

# **A fit-gap analysis of e-business curricula and job market between Taiwan and the U.S.**

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# Agenda

- Introduction
- Category of e-business curricula
- Category of e-business professionals
- Data collection
- Fit-gap analysis
- Recommendations

# Introduction

- Internet economy meltdown in millennium.
- Use of the Internet as an essential business tool continued to grow dramatically (Pinker et al, 2002).
- As ICT investments grow, HR managers are adding IT personnel (S.K. Lee, 2005).
- A constant complain from recruiters is the lacking of ICT professionals in this new economy (ITAA, 2001).

# Category of e-business curricula

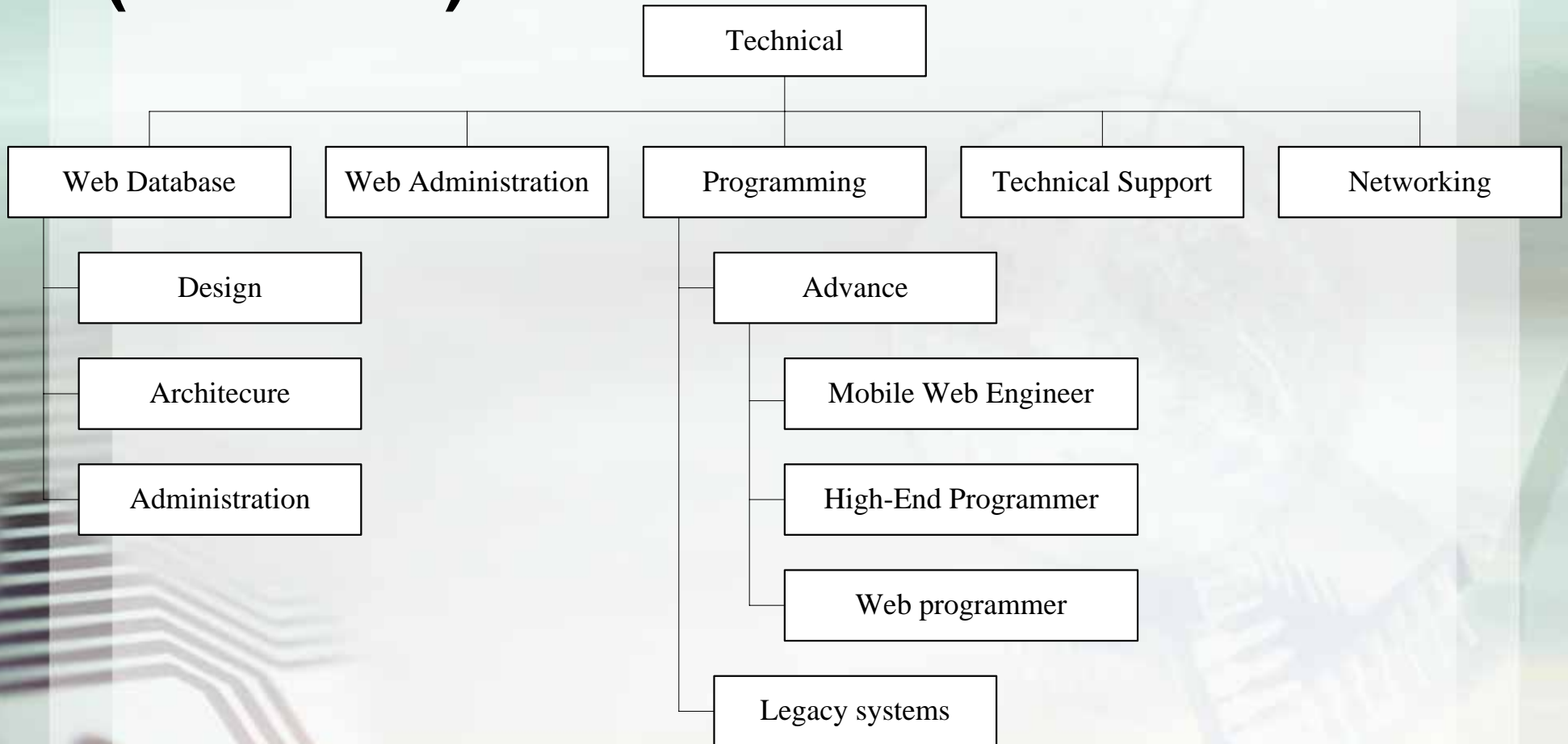
<u>Business</u>	<u>E-B Tech</u>
Operations and Supply Chain Management	E-Business Technology
Enterprise Resource Planning	E-Business Systems Development
Financial	E-Business Practicum
<u>E-B Non-Tech</u>	E-Business Security
E-Business Marketing	Electronic Payment Systems
E-Business Strategy	<u>Technology</u>
Introduction to E-Business	Data Communications
E-Business Management	Data Management
Entrepreneurship in E-Business	Interface Design
E-Business Economics and Markets	Java and Object-Oriented
Global E-Business Management	Intelligent systems
Business Process Reengineering in E-Business	Computer Ethics
Legal and Regulatory Issues in E-Business	
Business Models in E-Business	
Business to Business	<i>Durlabhji and Fusilier (2002)</i>

