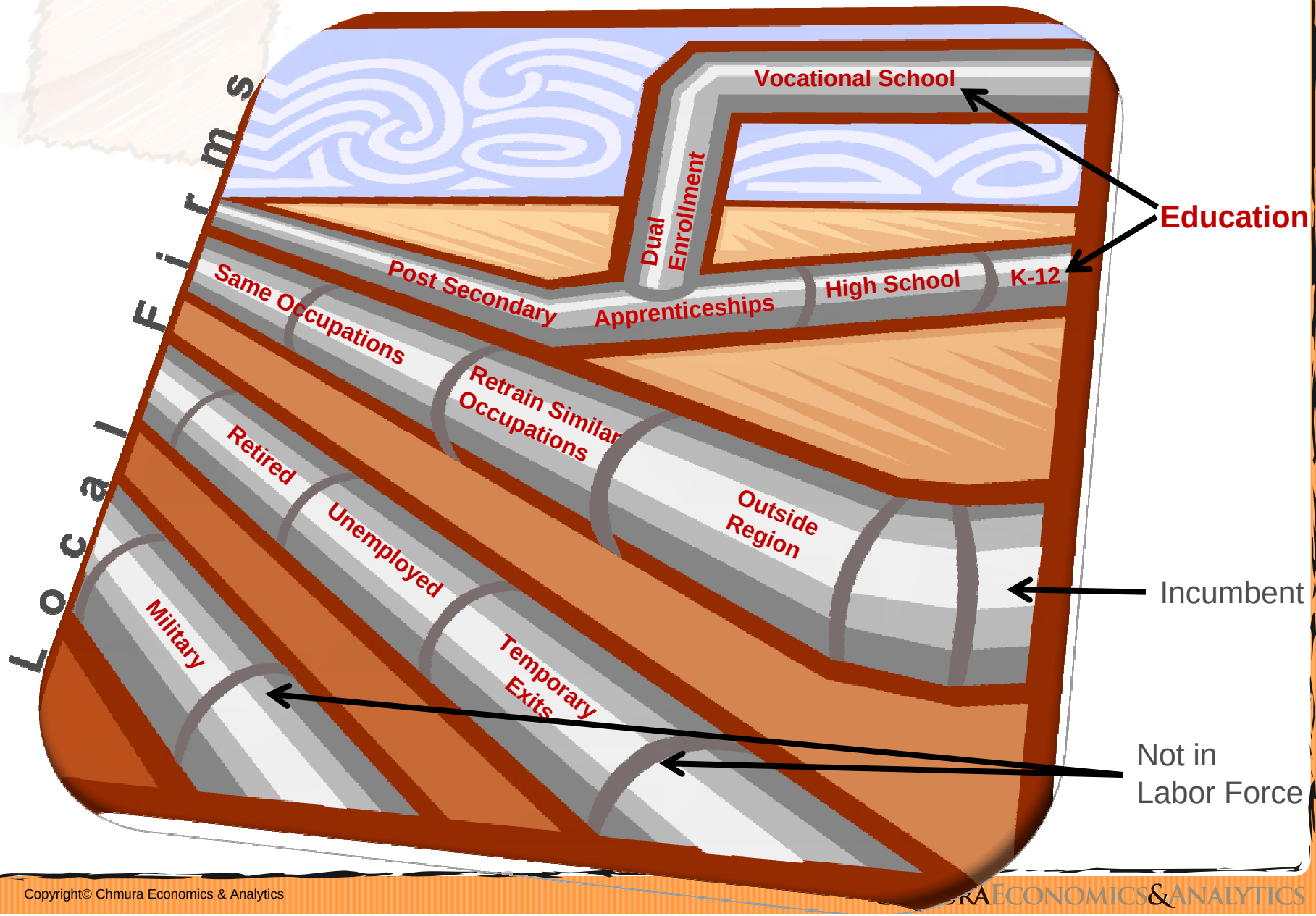


Up-skilling incumbent workers

New Skills Measured by WorkKeys



Talent Pipeline



New Workers

High School, College Grads + Immigrants

Estimated High School Grads that Enter Workforce

Kirkwood Community College District, Iowa

Year	HS Diploma or Below	HS Diploma or Below %	2-year Degrees	2-year Degrees %	4-year Degrees	4-year Degrees %	Total	Total %
2010	1,382	25.1%	2,197	39.9%	1,928	35.0%	5,508	100.0%
2011	1,365	24.7%	2,219	40.1%	1,949	35.2%	5,533	100.0%
2012	1,348	24.2%	2,241	40.3%	1,970	35.4%	5,561	100.0%
2013	1,331	23.8%	2,264	40.5%	1,992	35.7%	5,588	100.0%
2014	1,314	23.4%	2,287	40.7%	2,015	35.9%	5,617	100.0%
2015	1,297	23.0%	2,310	40.9%	2,038	36.1%	5,646	100.0%
2016	1,280	22.6%	2,333	41.1%	2,062	36.3%	5,676	100.0%

Source: JobsEQ(R).

