APEC Symposium on Improving Market Access for ICT outsource SMEs

Ha Noi, Viet Nam, 27-29 October 2008

APEC Small and Medium Enterprise Working Group

December 2008

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APEC Symposium on

Improving Market Access for ICT Outsource SMEs

Sofitel Plaza Hanoi Hotel, Hanoi, Vietnam, October 27–29, 2008

Agenda

	DAY 1, 27 October
8:30 – 9:00	REGISTRATION
	OPENING CEREMONY
9:00 – 9:30	**Introduction** ***Luong Chi Mai***, *Deputy Director of the Institute of Information Technology, Vietnamese Academy of Science and Technology* **Welcome and Opening address** ***Nguyen Minh Hong***, *Vice Minister of Information and Communication, Vietnam* **Welcome remark** ***Do Xuan Tho***, *VAIP President*
	SESSION 1: Public Policies for ICT Outsourcing I ***Chair*: *Dang Van Hung,*** *International Institute for Software Technology, Macau*
9:30 – 9:55	**Vietnam IT Industry: Situation and Policies** ***Nguyen Trong Duong***, *Ministry of Information and Communication, Vietnam*
9:55 – 10:20	**Role of Innovation in Outsourced Projects** ***Venkatesh Ramanathan***, *Tata Consultancy Services (TCS), India*
10:20 – 10:45	**The Philippine Cyber Corridor Initiative** ***Monchito B Ibraham*****,** *Commission on Information and Communications Technology (CICT) , The Philippines*
10:45 – 11:05	*Coffee Break*

	SESSION 2: Outsourcing Experiences from Japan ***Chair*: *Anukul Tamprasirt,*** *President, The Association of Thai Software Industry*
11:05 – 11:30	**Information Service Industry in Japan** ***Katsuhiko Yoshida,*** *President, System Center NANO Corporation, Japan*
11:30 – 11:55	**Outsourcing by Omron Software Co.,Ltd.** ***Kazuyuki Hayafuji,*** *Outsourcing by Omron Software Co.,Ltd, Japan*
	Lunch Break
	SESSION 3: Public Policies for ICT Outsourcing II ***Chair***: ***Nguyen Hoang****, Consultant of Pacific Links Foundation, The United States*
13:30 – 13:55	**Key Factors Required to Attract ICT Outsourcing Customers** ***Michael Mudd****, Director of Public Policy, Asia - Pacific, CompTIA, The United States*
13:55 – 14:20	**Human Capital Development: FPT Software Experiences** ***Nguyen Lam Phuong,*** *Vice Director FPT Software, Vietnam*
	SESSION 4: Experiences and Case Studies ***Chair*: *Dang Van Hung****, College of Technology, Vietnam*
14:20 – 14:45	**Offshore Software Outsourcing Servirces: a Case Study from CMC Software Solution** ***Nguyen Quoc Tuan,*** *Business Director, CMC Software Solution Co., Ltd, Vietnam*
14:45 – 15:10	**Software Outsourcing for Japan Market - a Practical Approach at Company Level** ***Le Xuan Hai****, VietSoftware International, Vietnam*
15:10 – 15:30	*Coffee Break*
	SESSION 5: Outsource Market Analysis and Evaluation ***Chair: Venkatesh Ramanathan****, Tata Consultancy Services (TCS), India*
15:30 – 15:55	**QTSC - A World Class Software Outsourcing in Vietnam** ***Lam Nguyen Hai Long****, Quang Trung Software Park, HCMC, Vietnam*
15:55 – 16:20	**International Software Engineering Standard for Very Small Enterprise** ***Anukul Tamprasirt****, President, The Association of Thai Software Industry, Thailand*
16:20 – 16:45	**Open source in outsourcing project: Difficulties and Challenges** ***Hung Dao,*** *CEO of Tinhvan Software Outsourcing (TVO) JSC, Tinhvan Group, Vietnam*

	DAY 2, 28 October
	SESSION 6: Outsource Market Analysis and Evaluation II ***Chair: Michael Mudd,*** *Director of Public Policy, Asia – Pacific, CompTIA, The United States of America*
8:30 – 8:55	**Outsourcing Opportunities and Challenges** ***Lalit Sawhney****, Chairman, Marketing Committee, IFIP, India*
8:55 – 9:20	**What Software and to What Extent Vietnamese SMEs Need - Opportunities for Software Suppliers** ***Le Van Loi****, VCCI and Project 191, Vietnam*
9:20 – 9:45	**Building Rural Enterprise through Outsourcing Information Technology** ***Bordin Rassameethes****, Kasetsart University, Bangkok, Thailand*
9:45 – 10:10	**Fostering ICT Based SMEs through SME Innovation Center** ***Agus Widodo,*** *Center for Innovation Technology Assessment, Agency for the Assessment and Application of Technology (BPPT), Indonesia*
10:10 – 10:30	*Coffee Break*
	SESION 7: Outsourcing Technical Support ***Chair: Lalit Sawhney*** *, Chairman, Marketing Committee, IFIP, India*
10:30 – 10:55	**The Challenging Tasks of Building the Necessary Capacities and Skill Sets for a Qualified IT Outsourcing Partner**. ***Nguyen Hoang****, Consultant of Pacific Links Foundation, USA*
10:55 – 11:20	**The Necessity of a Collaboration Tool In Outsourcing Projects - a Case Study With EPM** ***Pham Huy Hoang,*** *EVSoft, Hanoi, Vietnam*
11:20 – 11:45	**Moving up the Value Chain in the Global Context of Software Outsourcing Process** ***Nguyen Truong Thang****, Institute of Information Technology, Vietnam*
	Lunch Break
	SESSION 8: Supporting Techniques and Human Resources I ***Chair: Bordin Rassameethes****, Kasetsart University, Bangkok, Thailand*
13:30 – 13:55	**Issues on Quality-of-Services and the Role of Training** ***Dang Van Hung****, College of Technology, Vietnam National University, Vietnam*
13:55 – 14:20	**Collaboration in Research and Software SME for IT Training – Experiences of IT Faculty, Hanoi University of Technology** ***Huynh Quyet Thang****, Dean, IT Faculty, Hanoi University of Technology, Vietnam*
14:20 – 14:45	**Software Outsourcing Human Resource: the Teams as Good as the Weakest Link** ***Nguyen The Trung****, Digital Telecommunication Technology Corporation, Vietnam*

14:45 – 15:05	*Coffee Break*
	SESSION 9: Supporting Techniques and Human Resources II ***Chair: Agus Widodo**, Center for Innovation Technology Assessment, Agency for the Assessment and Application of Technology (BPPT), Indonesia*
15:05 – 15:30	**Marketing Policy for Crafter in SMEs** ***Hartono,** Ministry of Cooperatives and SMEs, Indonesia*
15:30 – 15:55	**How to Get a Freelance Job?** ***Dung Tien Nguyen**, Spiragram Pte Ltd, Singapore*
15:55 – 16:15	**Refinement Of The Vision System Development Platform (VSDP) For Commercialization And Its Application** ***Azwan Ramli**, Centre for artificial intelligence and robotics, CAIRO UTM KL, Malaysia*
16:15 – 16:40	**Economy Report of Russia** ***Dimitry Kalmykov and Pavel Litviakov**, JSC Neft (oil) Trade, Ltd., Russia*
	DAY 3, 29 October **Giang Vo Exhibition Center, 138 Giang Vo, Hanoi**
8:30 – 9:30	**OPENING CEREMONY OF VIETNAM 17TH IT WEEK**
	PANEL DISCUSSION ***Moderator: R. Venkatesh**, Tata Consultancy Services (TCS), India*
9:30 – 10:00	**Proposal of the Project "A Collaboration Network"** ***Dang Van Hung**, College of Technology, Vietnam National University, Vietnam*
10:00 – 10:30	**Discussion**
10:30 – 11:10	**Presentation of Kansai Economic Federation on Embedded Software Industry** ***Yoshiyuki MYABE**, Panasonic Corporation, Japan*
11:00 – 11:30	**Discussion**

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/002
Agenda Item: 1.1

Vietnam IT Industry: Situation and Policies

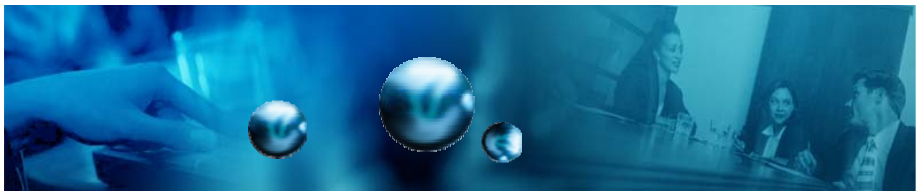
Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

MINISTRY OF INFORMATION & COMMUNICATIONS OF VN

MIC

Vietnam IT Industry: Situation and policies



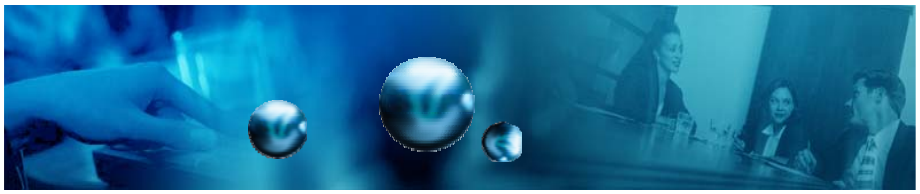
Mr. Nguyen Trong Duong, DDG
Dept of Information Technology