# Category of e-business professionals (Managerial)



*Davis (2003)*

# Category of e-business professionals (Technical)



*Davis (2003)*

# Data collection - Curricula

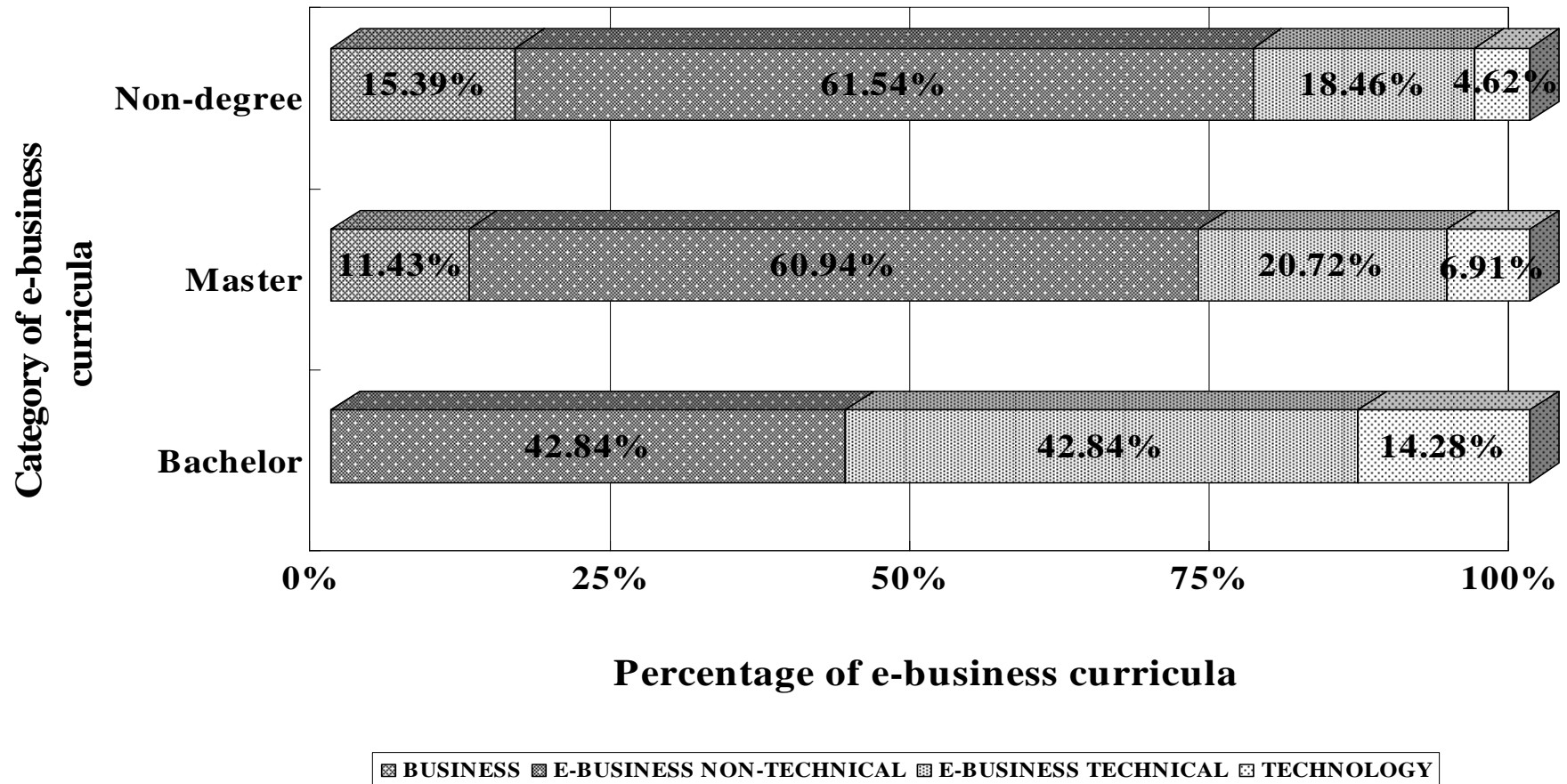
<b>Categories of e-business programs</b>	<b>USA</b>	<b>Taiwan</b>
<b>Master in E-business</b>	<b>3</b>	<b>3</b>
<b>MBA with concentration in E-business</b>	<b>11</b>	<b>1</b>
<b>Master with concentration in E-business</b>	<b>1</b>	<b>1</b>
<b>Bachelor in E-business</b>	<b>0</b>	<b>3</b>
<b>Bachelor with a concentration in E-business</b>	<b>1</b>	<b>13</b>
<b>Certificate program in E-business</b>	<b>5</b>	<b>0</b>
<b>Total</b>	<b>21</b>	<b>21</b>