High School/College Pipeline Careers

- Survey students
- ACT Compass
- 8th graders career plans
- Why useful?
  - Inform students if jobs available for career choice
  - Allow economic developers to identify a pipeline of potential workers for a firm

New Workers

High School, **College Bound Grads**

Information Some Have: Pipeline Careers

Kirkwood Area Intended Major Distribution (ACT College Entrance Exam)		
Major	**Students**	
Undecided	1,688	19%
Health science and allied health field	1,487	17%
Business and management	844	10%
Sciences	706	8%
Education	651	7%
Engineering	638	7%
Social sciences	545	6%
Visual and performing arts	535	6%
Engineering-related technology	268	3%
Communication and communication tech	212	2%
Computer and information science	188	2%
Community and personal service	174	2%
Agricultural science and technology	171	2%
Architecture and environmental design	146	2%
Foreign language	85	1%
Trade and industrial	80	1%
Human, family, and consumer science	78	1%
Letters	73	1%
Business and Office	71	1%
Marketing and distribution	65	1%
Mathematics	64	1%
Philosophy, religion and technology	43	0%
Cross-disciplinary studies	28	0%
Grand Total	**8,840**	**100%**

New Workers

High School, **College Bound Grads**

New Graduates by Degree

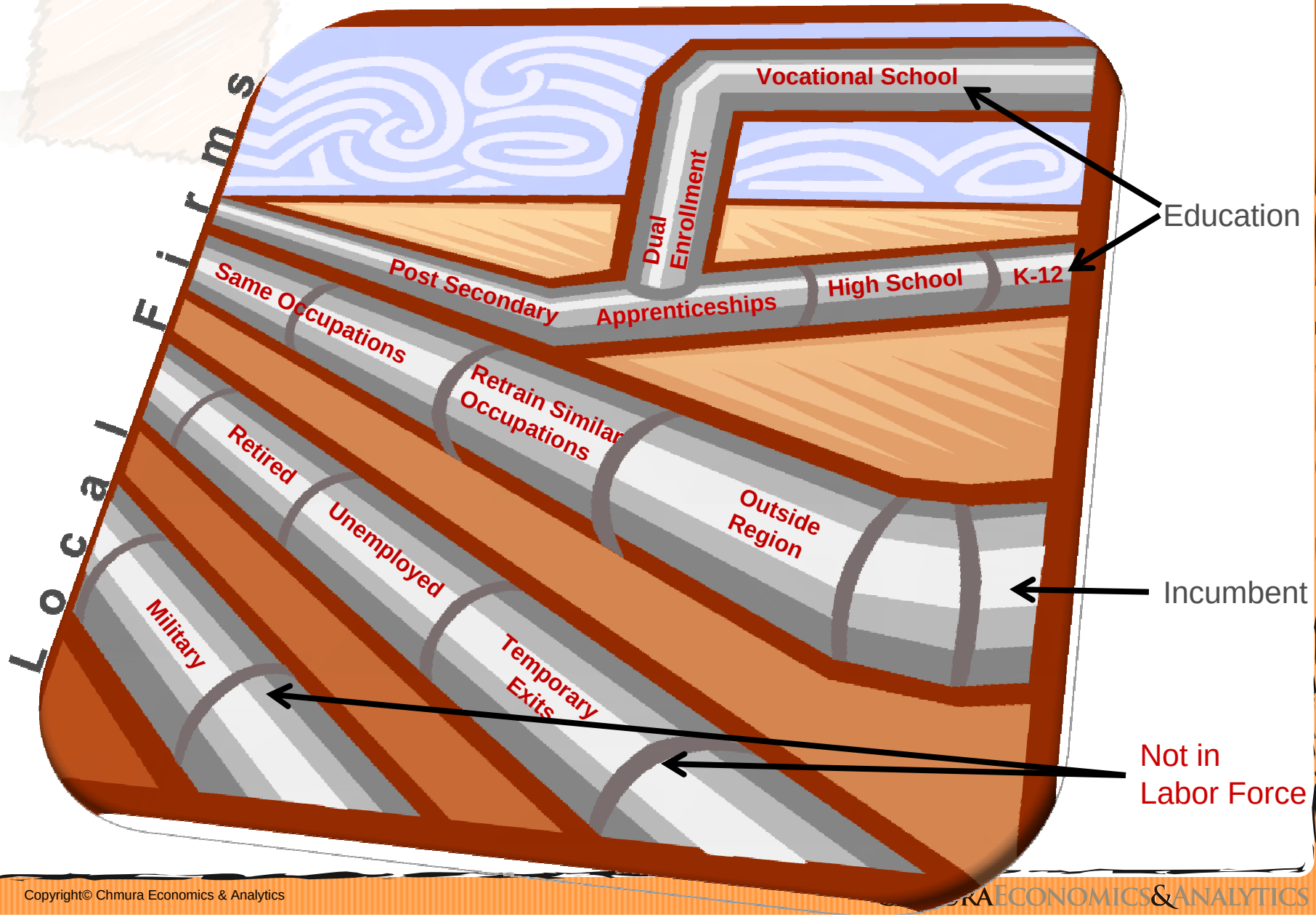
Education Gaps in Kirkwood Community College District, Iowa

CIP Code	Title	Certificates and 2yr Degrees	4yr Degrees	Postgraduate Degrees	Total Degrees
14.0901	Computer Engineering, General	0	0	14	14
11.0701	Computer Science	0	23	0	23
11.0401	Information Science/Studies	0	4	0	4
11.0103	Information Technology (NEW)	21	0	0	21

Note: Figures may not sum due to rounding.

Source: JobsEQ(R).