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Oct 2008

Agenda

1. Overview of IT Industry in Vietnam
2. IT Legal Frameworks and Policies
3. SWOT analysis for IT Industry of Vietnam
4. Conclusions

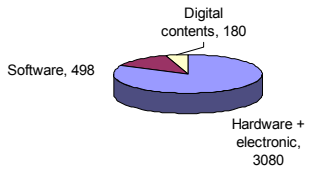
Overview of IT industry of Vietnam



Overview of IT industry in Vietnam

Growth rate (2002 – 2007)

Value (2007)

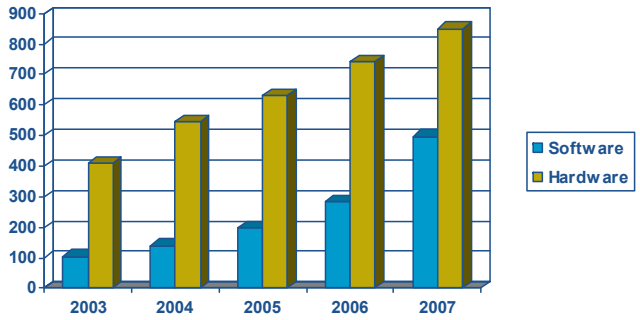


- High growth rate: Average growth rate for the period of 2002 – 2007 is 30%.
- Total value in 2007: USD 3.7 bil, including USD498 mil of software. Export value in 2007 was USD 2.5 bil
- Development of high tech zones, IT areas, Software development zones.
- Electronic and hardware are still dominant, however software industry and digital contents are said to be very potential in terms of higher profit, important role in social and economic development

Overview of IT Industry in Vietnam

• Vietnam IT industry has grown speedy in the last 5 years. IT industry revenue reached $3.7 billion in 2007, which include:

- Hardware/ Electronic/ Telecom Industry: $3.377 billion
- Software Industry: more than $498 million, increased by 43%
- Digital content Industry: more than $180 million, increased by 58%

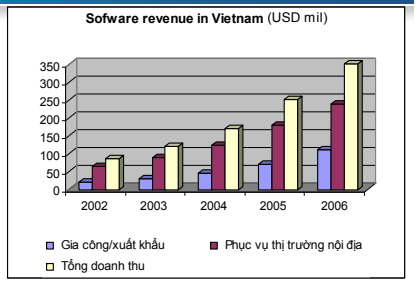


Vietnam IT market 2003-2007 (M $US)

Hardware and electronic industry

- Satisfy around 80% domestic demand, especially home electronic and computer.
- Average growth rate of 20-30% annually. In 2007, the value reached USD 3 bil, and growth rate of 25% annually.
- Export value increases 17 times within 10 years (USD 2.2 bil in 2007). The export market expands to 35 countries.
- Products exporting: 80% is home appliances, 20% of specialized products (used in IT inudstry)
- The key role of foreign owned enterprises in both domestic and export markets (account for more than 90%)
- Concentrate on 2 economic centers, Hanoi and HCM city

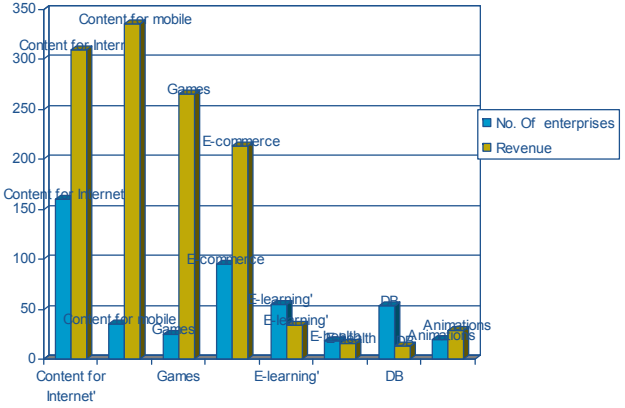
Software industry



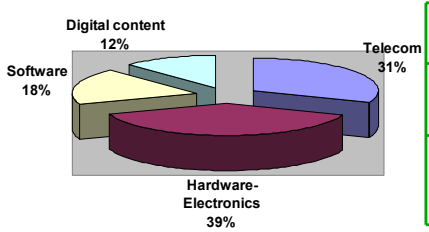
- Revenue in 2007 was USD 498 mil, including USD 318 mil for domestic market and USD 180 mil exports
- Average growth rate for the last 5 years was over 40% annually. In 2007, it was 42%. Outsourcing growth rate was 64% in 2007.
- With more than 1000 software companies employing about 48000 people
- 2 enterprises with CMMI level 5 certificate, tens of companies with CMM- 4, CMM-3 or ISO-9001
- About 200 companies participating in the software outsourcing industry with 100-150 employees for each company. Some big companies with more than 100-employees such as FPT software, FPT Information Systems, TMA, PSV …
- Software export markets:
  - The main software products are in terms of outsourcing and software services
  - The main markets are Japan, North America and Western Europe

Digital Content Industry

- Up to 2007, there are 500 enterprises with nearly 32000 employees, and revenue of USD 180 mil
- Four areas of digital contents: mobile network, internet contents, games, and e-business. Internet contents and e-commerce attract more companies, however, the higher revenue come from mobile network services.
- Most of companies are private with domestic investment capital (more than 60%), foreign owned enterprises account for only 10%.
- Online entertainment is becoming popular and very potential. It is very promising area.



IT Human Resources (1)



Total employee in ICT sector	464,000
Labor with certificate of IT, electronic, and telecom	311,000
Labor with college degree of IT, electronic, telecome	153,000

- There are about 464.000 employees working in IT and telecom industry
- There are about 311.000 employees or 77% have knowledge and certificat of IT, electronic, or telecom.
- Of which, 153.000 employees or 43.8% with college degree.
- 19% employees working in hardware companies, 64% in telecom compani 17% in software and digital content companies

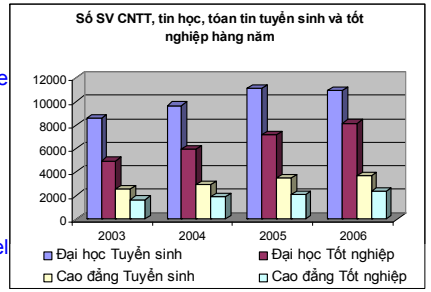
Training for IT, electronic and telecom industry

No of school have IT, electronic and telecom training						
Major	IT, Informatics, Maths			Electronic, Telecom		
Level:	Uni	College	Vocational school	Uni	College	Voc. Sch
2002	55	80 (12)	33	20	6 (3)	-
2003	61	87 (19)	56	20	6 (4)	-
2004	74	107 (25)	97	22	6 (3)	-
2005	86	108 (27)	135	28	8 (7)	55

Number of specialized school for this industry increases continuously.

There are 93 uni, 156 college and 187 vocational schools have IT related subjects.

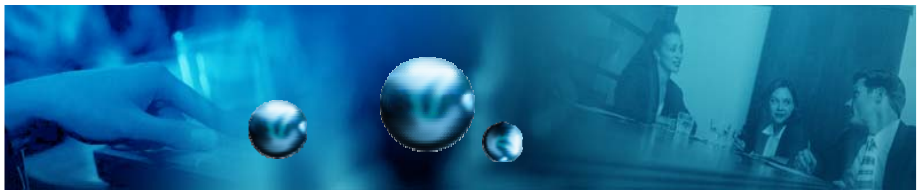
- Number of enrollment and graduate student increases
  - About 9000 new uni graduates, 10000 college graduate and about 11000 graduating from vocational school every year
  - For electronic and telecom specialized, there are about 3000 uni graduates, 1000 college graduates and 4000 workers from vocational schools every year.
  - Quota for 2007 enrollment: 17535 for uni level and 17899 for college level



Telecom infrastructure – Internet

- Fast develop, now there are 8 telecom operators, 5 IXP, 9 ISP & 14 OSP
- Amount of Subscribers and Internet users increase rapidly
  - Telecom: subscribers increase by 40-45%/year; total line subscribers is 33,2 million, about 39,4 lines/100 inhabitants
  - Internet users: increased by 40%/year, total internet users: 15.8 million, about 19 users/100 inhabitants
- International Internet connections:
  - 3 international ports, connecting to 10 countries
  - International capacity: from 1 Gbps in2003 jump to 8.7 Gbps in 2007.
- Rapidly Broadband infrastructure implementing & developing. ADSL services spread over 64 cities/provincials. Internet access quality is better. Management of QoS is improved better.
- The cost is dropped, especially in fix-phone, cell phone, Dial-up, ADSL, is the same or less than other nations in the region
- Leased line rate is still expensive, but will soon solved by MIC with the policies to decrease the cost.
- Satellite launched in 19th April 2008

Legal and Policies



IT Legal Frameworks

Laws/Decrees	Current Status
Electronic Transactions Law	effective from 1/7/2006
Intellectual Property Law	effective from 1/7/2006
Information Technology Law	effective from 1/1/2007
Decrees under those Laws for electronic transaction, IT application in the e-Banking, e-Finance, e-commerce, e-government, anti-spam...	Already enacted

Policies and Measures to develop IT Industry

Prime Minister have approved number of master plans to promote the development of IT Industry in Vietnam:

- Master plan to develop Software Industry to the year 2010, approved by Decision No 51/2007/QĐ-TTg
- Master plan to develop Digital Content Industry to the year 2010, approved by Decision No 56/2007/QĐ-TTg
- Master plan to develop Hardware Electronic Industry to the year 2010, approved by Decision No 75/2007/QĐ-TTg
- Master plan to promote OSS in Vietnam, approved by Decision No 235/2004/QĐ-TTg
- Master plan to promote eCommerce in Vietnam, approved by Decision No 222/2005/QĐ-TTg

Policies and Measures to develop IT Industry

Objective of IT Industry:

- IT industry is key developed industry, grow rate of 20 - 25%/year, revenue: 6 – 7B $US by 2010
- Annual growth rate of Software industry and Digital Content industry remain 40% - 50%, which archive > USD 1 bil. in 2010
- Software industry will occupy the domestic market, and be recognized by global market, especial outsourcing services.
- Large number of high skilled software developers and professionals. IT training system reaches the international level both in professional skills and communication skills (English). Large SI labor force will be exported.