# Data collection - Jobs

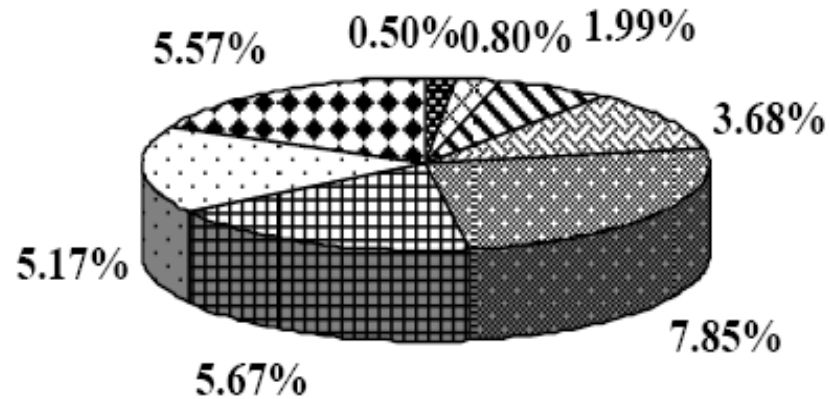
**Table 4. Position demand from Taiwan and U.S. career Web sites**

	U.S. career Web sites			Taiwan career Web sites		
Month	Monster.com	CareerBuilder.com	Yahoo Hotjobs	104 JobBank	1111 JobBank	Row total
April	70	76	53	49	23	271
May	111	50	59	75	24	319
June	153	100	334	65	32	684
<b>Total</b>	334	226	446	189	79	1274