Talent Pipeline



Plastics Mfg has been Downsizing

Navigation Mfg +759 Jobs; **Plastics Products Mfg -1,000 Jobs** in Kirkwood Region

Title	Demand from Navigation Mfg	Laid Off From Plastics	Difference
Electrical and Electronic Equipment Assemblers	43	0	43
Team Assemblers	42	62	-19
Computer Software Engineers, Systems Software	27	0	27
Electrical Engineers	27	0	27
Industrial Engineers	23	12	11
Electromechanical Equipment Assemblers	22	0	22
Mechanical Engineers	21	6	16
Electrical and Electronic Engineering Technicians	21	0	21
Engineering Managers	21	3	18
Electronics Engineers, Except Computer	21	0	21
Computer Software Engineers, Applications	19	0	19
Engineers, All Other	18	2	17
Inspectors, Testers, Sorters, Samplers, and Weighers	17	31	-14
Customer Service Representatives	12	12	0
Machinists	12	10	2
Source: JobsEQ®			

Total Job Match: 400+

New Workers

Military Exits

Military Exits Have Strong Skills

- Increased number of military exits living in the Kirkwood Region
  - 2003 – 37 military
  - 2009 – 101 military
  - 2010 – 113 military

New Workers

Military Exits

Information We Have:

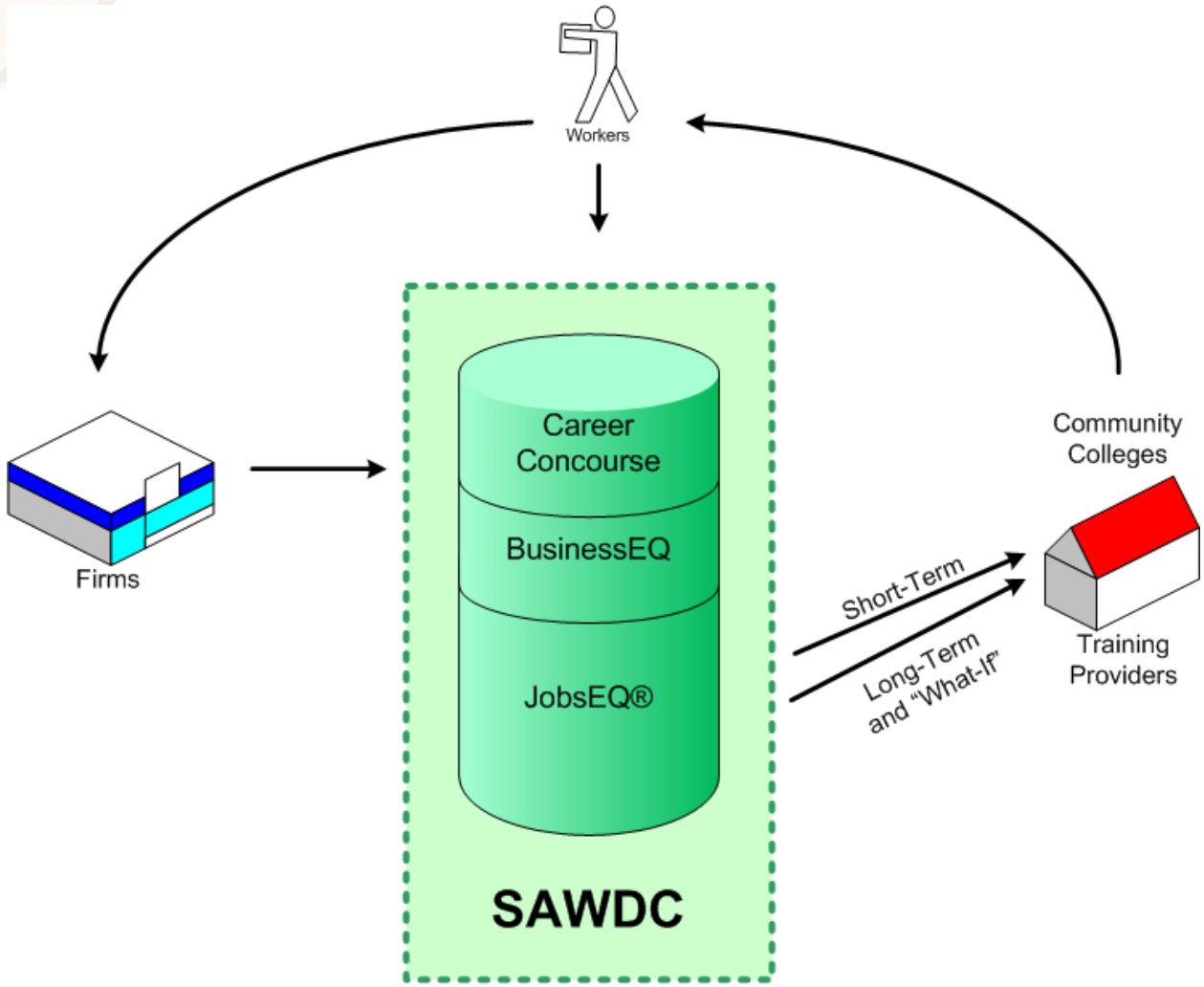
Military Exits Have Strong Skills

Description	Annual Military Exits
Infantry	30
Artillery and Missile Crew Members	7
Armored Assault Vehicle Crew Members	6
Religious Workers, All Other	4
Police and Sheriff's Patrol Officers	4
Stock Clerks and Order Fillers	**4**
Cooks, Institution and Cafeteria	3
Interpreters and Translators	3
Emergency Medical Technicians and Paramedics	3
Truck Drivers, Heavy and Tractor-Trailer	**3**
Automotive Service Technicians and Mechanics	3
Pump Operators, Except Wellhead Pumpers	2
Cargo and Freight Agents	2
Shipping, Receiving, and Traffic Clerks	**2**
Aircraft Mechanics and Service Technicians	2
Communications Equipment Operators, All Other	**2**
Computer Operators	2
Electricians	1
Electrical, Electronics Repairers, Commercial and Industrial Equip.	1

Pipeline Summary for New Navigation Mfg Firm: 759 Workers

- More than ample inventory of incumbent workers
  - Top 30 occupations
    - 505 workers needed; we have 37,784 workers in those occupations
    - 75 workers for every 1 needed
- Laid off plastics mfg workers (1,000)
  - Nearly 500 are direct occupation matches
- Military: about 11 direct matches
- Education: ample growth