Policies and Measures to develop IT Industry

Main Measures:

- To review the legal environment for IT industry, especially tax & land cost; Review all legal documents and policies for SI development, make sure policies are synchronous and consistent with each other, concretizing policies to sub-legal documents to ensure these policies are translated into reality.
- To increase IT human resources and improve quality of training: increasing number of It students; open more IT colleagues and universities; reform program and method of It training; train It by English; encourage enterprises and organizations to invest in training IT labors;
- To enhance the abilities of enterprises: supports software companies to apply CMMI; technology transfer; help companies to enter new markets; enhance competitiveness;
- Facilitation of investment environment: create a fair environment for all enterprises (domestic and foreign); build IT industry parks; promote the operation of venture capital funds;
- To promote OSS: issue the list of OSS products should use in e-government projects; policies to promote the use of OSS products;
- To promote R&D in IT: select and focus in some product that Vietnam has strong points; Focus on development of software outsourcing and services; Set up the implement of IPR, Investor's legal rights.
- To upgrade telecommunications-Internet infrastructure for the software & digital content industries; develop the broad band; move to 3G; support favorable cost, connection, and leased-line;

Polices for software enterprises

- Four-year exemption of company's income taxes from the first year having taxable income.
- Preferential income taxation for people working in software industry.
- 0% of Value Added tax (VAT) for software products and services.
- 0% import tax for materials directly used in the software production.
- 0% export tax for software products.
- Subsidy Internet access' fees for enterprises operation in Software Parks.
- Applied investment supporting from the state's development support fund.
- Exempt or diminished the cost of using and renting land as well as the using land tax.

SWOT analysis for IT Industry of Vietnam

Opportunities

- Global ICT industry is growth rapidly.
- Continuing shortage of IT professionals in the developed world
- Need to reduce the cost & increase productivity created demand for offshore outsourcing of MNCs in ICT field.
- Appear new markets for outsourcing & IT services such as Japan, Singapore, Australia, Canada, Europe …
- Rising costs and attrition in traditional offshore outsourcing destination such as India, Ireland, Israel,…
- Unstable of political system, and insecure in some countries and the region >< very stable of Vietnam.
- Strong supported of Vietnam Government to develop Software Industry

Strengths and attractive points (1)

- **Talent Pool:** vast pool of talent is available which is rapidly growing. Populations of Vietnam are young (60% from 17 to 60 years old). IT labour force of Vietnam are creative, hardworking, good educational backgrounds.
- **Low Cost:** The operating costs and salaries are much lower than other offshore outsourcing destinations such as India (1/3), China (1/2), Philipine
- **Low attrition:** which the culture favor stable, attrition in Vietnam is low (5-7%)
- **Diaspora:** Historically Indian and Chinese diaspora played a key role in building its reputation overseas. Similarly Vietnam boasts of a large diaspora in the US and other developed world which could provide important linkages between the US and Vietnam
- **Relationships & Familiarity: :** Familiarity with western countries, especially America, makes it easy to overcome cultural barriers. There is also a large Vietnamese population in the US that is playing an important role in fostering familiarity
- **Cultural Compatibility:** Strong cultural compatibility with Japan and China is encouraging partnership with these countries
- **Strong supports from Government**
- **Security and Political stability**

Strengths and attractive points (3)

Compared with India and China

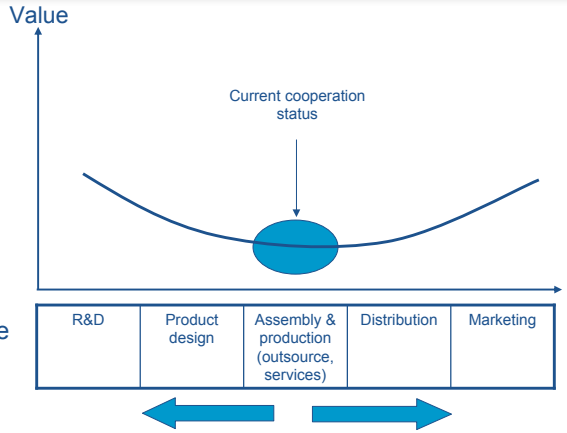
	Vietnam	India	China
Wages-Project Manager	8,400	25,000	15,600
Wages-Programer (5 years experience)	6,000	16,000	10,800
Wages-Programer (entry level)	2,500	7,000	4,600
Gov't Support	Strong with low level of red tape	Strong but bureaucratic	Non visible. More support from MNC's
English Skills	Average, with availability of good speakers	Good	Below average
Attrition Rates	av 5%	Call Centre av. 50%, IT av. 30%, BPO av. 15%	Between 10 - 30% overall
Graduates Availability	Adequate and rising with good quality	High, but large variance in quality	Adequate and rising

Weakness, Challenges & Threats

- Size and scale: The IT outsourcing business in terms of number and size of projects is still small compared to India or China. Also the size of most of the providers is relatively low. This limitation, however, is improved recently since there are several firms is reached the 1,000 IT experts, many firms are reach 500 employees.
- IT infrastructure: still low requirement of the industry need, low bandwidth, high cost.
- IPR: High piracy rate for software
- Skill management & language: weak in terms of experiences, management and English capacity, not enough leading experts for the industry need
- Competitive with China, India, and others
- English capacity, not enough leading experts for the industry need

Cooperation Proposals

- Hope to strongly cooperate in software outsourcing and gradually join in higher value creation cluster, e.g. Design and R&D in IT industry
- Vietnam needs to step by step improve capabilities of IT domestic enterprises and create internal value => cooperate in human resource development, business environments, technology transfer



Conclusions

- Vietnam IT industry has been developing rapidly, won initial achievements, ready to tighten cooperations with prominently potential partners.
- Vietnam has many strengths and opportunities to be come one of the most attractive destinations of software outsourcing and services in the world;
- Government engages support favorable policies for promoting IT industry, especially in IT focused products, outsourcing and services currently.
- We do hope to see the enhancement in cooperation between Vietnamese enterprises and regional and international partners and expect your contribution to our IT development in trade, HR development, FDI, ODA v.v.

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/003
Agenda Item: 1.3

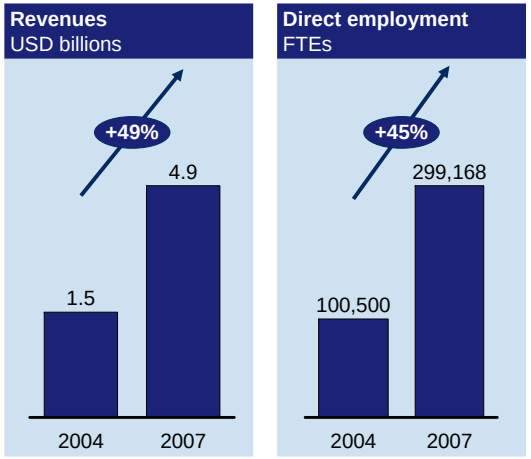
The Philippine Cyber Corridor Initiative

Purpose: Information
Submitted by: The Philippines

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

The Philippine Cyber Corridor Initiative

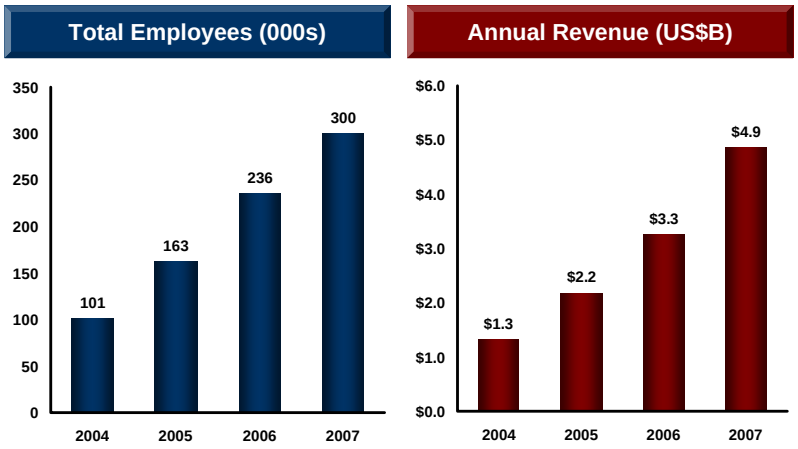
Philippines IT-BPO industry currently has close to USD 5.0 billion in revenues