# Curricula (supply) in USA

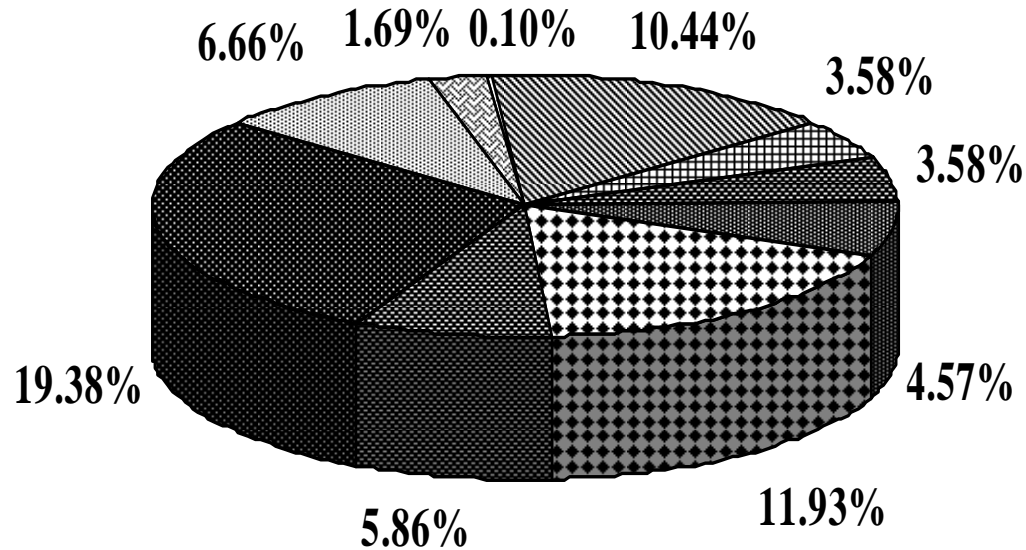


# Jobs (demand) in USA - Technical



-

# Jobs (demand) in USA - Managerial



■ Analysis - Project

■ Manager - Business Development

■ Manager - Project Management