Real Time Data Feedback Loop

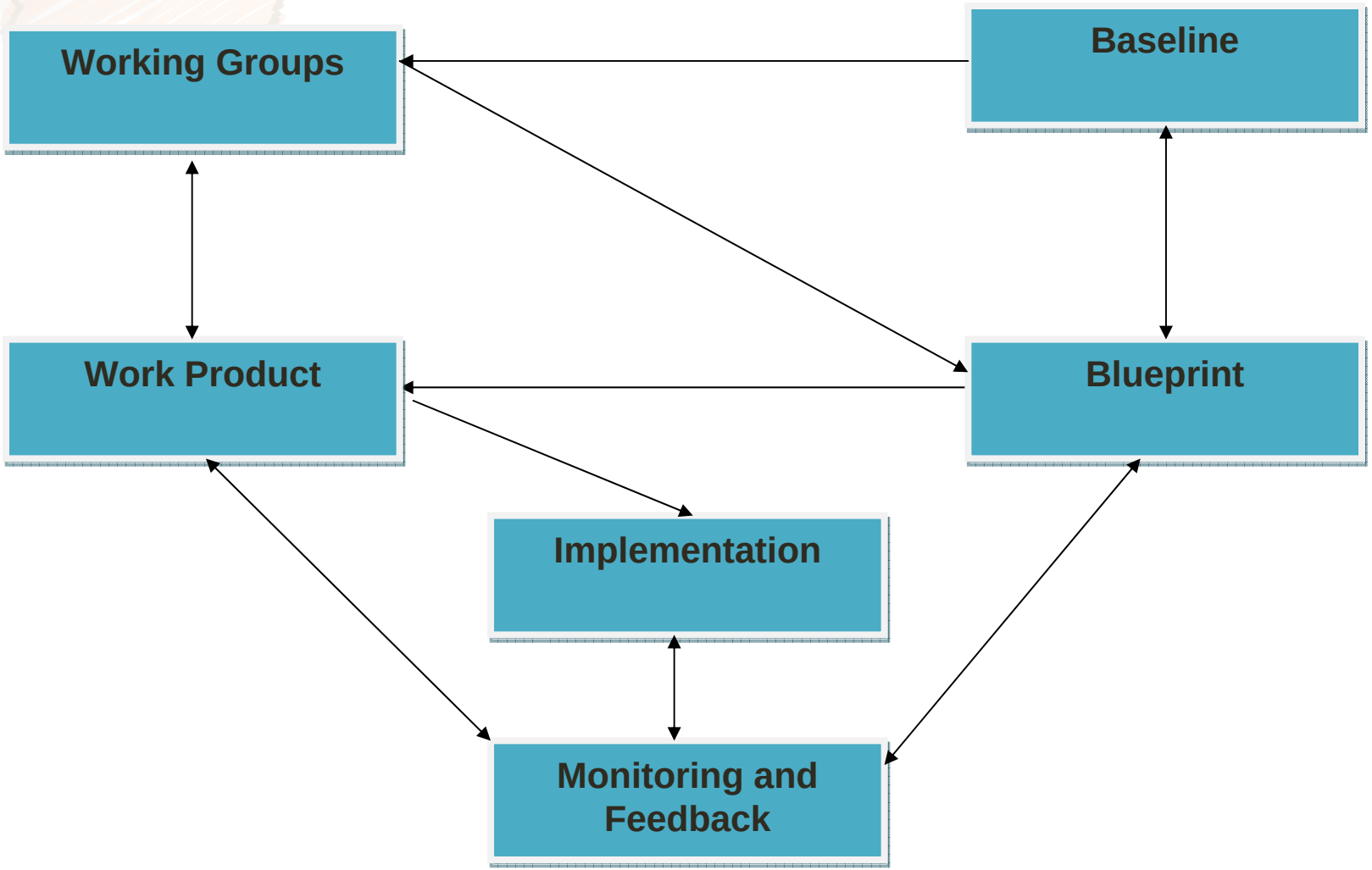


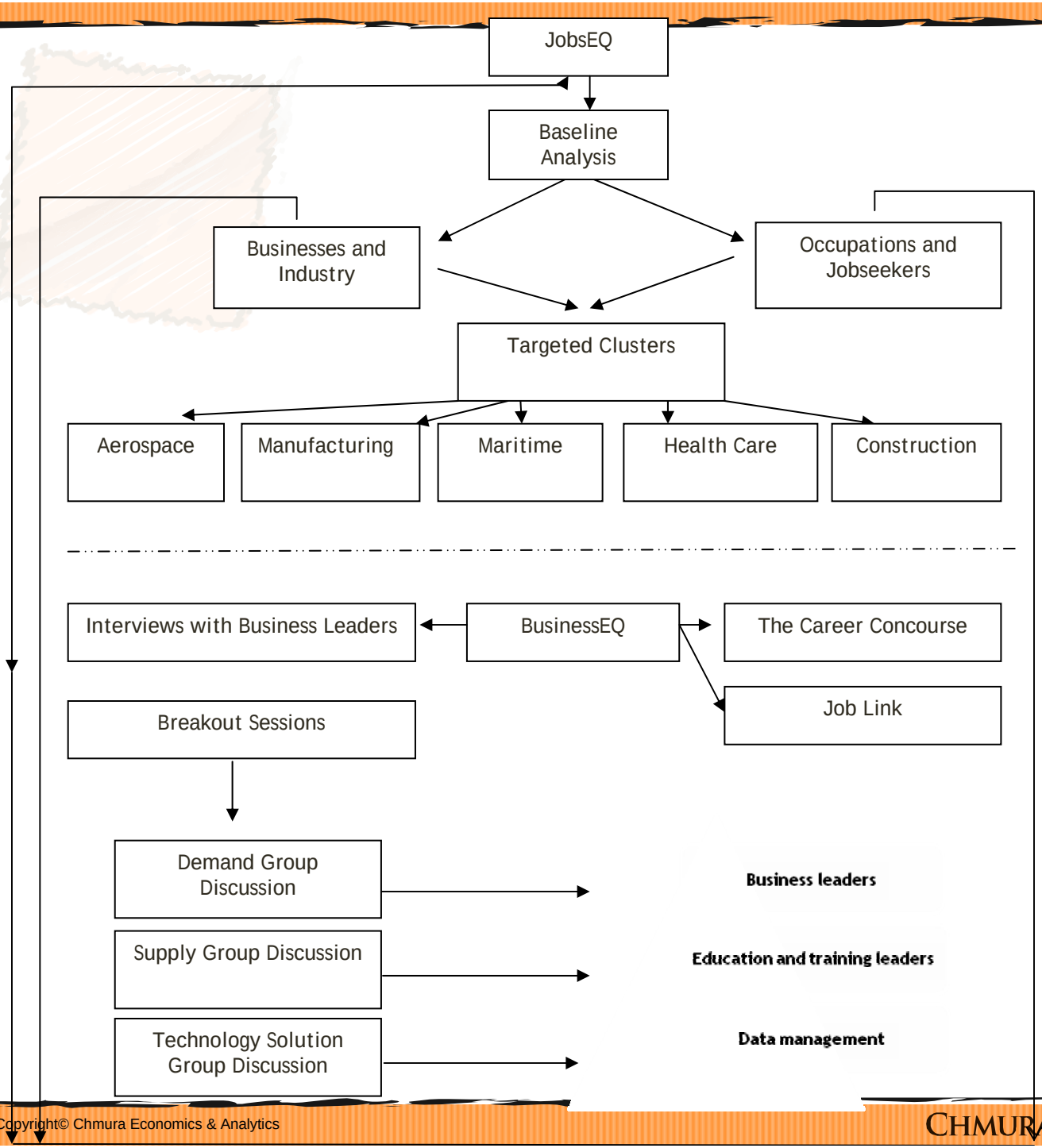
Current Data Constraints

- Industry and occupation forecasts occur every 2 years with lags
- Baseline employment can have 6-9 month lag

Source: JobsEQ.