- **Strong intrinsic skills**
  - **English language**
  - **Cultural affinity to US**
  - **Large pool of talent**
- **Competitive factor costs**
  - **Labor**
  - **Real estate**
  - **Telecom**
- **Best in class incentives**

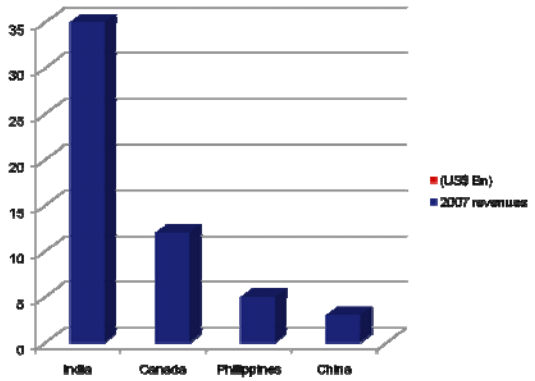
Source: Team analysis

Philippine IT-BPO Industry



Source: Business Processing Association of the Philippines

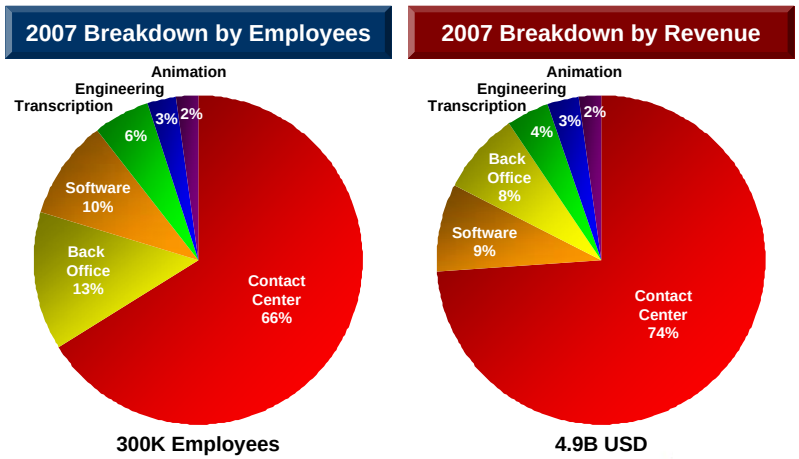
Philippines now the third outsourcing destination in the world, 2nd outside of North America



- All sectors growing; **Contact centres** is 2/3 of industry and growing 52%/yr over the past 3 years
- **Back-office** services primarily in F&A, HR, Legal and Health services now 15%, growing 46%/yr
- **Software development** is 10% of industry and continues to grow at 35%/yr

Source: Everest research

Segment Breakdown



Source: BPAP, CICT, Department of Trade and Industry

Wide Breadth of Services

- Sales and Customer Support (Call centers, Help Desk, Sales)
- Business Process Outsourcing (Finance and Accounting, HR, Payroll)
- Software Development (Product Development, Bespoke Projects, embedded SW, Project Management, Quality Assurance)
- IT Services (BC/DR, Web Hosting, Network Management)
- Transcription (Medical, Legal, Publishing, Data Transformation, Film Subtitling)
- Games Development
- Engineering Design
- Animation
- Knowledge Process Outsourcing (Marketing Research, Legal Research and Preparation, Medical Research, Insurance, Mortgage)

The Philippine talent value proposition: Large pool of English-speaking talent

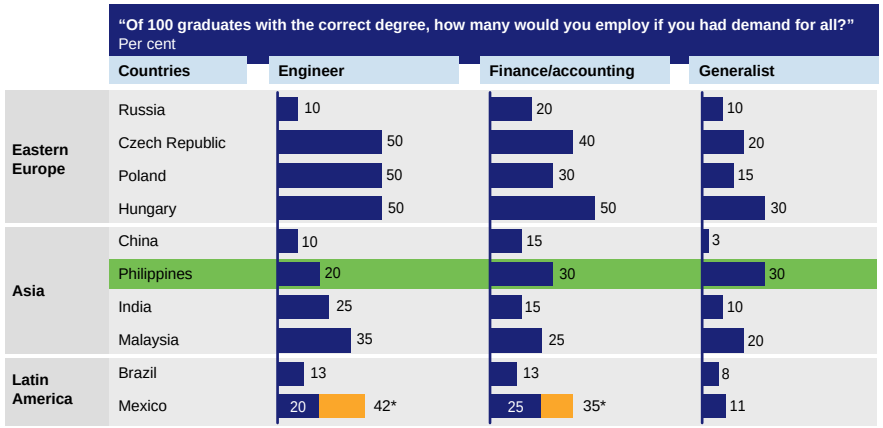
Number of college degree graduates	2007	Annual growth
Business & Accountancy	128,000	
Engineering & Tech	55,752	
IT-related courses	42,047	
Architecture	3,100	
Medical Sciences	31,400	
Fine Arts/Humanities	7,660	
TOTAL Tertiary level	**454,818**	**3.8%**

Over 400,000 college-degree graduates annually out of 90 million population and a 36 million size labour force with literacy rate of 92.6%

	Pop	Labour force	Unemp rate	Literacy
World	6,602M	3,400M	6.3%	82.0%
India	1,130M	509M	7.8%	61.0%
China	1,322M	798M	4.2%*	90.9%*
Brazil	190M	96M	9.6%	88.6%
Philippines	90M	36M	7.9%	92.6%

Source: Phils Comon Higher Education ; CIA World Factbook 2007; *China data for unemp and literacy is major Cities only

The Philippine talent value proposition: Quality

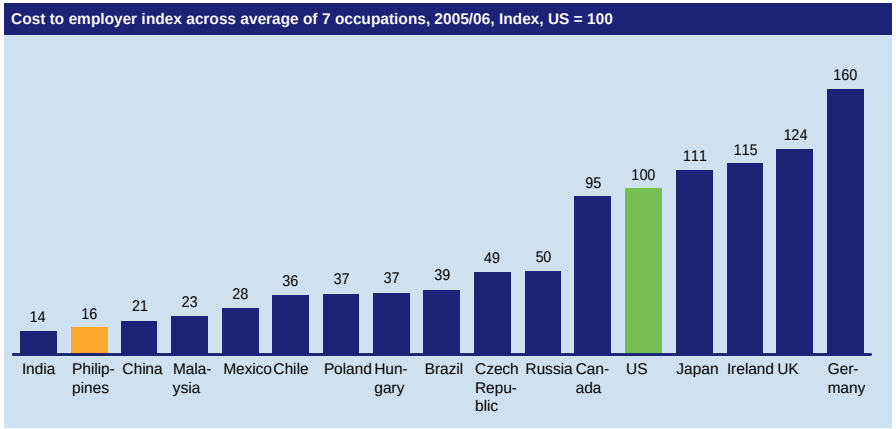


Suitability rates are empirically based on a total of >80 interviews with HR professionals working in each country

* Mexico is the only country where interview results (higher number) were adjusted ex-post since interview base was thinner

Source: Interviews with HR managers; HR agencies and Heads of Global Resourcing centers; McKinsey Global Institute

The Philippine talent value proposition: Cost competitiveness



- Labor index was created based on average cost to employer on an hourly basis relative to the US for 7 occupations
- Cost to employer includes wage, bonus, and benefits
- Despite many changes the top 5 low cost countries remain the same

Source: McKinsey Global Institute; Watson Wyatt 2005/06 report

The Philippines is viewed as a favorable location for BPO-IT services

- **Frost & Sullivan**, August 2007: *Philippines among top 10 shared services and outsourcing locations in the world*
- **IMF**, March 2007: "*The Philippines has established a strong presence in voice-based BPO sectors such as call centres, and there are also signs of growth potential in other offshore services, such as medical transcription and animation*."
- **Gartner**, Dec 2007: *The Philippines has become a destination for call centre and back-office finance and accounting operations; rates highly in cost, labour quality and language/cultural compatibility.*
- **Nomura Securities**, November 2007: "*We think that the Philippines has grown into the No. 2 outsourcing base after India in call centre–based BPO fields*."
- **Everest Consulting,** Apr 2008: *The Philippines is now the third largest destination geography for BPO services*
- **Frontier Strategy Group**, September 2007: *The Philippines is among seven key markets that are "above the rest" and are the "most critical to achieving corporate growth and outperforming the competition in 2008 and beyond*"

Awards and Distinctions

2007 Offshoring Destination of the Year:
Philippines

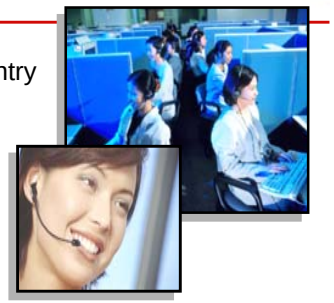
Top 10 Outsourcing Cities in Asia Pacific:
#2 Manila

Top 50 Emerging Outsourcing Cities:
#1 Cebu
#15 Pasig
#21 Quezon
#45 Mandaluyong

Top 10 Asian Cities of the Future:
#7 Quezon City
#8 Cebu
#10 Davao

Contact Center sector

- One of the fastest growing industries in the country
- Major Contact Centers in the Philippines: 124
- Total Full Time Employees: 198,000
- Estimated Revenues in 2007: US$ 3.6 Billion
- Past 3 years annual growth: 53%



Key Players in the Country:

Third Party Providers: Sykes, Convergys, PeopleSupport, SITEL, ACS, ePLDTVentus, ICTGroup, Ambergris, Teletech, eTelecare, CybercityTeleservices, Genpact, Sutherland,ePerformax, Transcom, HTMT, InfoNXX, Link2Support

Captives: Dell, AOL, JPMorgan, Siemens, HSBC, AIG, Citibank, Shell, Deutsche Bank, Six Continents, Ford (Percepta), GEMoney, Henkel, TrendMicro, etc..