■ Consultant - E-Business Architecture

■ Consultant - Knowledge Management

■ Analysis - Business

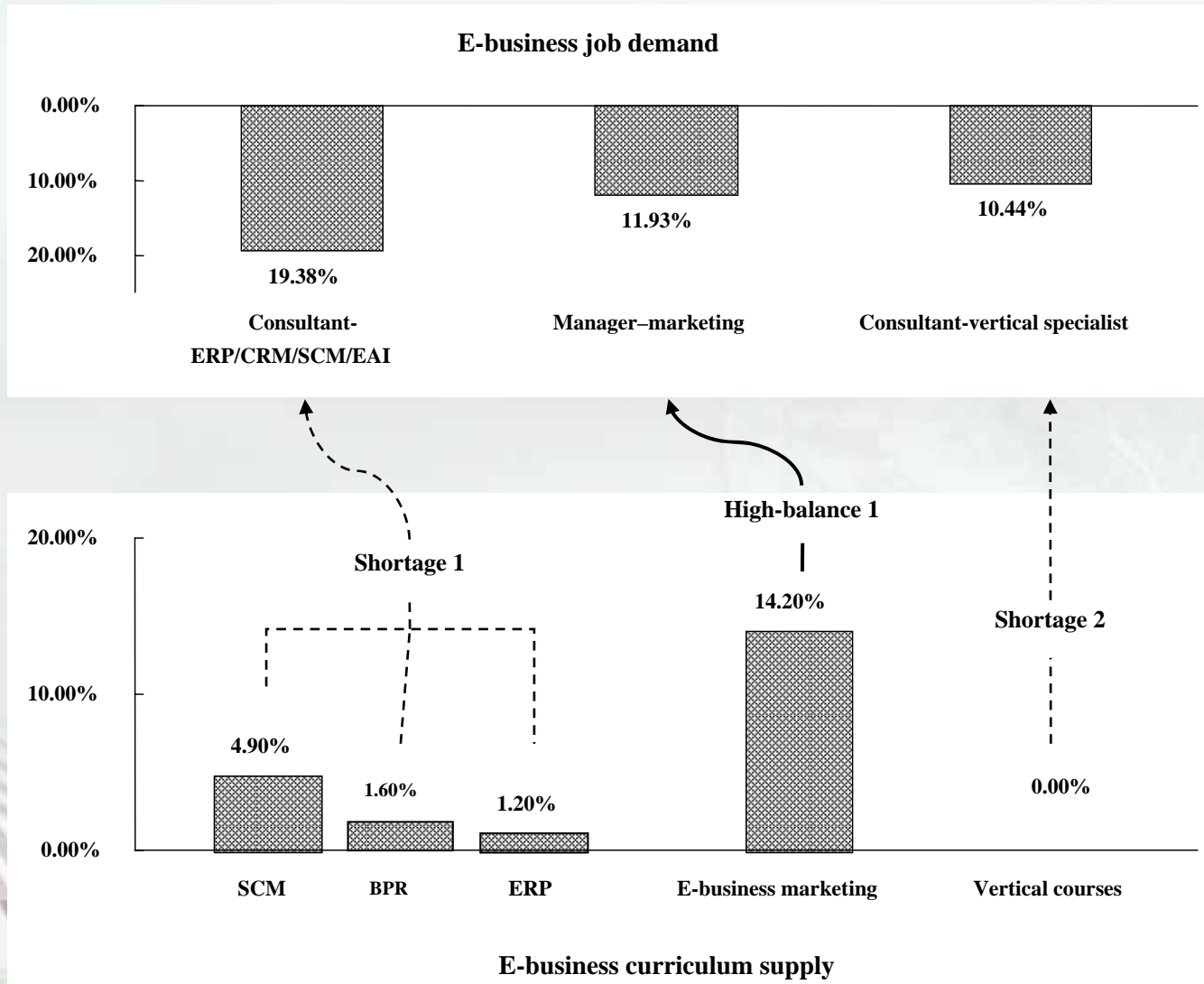
○ Manager - Marketing

○ Consultant - ERP/CRM/EAI

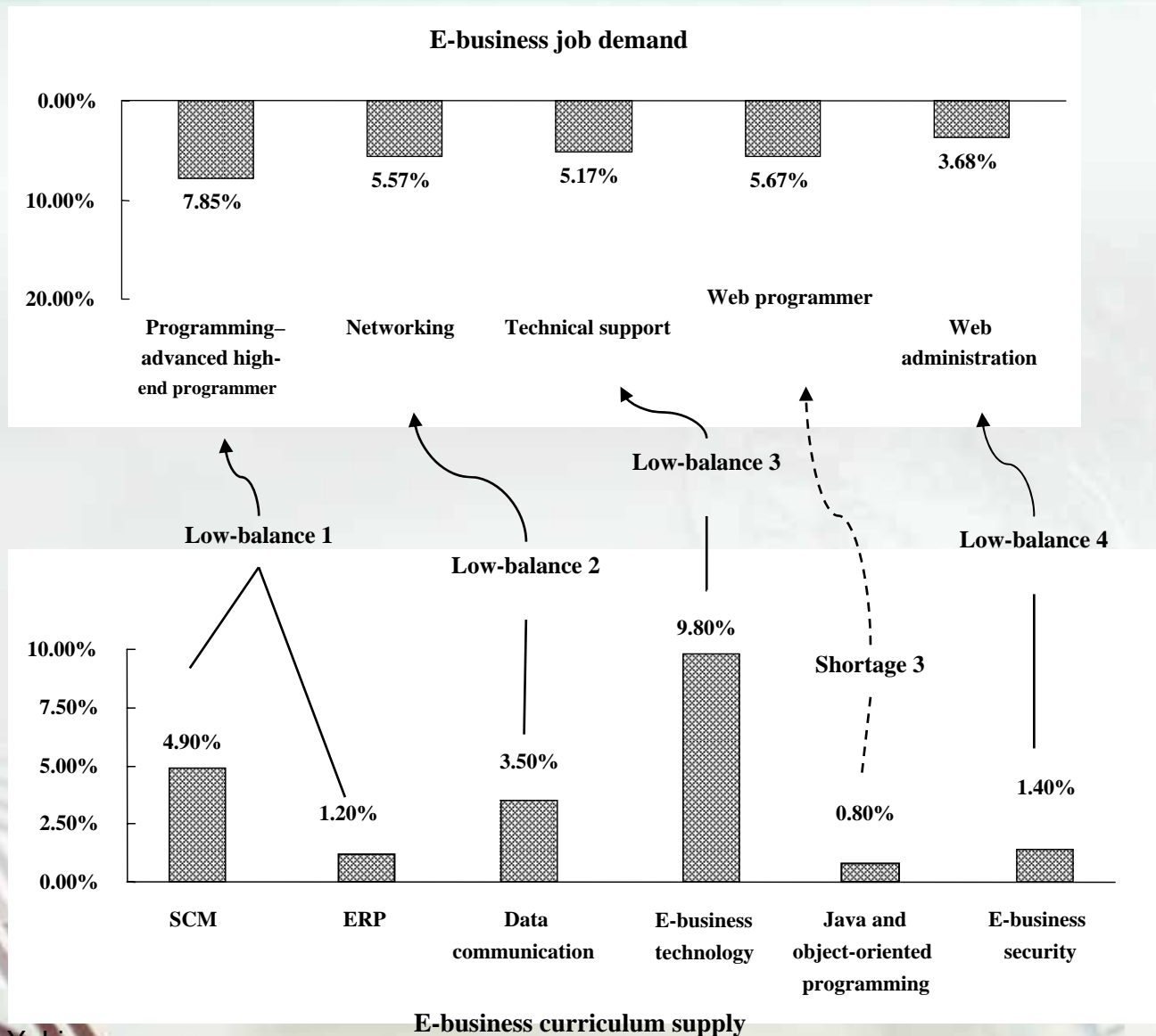
■ Consultant - Tech. Audit, Risk Assessment