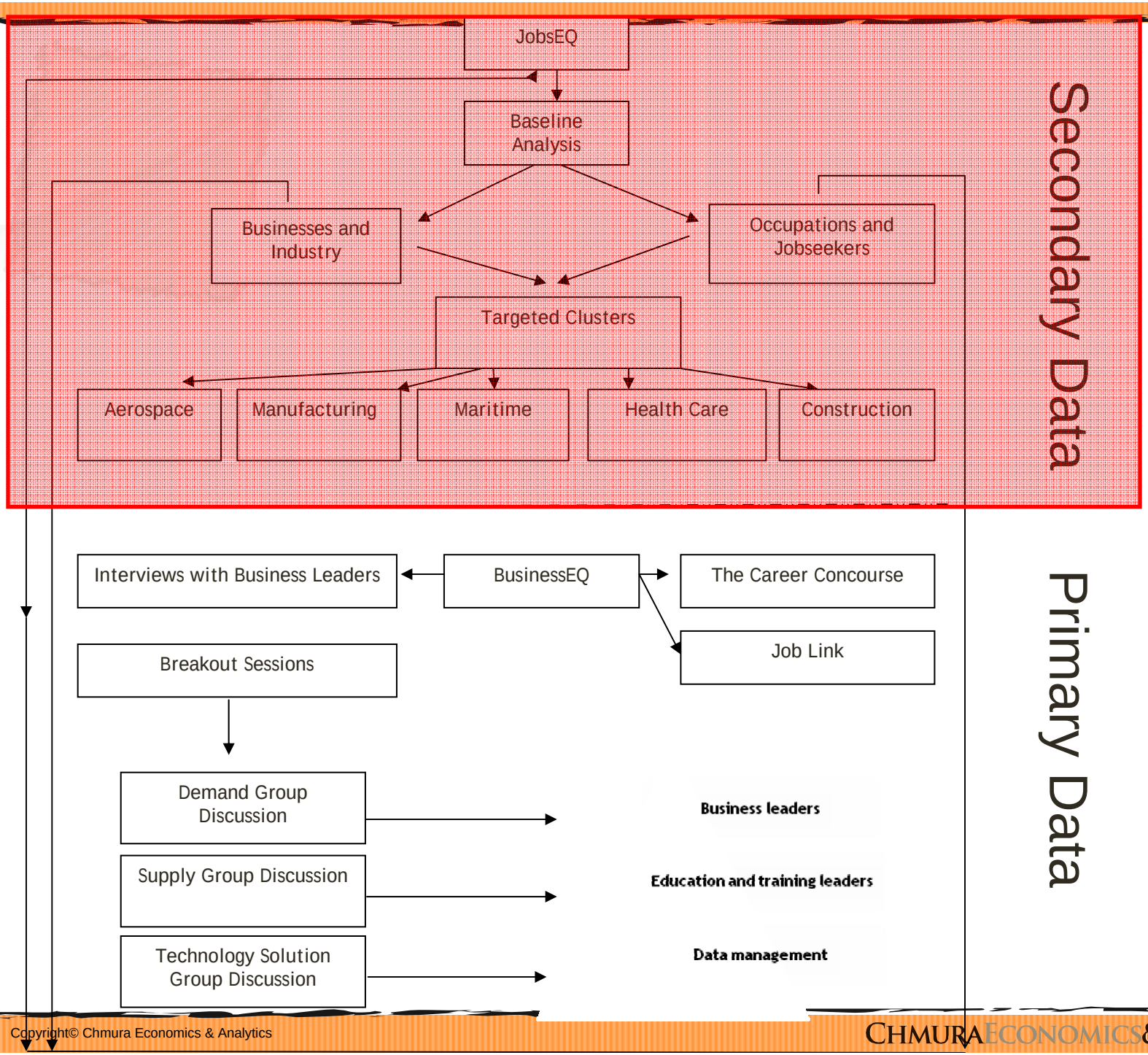
Creating a Best Practices Model

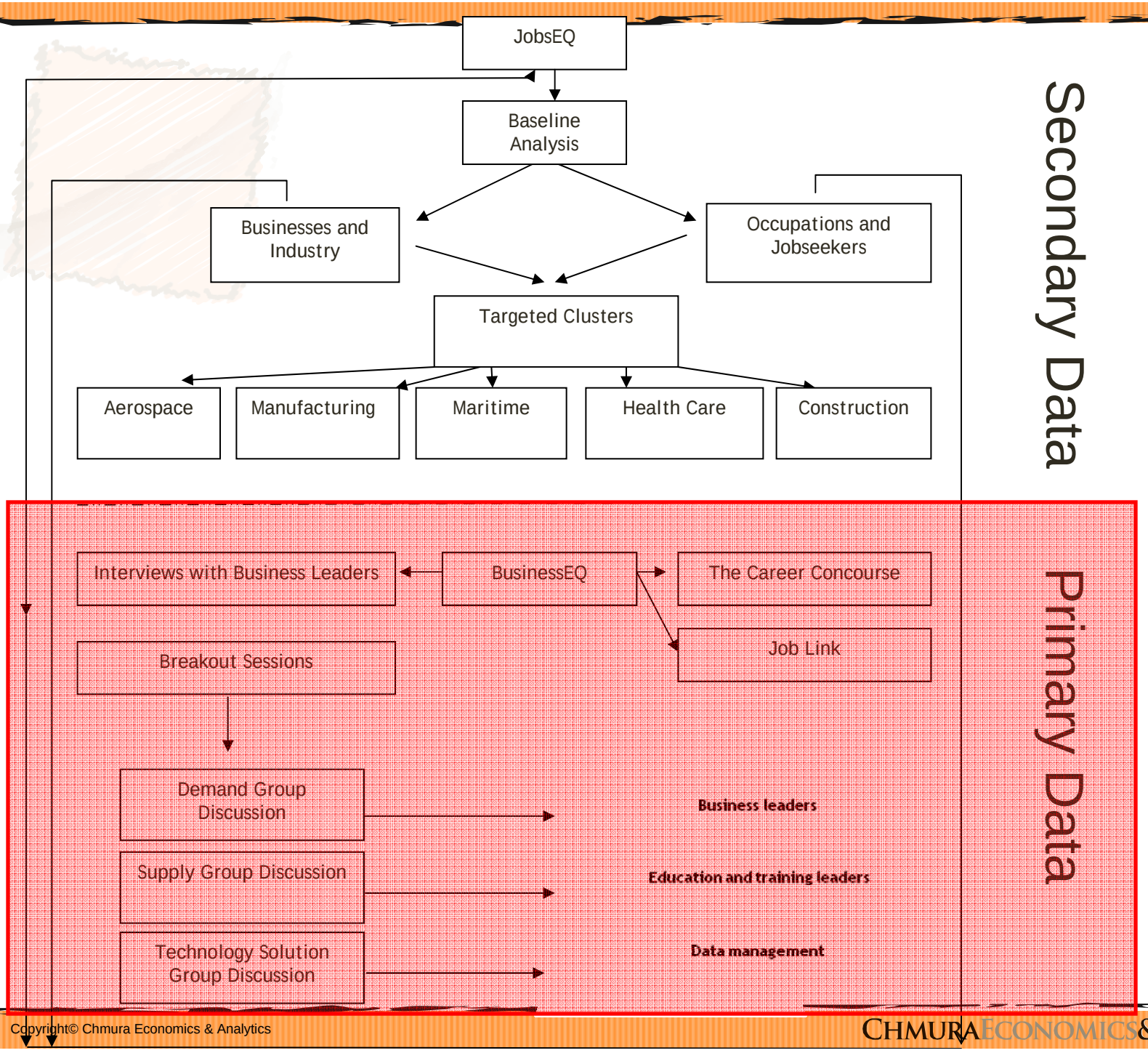