Business Processing (Back Office Operations incl Medical/Legal Transcription)

- No. of Service Providers: 122
- Total Full Time Employees: 57,000
- Estimated Revenues in 2007: US$ 595 Million, +32% vs year ago

Key Players in the Country:

Captives: AIG, Manulife Financial, ChevronTexaco,H P, HSBC, Procter & Gamble, Flour Daniel, Deutsche Bank, Citibank Crescent Services, Shell Shared Services, Alitalia, Watson Wyatt, Emerson, McKinsey & Co., Safeway, Thomson Intl, BakerMcKenzie, White&Case

Third Party Providers: Accenture, American Data Exchange, SVI Corp, SPI Technologies, IBM Solutions, Genpact, Guico&Kho, Prople Inc, Eximius BPO, Summersault Inc., Infinit-O BPO, BPO International, BayanTrade Dotcom, eDataServices, RRDonnelley, EXL, Asiatype

Software Development

Software Development Companies: 120

- Total IT professionals: 29,188
- Revenues in 2007: US$ 423 Million, +56% vs year ago

Capabilities:

Applications development and maintenance; IT operations and infrastructure; business analysis, project mgmt, education

Key Players in the Country:

Accenture, Headstrong, Microsoft, IBM Solutions, Infosys, Jupiter Systems, Oracle, ADTX, Pointwest Technologies TrendMicro, Gurango, Sun Microsystems, Intel, HP, WeServ, NEC, RCG Philippines, Infoweapons, 3Logix, Blastasia, dBWizards, MIS Net, Orange & Bronze, Wipro

Gaming

- Total game development studios in the country: 20
- Three (3) years in the Philippines
- Total Animators in the country: 200+
- Revenues in 2007: <US$ 1 Million, 2008 (est.) >US$ 3M

Capabilities:

- PC Gaming
- Mobile Games
- Console Games

Key Players in the Country:

Matahari Studios/Kuju Asia Pacific, Gameloft, Pixelstream, Flipside

Animation

- Total animation studios in the country: 70
- Twenty (20) years in the Philippines
- Total Animators in the country: 7,000+
- Revenues in 2007: US$ 105 Million, +8% year ago

Capabilities:

- 2D
- 3D
- Medical Animation

Key Players in the Country:

Holy Cow Animation, Artfarm Asia, Digital Exchange, Top Draw Animation, Toei Animation, Top Peg Animation and Creative Studio, Creative Asia, Geebo Digital, Toon City

Engineering & Design Process

- Total Number of Engineering Design Companies: 24
- Total Number of Full Time Engineers: 8,000
- Estimated Revenues in 2007: US$ 152 Million,+124% vs year ago

Capabilities:

- Over 75,000 licensed professionals
- 40,000 graduates of engineering courses annually (CAD-Enabled)
- Internationally accepted engineering standards – Computer Aided Mfg (CAM); Computer Integrated Mfg (CIM)

Key Players in the Country:

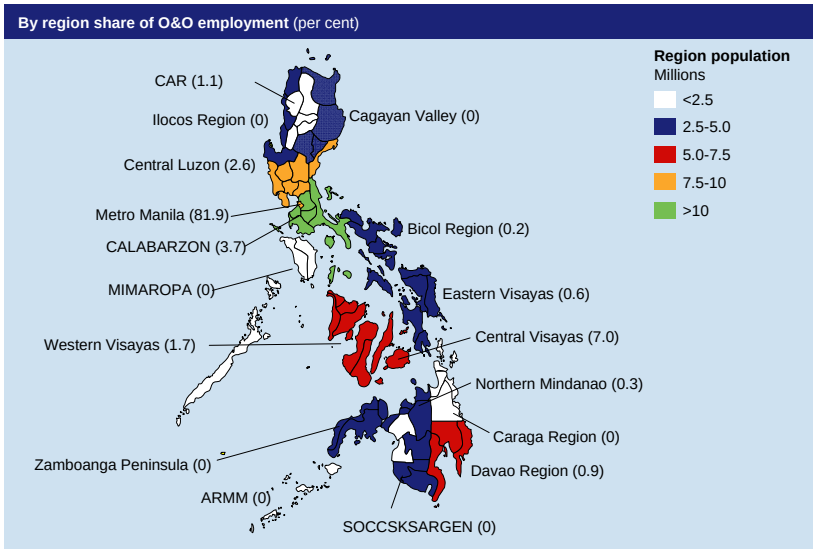
JGC Phils., Fluor Daniel, Bechtel, Tsuneishi, Kajima Corp, Parsons, C & E Corp, EEI Corp, Eichleay Pacific, Inc., Hyundai Engineering, Foster Wheeler, Kellog, Brown & Root, Bouygues Construction, Environment Global , Keppel, Nakayama. . . .

Challenges

- Outsourcing Operations highly concentrated in Metro Manila
- Jobs-Skills Mismatch
- English proficiency has deteriorated
- Moving up to high value services

Outsourcing industry is highly concentrated in Metro Manila

By region share of O&O employment (per cent)



Source: 2000 Census; BPAP Inventory

Roadmap 2010 launched Oct 2007

BPAP and McKinsey &Co developed the Philippine IT-BPO "roadmap" to achieving strong global #2 position in the world

Roadmap 2010 focusing on four broad themes

Key issues	
Suitable and abundant talent	• Need to recruit over one [illegible] to the industry to reach 10% market share • High percent of top tal[illegible]ound to other markets (e.g., nurses, engineering, accountan[illegible] • Mismatch in location density [illegible]ers and labor. Smaller labor pools not tapped
Operational performance	• Wage pressures emerging, reflecting accelerating growth and lack of transparency on wages • Competitiveness relative to established players (e.g., India) and emerging players (e.g., Vietnam) at-risk • Wage appear to be growing faster than billing rates, creating imperatives for operational excellence, scale and migration to high value services
Quality infrastructure	• Availability emerging as major issue – NCR rental space only available to reach 68% of re[illegible] – Given market uncertainty, facilities being built only o[illegible] time-to-market • Rental rates rising sharply in Makati Central Business District
Conducive business environment	• Need to ensure that current incentive regime continues to sustain competitiveness • Most locators concentrated in NCR; other cities may not be O&O-ready • Under resourced industr[illegible] • Good investor support[illegible]otential to improve in execution phase
Risk management	• Persistent issues around critical risk factors that affect outsourcing decision (e.g., IP protection, data privacy)

Talent

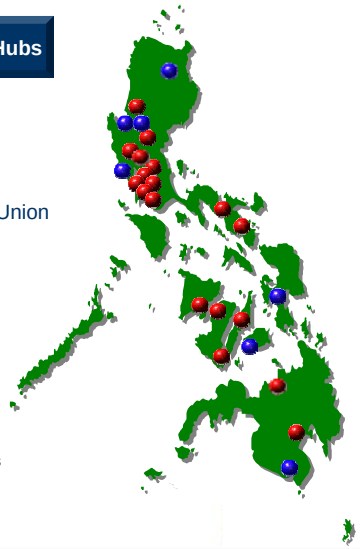
Next wave cities

Business environment

Source: Team analysis

Next Wave Cities

Hubs with Operators	Newly Developed Hubs
Bacolod	Dagupan
Bacoor	General Santos
Baguio	Leyte Province
Batangas	Subic/Olongapo
Bulacan	San Fernando, La Union
Cabanatuan	Tagbilaran
Cagayan de Oro	Tuguegarao
Cainta	Urdaneta
Camarines Sur Province	
Cebu	
Clark/Angeles	
Davao	
Dumaguete	
Iloilo	
Legazpi	
Lipa	
San Fernando, Pampanga	
Sta. Rosa	
Tarlac	



O&O Scorecard

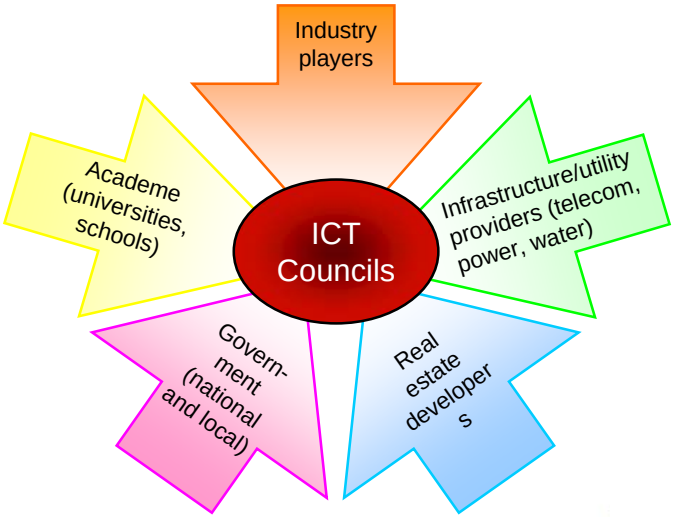
Talent
- College and high school graduates
- Professionals
- Schools and degree programs