■ Consultant - Vertical Specialist

# Fit-gap analysis (managerial, USA)



# Fit-gap analysis (technical, USA)



# Supply & demand matrix (USA)

Job demand low

Job demand high

Course  
supply  
high

**Over-supply**

No samples occurred in this area

**High-balance**

***High-balance 1:***

Manager–Marketing (11.93%) vs. E-business marketing (14.20%)

**Low-balance**

***Low-balance 1:***

Programming–Advanced high-end programmer (7.85%) vs. SCM (4.90%) and ERP (1.20%)

***Low-balance 2:***

Networking (5.57%) vs. Data communication (3.50%)

***Low-balance 3:***

Technical support (5.17%) vs. E-business technology (9.80%)

***Low-balance 4:***

Web administration (3.68%) vs. E-business security (1.40%)

**Shortage**

***Shortage 1:***

Consultant–ERP/CRM/SCM/EAI (19.38%) vs. SCM (4.90%), BPR (1.60%), and ERP (1.20%)

***Shortage 2:***

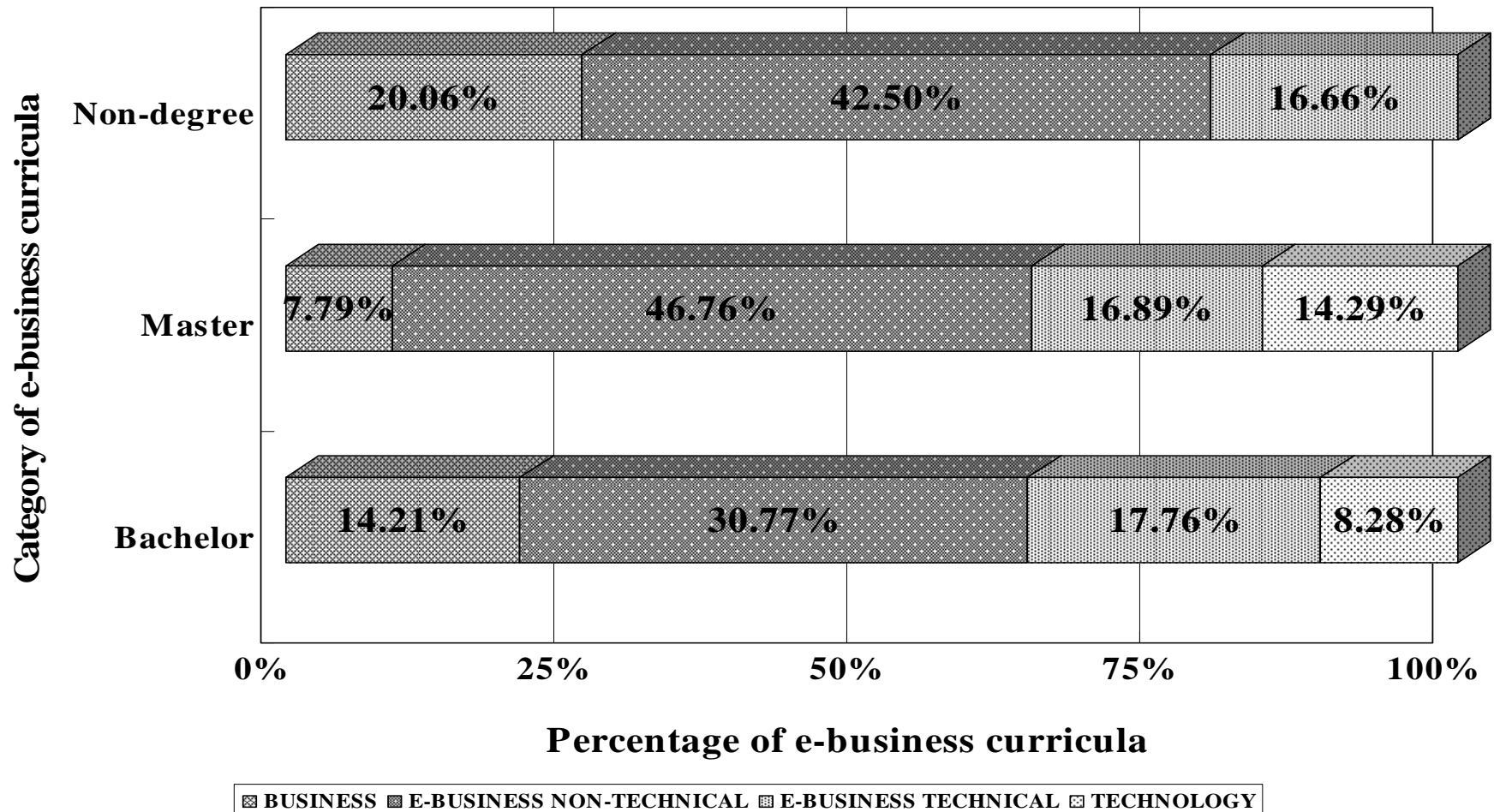
Consultant–Vertical industry specialist (10.38%) vs. Vertical courses (0.00%)