Secondary Data

Primary Data



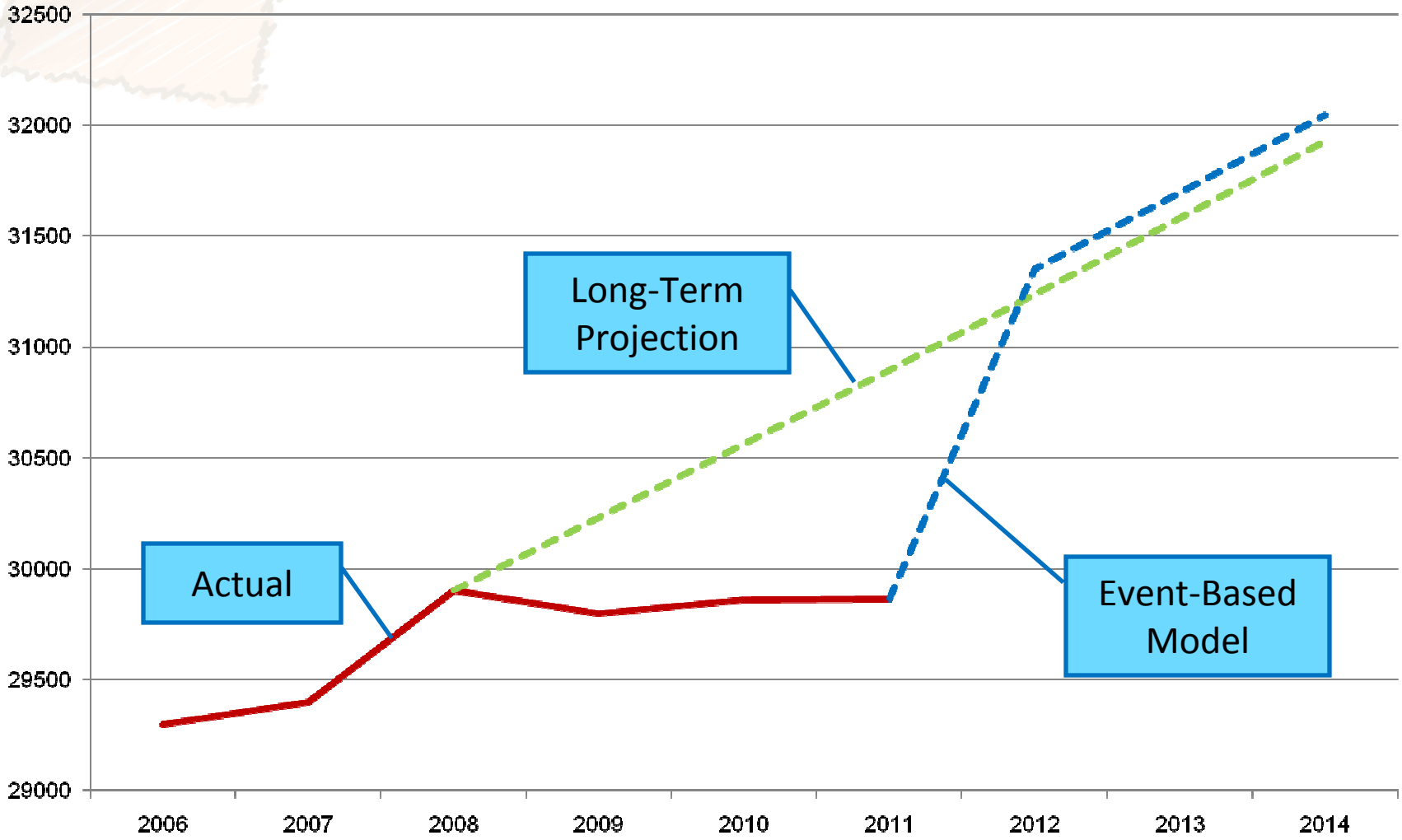


BusinessEQ™

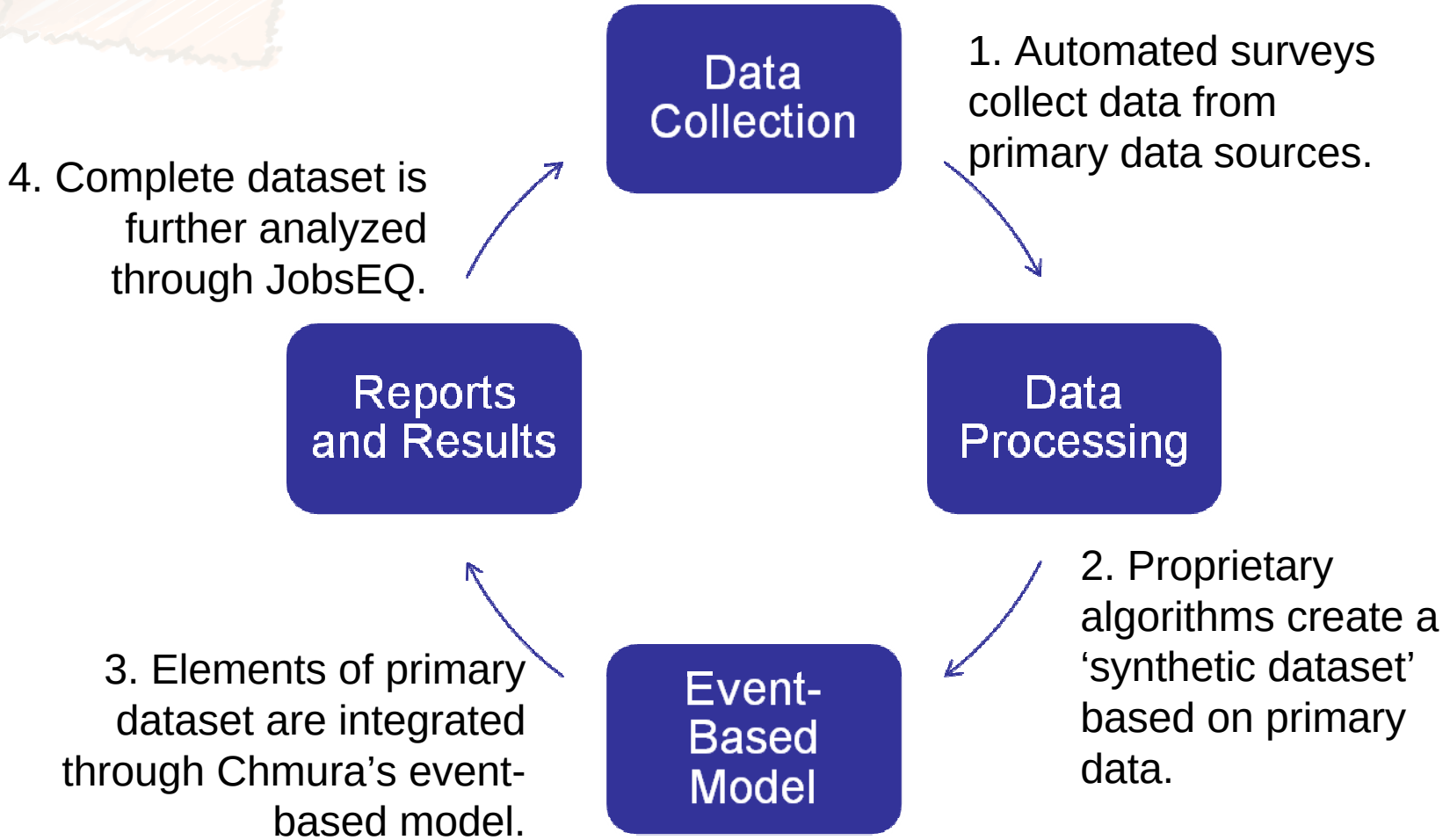
JobsEQ®
Combines secondary data with primary data to perform real-time analysis of local economic conditions