Infrastructure
- Airports
- Roads
- Utilities (telecom, power, water)
- Real estate

Cost
- Rental
- Regulatory fees and taxes
- Median pay
- Utility costs

Business Environment
- PEZA-approved facilities
- ICT Council
- Real estate developers

ICT Councils



The Service Science Management Engineering (SSME) Initiative

There is a shift in the global economy and the world is becoming a giant service system, composed of six billion people, millions of businesses, and millions of technology products connected into service networks.
The service sector represents about 80 percent of the U.S. economy, and is projected to account for almost all US job growth through 2016. However, the shift towards services is not simply a US phenomenon, or a developed nations phenomenon - China has seen its service sector grow by 191% in the last 25 years and aims to shift 420 million workers from farms to services in the next five years.
The service sector now accounts for about 55% of Philippine GDP and grew by 8.7% in 2007.
To help students prepare for services-led jobs that will define the 21st century, IBM is actively working with universities around the world to develop "Service Science, Management and Engineering," or SSME -- an emerging academic discipline and research area that aims to develop the skills required in a services-led economy.
The Commission on Information and Communications Technology (CICT), the Business Processing Association of the Philippines (BPAP), and IBM Philippines have agreed to collaborate to promote SSME in colleges and universities nationwide in order to develop the critical mass of talent required to sustain Philippine leadership in the global Offshoring and Outsourcing (O&O) Industry.
To that end, CICT, BPAP and IBM jointly organized the 4-day Conference on SSME: Towards Philippine Global Competitiveness in Offshoring & Outsourcing from August 5-8, 2008 at the CICT Building in Diliman, Quezon City.

Thank You and Mabuhay!

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/004
Agenda Item: 2.1

Information Service Industry in Japan

Purpose: Information
Submitted by: Japan

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

The APEC Symposium on
Improving Market Access for ICT Outsource SMEs
– Information Service Industry in Japan –

October 27, 2008

Katsuhiko Yoshida
President, System Center NANO Corporation

Doctoral Student (International and Regional Economics)
Graduate School for Creative Cities, Osaka City University

Visiting Researcher, Institute of Information Technology
(Vietnamese Academy of Science & Technology)

Director, Japan Office, Institute of Information Technology
(Vietnamese Academy of Science & Technology)

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Topics

I. Information Service Industry in Japan

II. Offshore Software Development

III. Embedded Software

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I. Information Service Industry in Japan

II. Offshore Software Development

III. Embedded Software

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2006 Information Service Industry Statistics

No. of Businesses	16, 262
No. of Employees	820, 723
Annual Sales	JPY 18. 9 trillion

Industry	Businesses		Employees		Annual Sales	
	Total	(%)	Total	(%)	(JPY 100 million)	(%)
Software	10,789	66.3	567,498	69.1	137,517	72.8
Information-processing & Information-service	5,473	33.7	253,225	30.9	51,435	27.2
Total	16,262	100.0	820,723	100.0	188,952	100.0

Source: Ministry of Economy, Trade and Industry **"2006 Survey of Selected Service Industries"**

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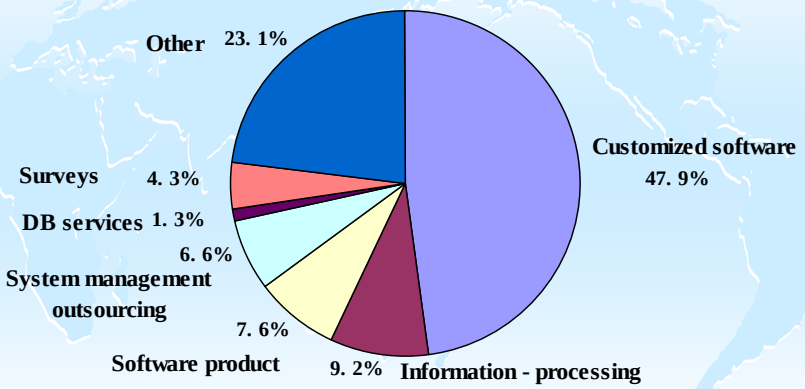
2006 Information Service Industry Sales (by Product Type)



Source: Ministry of Economy, Trade and Industry **"2006 Survey of Selected Service Industries"**

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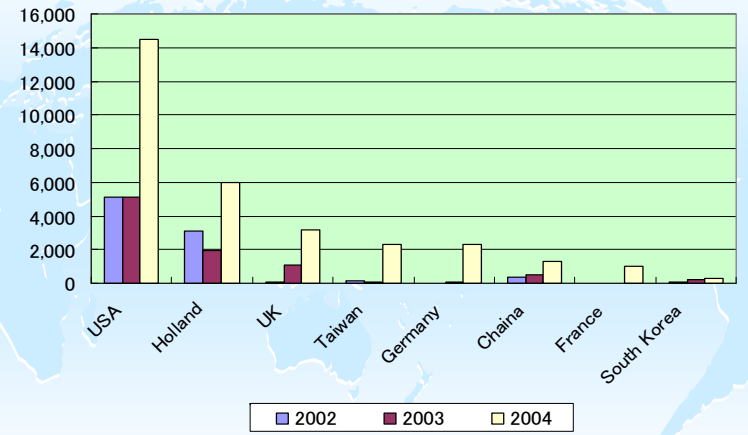
Japan Software Exports

(Unit: JPY million)



Source: JISA, JEITA, JPSA
"2005 Survey of Overseas Transactions in the Field of Computer Software & Employment of Foreigners in Japan"

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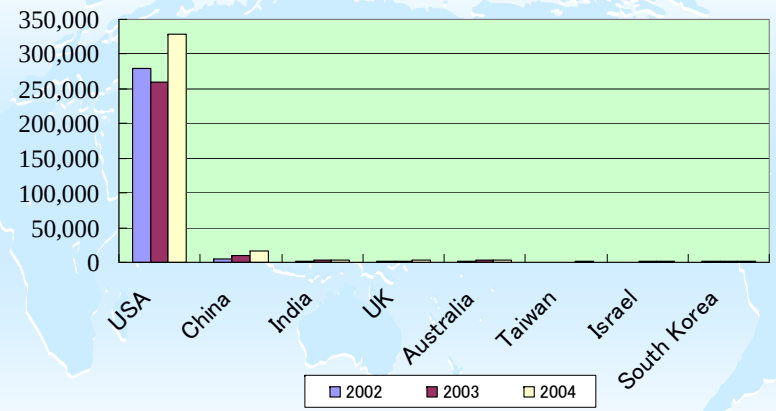
Japan Software Imports

(Unit: JPY million)



Source: JISA, JEITA, JPSA
"2005 Survey of Overseas Transactions in the Field of Computer Software & Employment of Foreigners in Japan"

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Ratio of Engineering Fee Payment / Receipt (Japan's Overseas Transactions)

Amount Paid vs. Amount Received, by Industry	2004	2005	2006
All industries	0.37	0.32	0.35
Manufacturing	0.33	0.29	0.30
Pharmaceutical	0.27	0.18	0.23
Chemical	0.51	0.48	0.71
Telecom equipment	1.04	1.01	1.25
Electronics parts/devices	0.99	0.65	0.75
Transport machinery	0.03	0.02	0.03
Auto	0.01	0.01	0.01
Software/Information-processing	**14.89**	**10.31**	**15.80**

Source: Ministry of Internal Affairs and Communications' "**Science & Technology Research Survey**" (2004, 2005, 2006)

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Japanese Information Service Industry Characteristics

- Focused on software development (55.5% of total sales)
  - Customized software: 47.9%
  - Software product: 7.6%
- Closed nature of the market
  - The majority of transactions are finalized domestically (most exports target Japanese-owned companies overseas)
- Inadequate software development competency and international competitive strength
  - 2004 imports were 11.4 times exports
    - Imports: JPY 364.6 billion Exports: JPY 32.0 billion
  - 2006 ratio of overseas engineering fee payment/receipt (overseas transactions)
    - All industries 0.35 Software/Information-processing 15.80

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I. Information Service Industry in Japan

II. Offshore Software Development

III. Embedded Software

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Offshore Software Development

Definition:

The outsourcing of software development to an overseas subsidiary or other overseas company

Objectives:

① Reduce development costs

② Compensate for inadequate human resources

③ In the case of China: to enter the Chinese market

➡ Provide support to Japanese-owned companies in Chinese markets

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Offshore Software Developers for Which Japanese Companies Hold High Expectations

(Unit: Company/Multiple Answers)