***Shortage 3:***

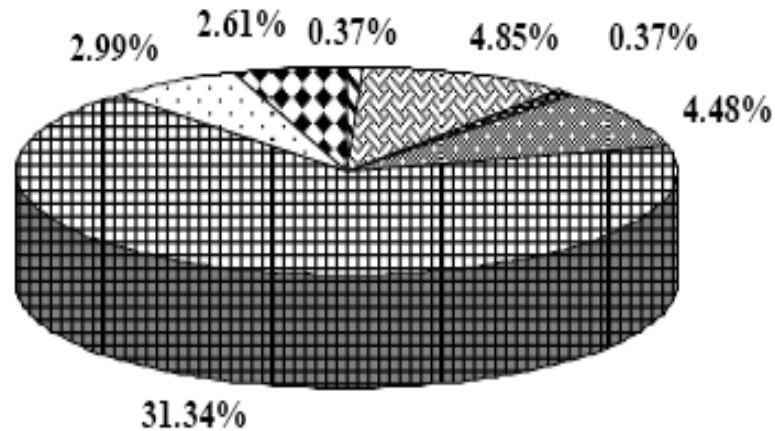
Web programmer (5.67%) vs. Java and objective-oriented programming (0.80%)

Course  
supply  
low

# Curricula (supply) in Taiwan



# Jobs (demand) in Taiwan - Technical



■ Web Database – Design

■ Web Database – Administration

■ Advanced - Mobile Web Engineer

■ Advanced - Web programmer

□ Technical Support

■ Web Database – architecture

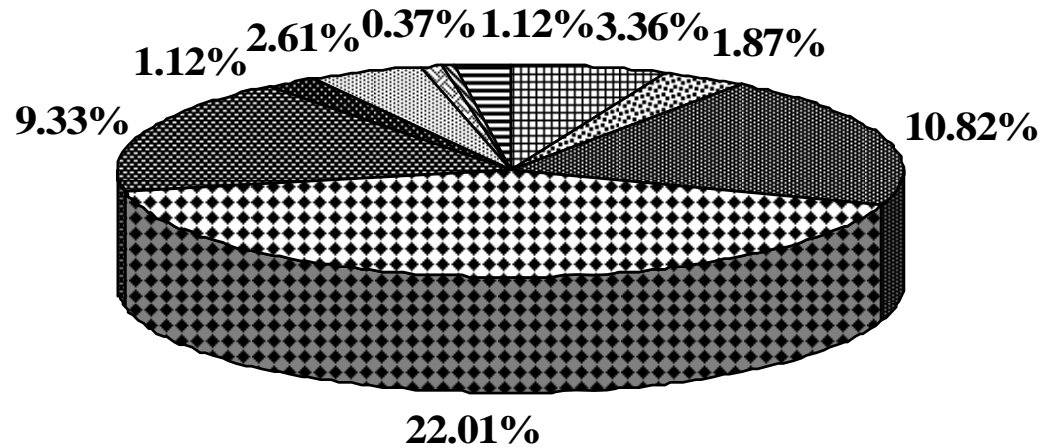
■ Web Administration

■ Advanced - High-End Programmer

■ Programming - Legacy systems

■ Networking

# Jobs (demand) in Taiwan - Managerial



■ Analysis - Project

■ Manager - Business Development

■ Manager - Project Management

■ Consultant - E-Business Architecture

■ Consultant - Knowledge Management

■ Other

■ Analysis - Business

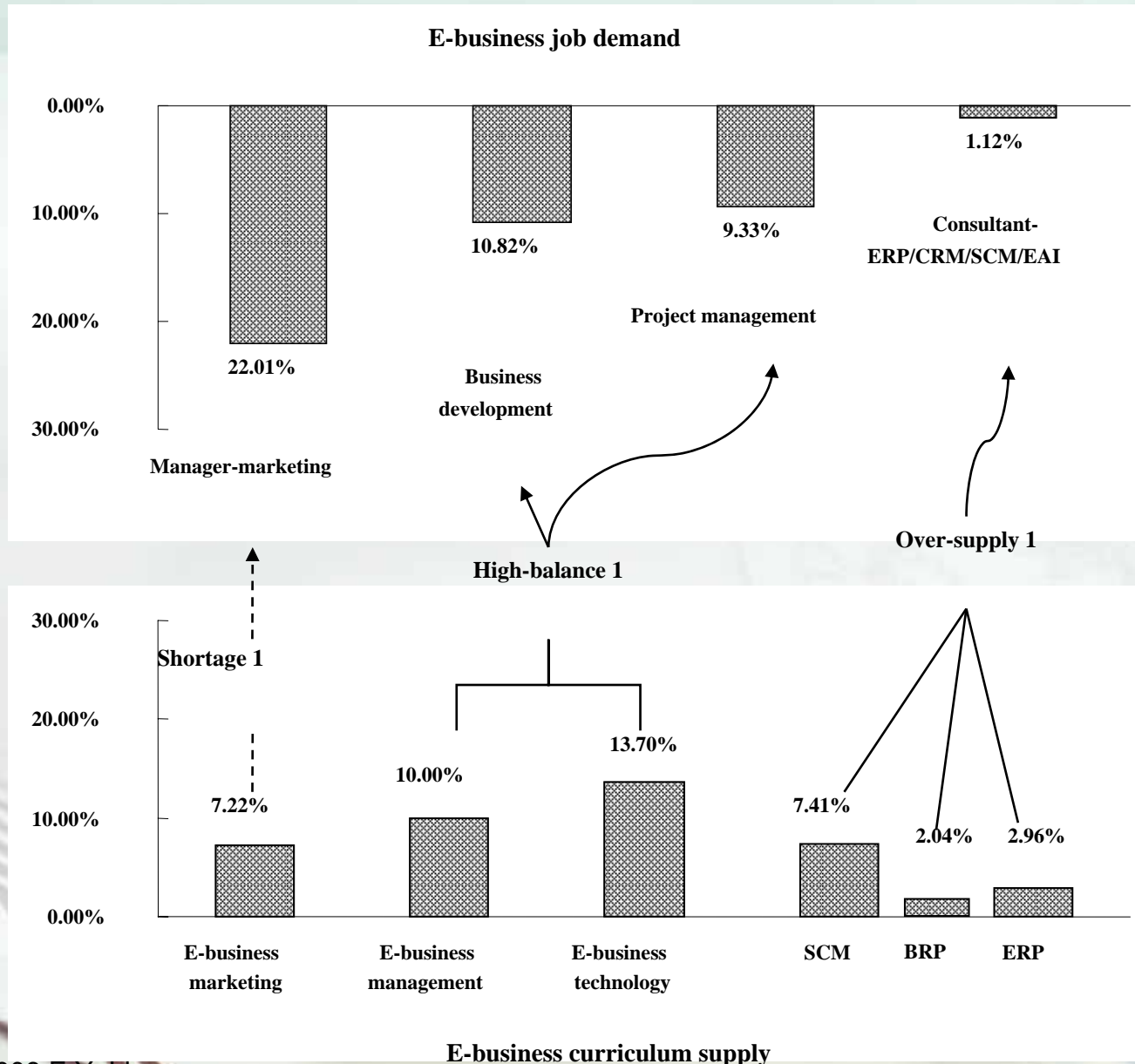
■ Manager - Marketing

■ Consultant - ERP/CRM/EAI

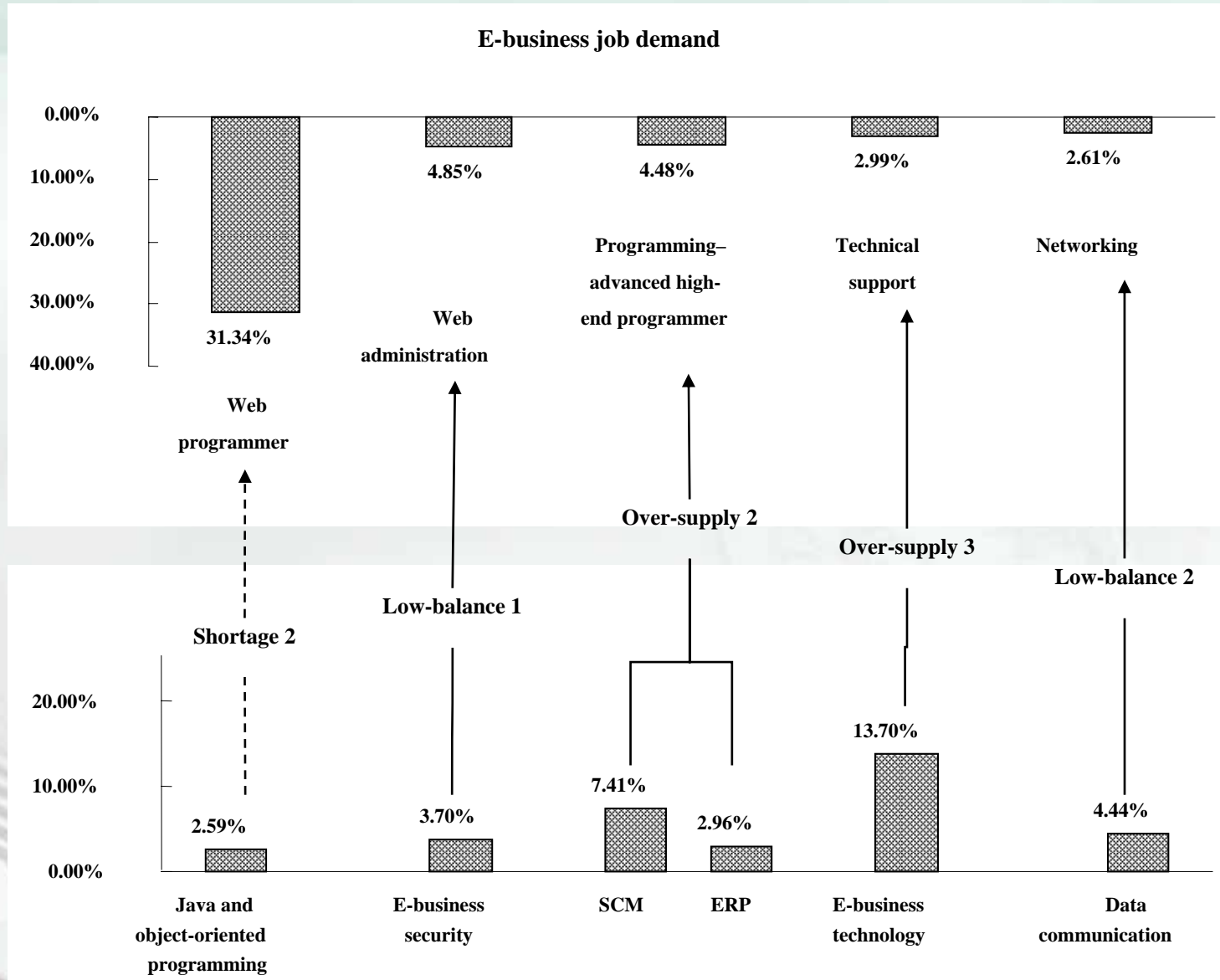
■ Consultant - Tech. Audit, Risk Assessment

■ Consultant - Vertical Specialist

# Fit-gap analysis (managerial, Taiwan)



# Fit-gap analysis (technical, Taiwan)



# Supply & demand matrix (Taiwan)

Job demand low

Job demand high

Course  
supply  
high

Over-supply

**Over-supply 1:**

Consultant–ERP/CRM/SCM/EAI (1.12%) vs. SCM (7.41%), BPR (2.04%), and ERP (2.96%)

**Over-supply 2:**

Programming–Advanced high-end programmer (4.48%) vs. SCM (7.41%) and ERP (2.96%)

**Over-supply 3:**

Technical support (2.99%) vs. E-business technology (13.70%)

Low-balance

**Low-balance 1:**

Web administration (4.85%) vs. E-business security (3.70%)