BusinessEQ
Automates the process of primary data collection and integrates these data in to JobsEQ

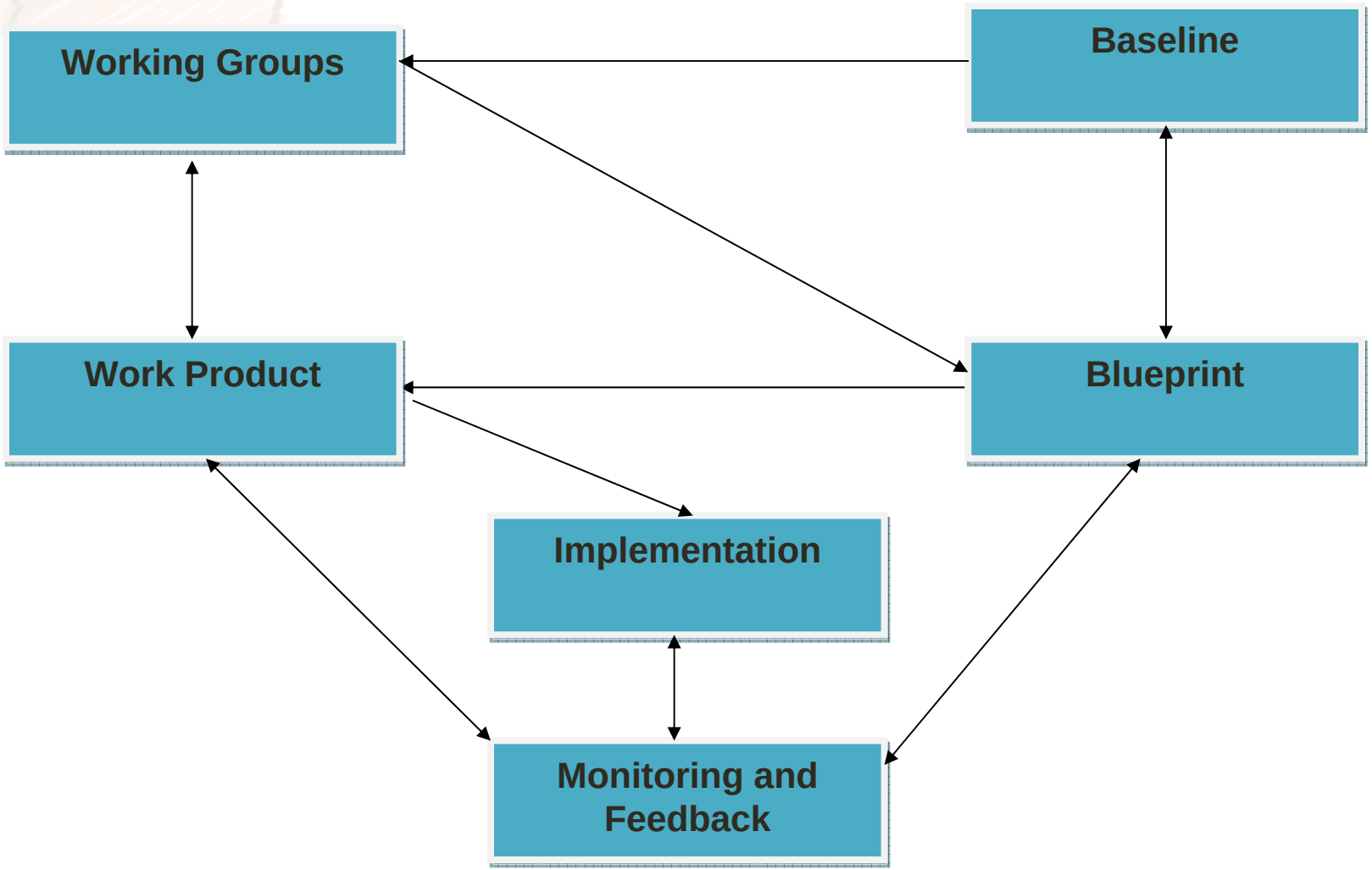
The Chmura Event-Based Model



Primary Data Collection



Creating a Best Practices Model



Conclusions

1. Best practices to create a pipeline of workers
   - Give 8th graders information to start career exploration
   - Influence decisions with information about demand occupations/available labor
2. Supplement (secondary) public data with firm-specific (primary) information
3. Information recalibrates your baseline of skilled workers to benchmark what businesses say they need from their labor market

Questions?