Country or region		Companies that outsourced overseas		Companies considering using outsource overseas		Total	
		2003 (58 companies)	2004 (58 companies)	2003 (204 companies)	2004 (193 companies)	2003 (262 companies)	2004 (251 companies)
1	China	48	54	127	120	175	173
2	India	21	21	61	56	82	76
3	South Korea	13	12	53	53	66	64
4	Vietnam	13	16	13	18	26	34
5	Taiwan	3	1	11	19	14	20
6	USA	2	1	11	14	13	15
7	Thailand	1	1	1	9	2	10
8	Hong Kong	0	0	3	6	3	6
9	Singapore	2	1	8	4	10	5
10	Philippines	3	2	2	2	5	4
	Other	14	2	10	14	24	16
	No response	3	1	57	45	60	46

Source: JISA, JEITA, JPSA
"2004 Survey of Overseas Transactions in the Field of Computer Software & Employment of Foreigners in Japan"

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Offshore Software Developers Utilized by Japanese Companies

(Unit: JPY million)

Country or region		2002 (58 companies)	2003 (58 companies)	2004 (77 companies)	2004 compared with 2003
1	China	9,833	26,280	33,241	126. 5%
2	USA	3,260	4,988	5,147	103. 2%
3	India	1,908	6,312	4,255	67. 4%
4	Australia	0	2,626	3,133	119. 3%
5	UK	20	1,827	2,126	116. 4%
6	Philippines	1,864	2,494	2,117	84. 9%
7	South Korea	1,952	1,871	1,415	75. 6%
8	France	0	834	548	65. 7%
9	Canada	496	616	292	47. 4%
10	Vietnam	30	30	216	720. 0%
Other		888	1082	237	21. 9%
Total		20,251	48,960	52,727	107. 7%

Source: JISA, JEITA, JPSA

"2005 Survey of Overseas Transactions in the Field of Computer Software & Employment of Foreigners in Japan"

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Comparison of China, India, the Philippines & Vietnam

Software industry size	China	India	Philippines	Vietnam
Total sales	JPY 8.7 trillion (2007)	JPY 3.3trillion (2007)	JPY 150 billion (2005)	JPY 38.7 billion (2006)
Total Export	JPY 606 billion (2006)	JPY 2.5 trillion (2006)	JPY 1050 billion (2005)	JPY 11.2 billion (2006)
Export Ratio to Japan	60% (2006)	3% (2006)	- - -	10% ? (2010)
Software engineers	400,000 (2005)	1,300,000 (2007)	160,000 (2005)	35,000 (2007)
No. of IT-related graduates	340,000 (2005)	280,000 (IT) 500,000 (Engineering) (2006)	80,000 (2006)	10,000 (every year)
Monthly salary (middle engineers)	US$120-600	US$250-430 (2004)	US$140-230 (Elementary)	US$170-360

Source: CICC **"Asia IT Report 2008 – Comparative Study on IT Status in Asia"**

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Offshore Software Development-related Issues Attributable to Japanese Companies

① Japan-specific business practices
- Closed nature of the market
- Multilayered subcontractor structure
- Contract ambiguity

② Japanese-style development methods
- Ambiguity of required specifications
- Frequent specification changes

③ Communication
- Difficulty communicating in foreign languages

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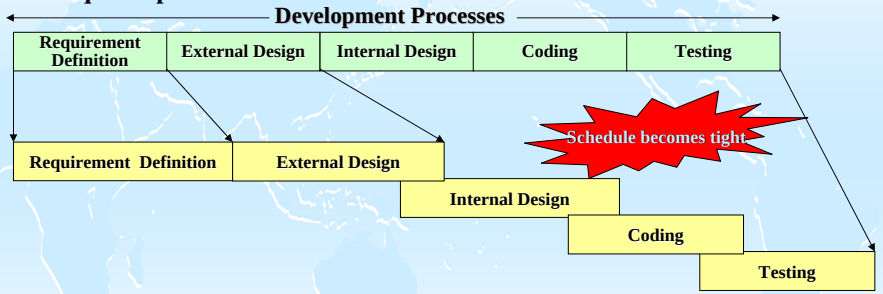
Problems Related to Japanese Development Methods

-Ambiguity of required specs
-Frequent spec modifications



Specifications are continually changed but short lead-times are still required.

Impossible to secure man-hours required for design revisions, document updates, and testing

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Offshore Software Development-related Issues Attributable to Offshore Companies

① **Confidential information leaks**
- **Sense of loyalty is extremely weak**
- **Employee turnover rate is extremely high**

② **Internal training**
- **No sharing of technical skills**

③ **Development environment**
- **Power sources, networks, and other elements are unstable**
- **Development tools are inadequate**

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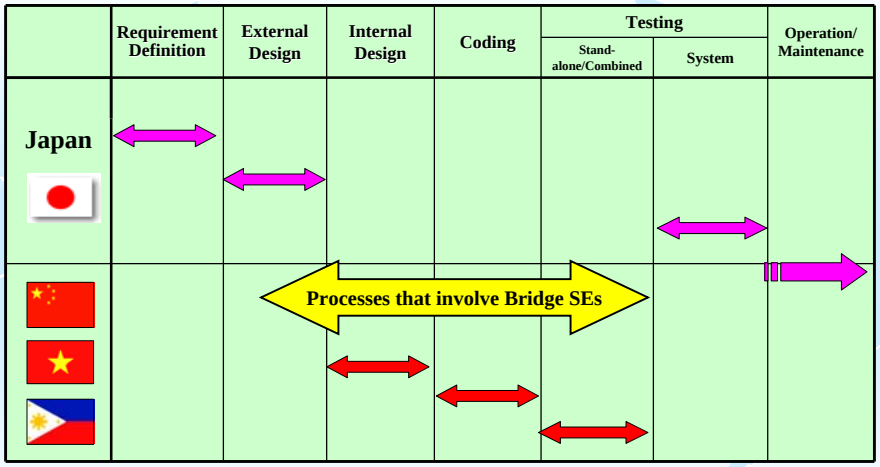
Offshore Software Development Process Examples



Source: Individual interviews

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What Is a Bridge SE?

Definition:

A Bridge SE works at the subcontractor's location and serves as a liaison between the contractor and the subcontractor in an effort to effectively facilitate the project.

Required skills:

① SE (System Engineer) technical skills

② Language skills (excellent Japanese-language skills), a superb awareness of cultural and business practice differences, and expert knowledge of project development

③ PM (Project Manager) skills
- Understanding of contractual terms
- Schedule management
- Risk management

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/005
Agenda Item: 2.2

Outsourcing by Omron Software Co.,Ltd

Purpose: Information
Submitted by: Japan

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Outsourcing
by Omron Software Co.,Ltd.

October 27, 2008

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Table of Contents

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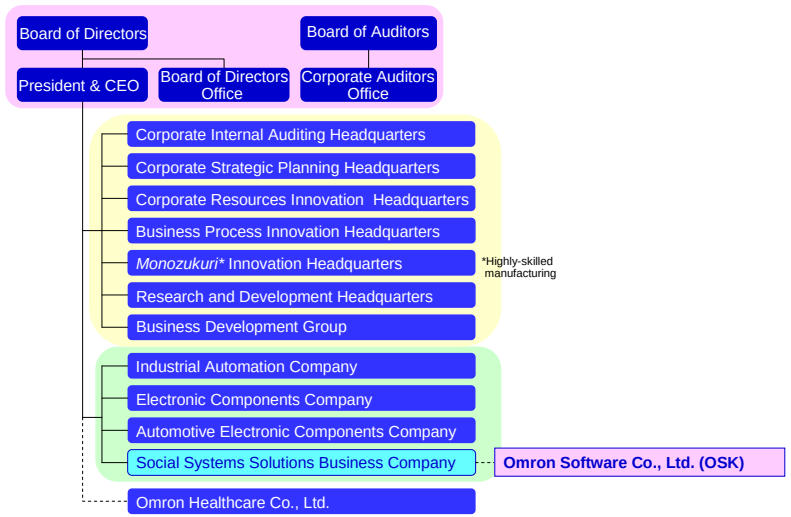
Omron Group Organization Chart

Omron Software, a member of Omron Group, has an edge in software technology.



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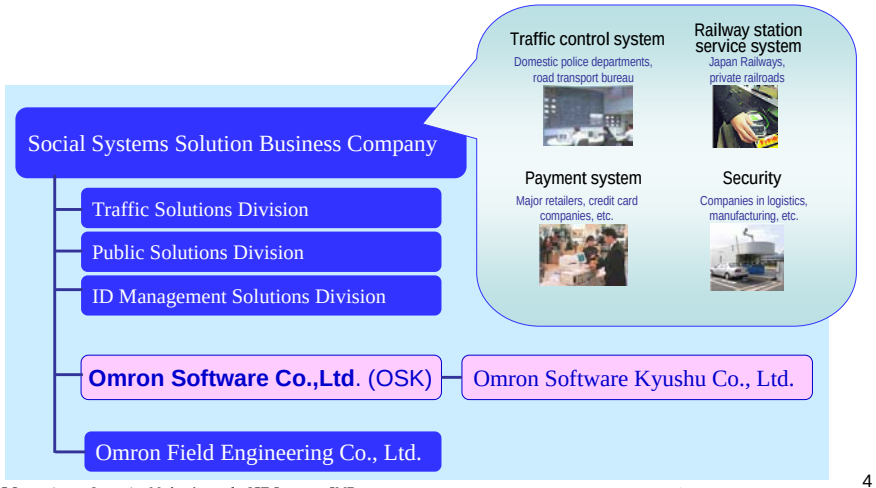
Social Systems Solution Business Company (SSB) : Businesses and Organization

SSB company provides value of security, safety, and convenience to social infrastructures in Japan.