**Low-balance 2:**

Networking (2.61%) vs. Data communication (4.44%)

High-balance

**High-balance 1:**

Manager–Business development (10.82%) and Manager–Project management (9.33%) vs. E-business management (10.00%) and E-business technology (13.70%)

Shortage

**Shortage 1:**

Manager–Marketing (22.01%) vs. E-business marketing (7.22%)

**Shortage 2:**

Web programmer (31.34%) vs. Java and objective-oriented programming (2.59%)

Course  
supply  
low

# Differences in Courses (USA vs. Taiwan)

<b>E-Business Non-Technical</b>	<b>60.70%</b>	<b>39.44%</b>	<b>-21.26%</b>	<b>*</b>
E-Business Marketing	14.20%	7.22%	-6.98%	*
E-Business Strategy	14.60%	6.67%	-7.93%	*
E-Business Economics and Markets	8.50%	3.15%	-5.35%	*
<b>Technology</b>	<b>7.90%</b>	<b>17.04%</b>	<b>9.14%</b>	<b>*</b>
Data Management	1.60%	7.59%	5.99%	*

# Differences in Jobs (USA vs. Taiwan)

<b>Technical</b>	<b>31.23%</b>	<b>47.01%</b>	<b>15.78%</b>	<b>*</b>
Programming - Advanced Web Programmer	5.67%	31.34%	25.67%	*
<b>Managerial</b>	<b>68.78%</b>	<b>52.98%</b>	<b>-15.80%</b>	<b>*</b>
Manager - Business Development	4.57%	10.82%	6.25%	*
Manager - Marketing	11.93%	22.01%	10.08%	*
Consultant - ERP/CRM/SCM/EAI	19.38%	1.12%	-18.26%	*
Consultant - Vertical Industry Specialist	10.44%	0.37%	-10.07%	*

# Recommendations for both USA and Taiwan

- **Reinforce the training of information and communications technologies.**
- **Need more marketing managers than before.**
- **High-end programmers are prevailing in modern business.**
- **Emphasize training of networking specialist.**

Q & A