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OSK Group: Overview and Organization

- Omron Software Co., Ltd.
  - Industrial Solution Business Division — Business①
  - Mobile Solution Business Division — Business ②
  - Supply Chain Service Division — Business ③
  - Planning Office
  - Internal Control Promotion Office
  - Quality Assurance Department
  - Overseas Commission Promotion Project
- Omron Software Kyushu Co., Ltd.
  - Social System Solution Division — Business ④
  - SSB * Business Development Dept.
    *Social Systems Solutions Business Company
  - Financial System Business Dept.
  - Strategy & Planning Office

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OSK Group: Overview

- Omron Software Co., Ltd.
  - Industrial Solution Business Division
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  - Supply Chain Service Division
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  - Quality Assurance Department
  - Overseas Commission Promotion Project
- Omron Software Kyushu Co., Ltd.
  - Social System Solution Division
  - SSB * Business Development Dept.
    *Social Systems Solutions Business Company
  - Financial System Business Dept.
  - Strategy & Planning Office

Industrial Solution Business Division

Providing highly reliable factory automation (FA) components and middleware through Omron's FA know-how and embedded technologies

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OSK Group: Overview

- Omron Software Co., Ltd.
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- Omron Software Kyushu Co., Ltd.
  - Social System Solution Division
  - SSB * Business Development Dept.
    *Social Systems Solutions Business Company
  - Financial System Business Dept.
  - Strategy & Planning Office

Mobile Solution Business Division

Providing comfortable user interfaces for mobile appliances through natural language processing and embedded technologies

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OSK Group: Overview

- Omron Software Co., Ltd.
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  - Mobile Solution Business Division
  - Supply Chain Service Division
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- Omron Software Kyushu Co., Ltd.
  - Social System Solution Division
  - SSB * Business Development Dept.
    *Social Systems Solutions Business Company
  - Financial System Business Dept.
  - Strategy & Planning Office

Supply Chain Service Division

Providing value of security, safety, and efficiency based on our supply-chain expertise in retail, manufacturing, and logistics

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OSK Group: Overview

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  - Social System Solution Division
    - SSB * Business Development Dept.
      *Social Systems Solutions Business Company
    - Financial System Business Dept.
    - Strategy & Planning Office

Social System Solution Division

Providing highly reliable social infrastructures through our know-how and embedded technologies

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OSK Group: Overview

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Overseas Development

Overseas Companies

Mission

- ◆Support our overseas developments
- ◆Establish internal procedures for overseas developments
- ◆Plan to improve and maintain quality of overseas developments

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Summary of Outsourcing

■ Size : (Results in FY2007)

Domestic outsourcing about 3,300 man-months

Overseas outsourcing about 700 man-months

■ Outsourcing contents :
Software development

■ Outsourcing processes :

Development Process	Domestic	Overseas
CD: Concept design	○	×
FD: Function design	○	△
SD: Structure design	○	○
MD: Module design	○	○
PG: Programming	○	○
MB: Monolithic debug	○	○
SB: Synthesis debug	○	○
FB: Function debug	○	△
TG: Testing	○	×

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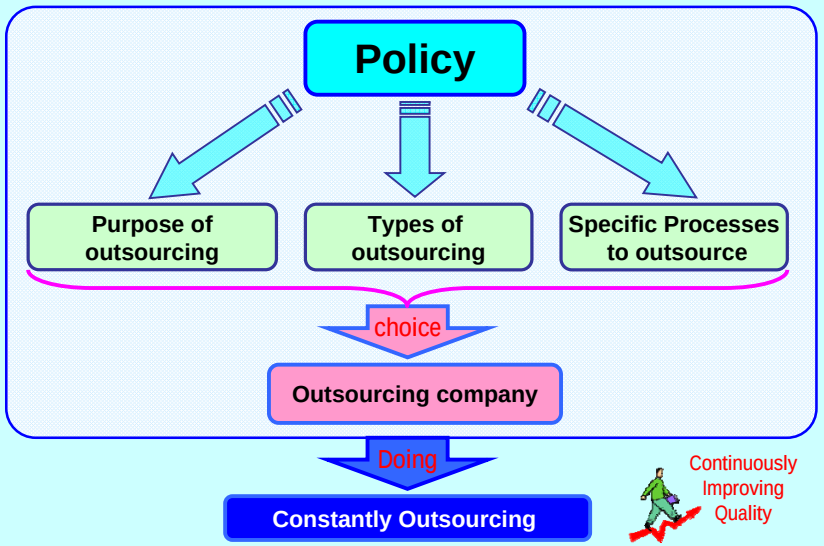
Establishing Outsource Policy



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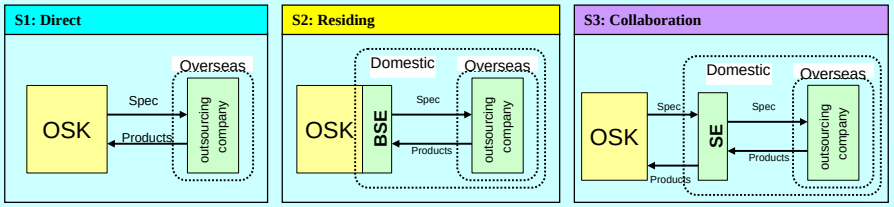
Outsourcing Style



Direct

Most efficient but difficult to manage outsourcing companies

Residing

Efficient but depends on skills of BSE

Collaboration

Free from overseas business practices and culture

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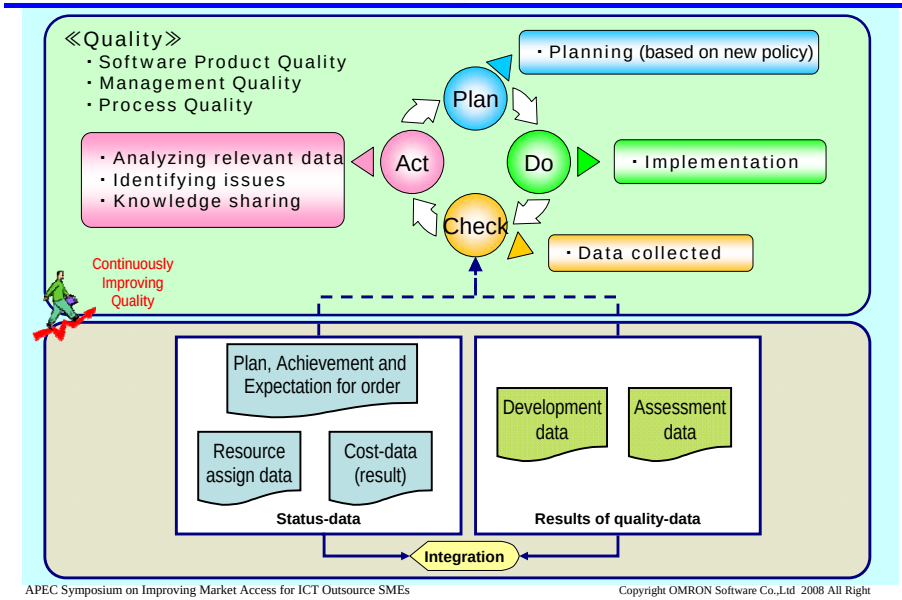
General Systems of Maintaining Quality



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Issues of Overseas Outsourcing

- **Quality**
  - Different concepts of quality
  - Securing quality when specifications are constantly changed
  - Deterioration of quality due to insufficient reviewing
- **Different interpretation of specifications**
  - Lack of communication
  - Lack of domain knowledge/understanding
- **Cost performance**
  - Effect of cost reduction on the total cost

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Expectations of Overseas Contractors

- **Quality**
  - **High quality awareness**
    - Understanding Japanese quality concept
  - **Continuing efforts for quality improvement**
    - Quality improvement within the organization
- **Delivery**
  - **Understanding Japanese delivery concept**
    - The delivery date never changes, because various works after delivery are already planned.
- **Maintaining Cost / Performance Excellence**
  - **Supplying excellent performance and cost efficiency**
  - **Employing and training excellent human resources more aggressively**
- **Management of security**
  - **Maintaining confidentiality and customer information privacy**
- **Problem-Identifying and Solving Skills**
  - **Being proactive in finding and solving problems independently**

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/006
Agenda Item: 3.1

Key Factors Required to Attract ICT Outsourcing Customers

Purpose: Information
Submitted by: USA

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

APEC Symposium on
"Improving Market Access for
ICT Outsource SMEs"
27-29 October 2008
Ha Noi Vietnam

'Key factors required to attract ICT outsourcing customers'

Michael Mudd
Director of Public Policy,
Asia - Pacific
CompTIA
Speaker United States
Chair, Amcham Hanoi ITTI Committee -2008

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Agenda

- Outsourcing Destinations
- What can you offshore?
- Case study – India
- Factors affecting offshoring
- Standards, security and IPR
- Opportunities for APEC SME's
- Conclusions and recommendations

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The 'recent' IT past

- 1940's - 'Silicon Valley' – HP/Stanford
- 1950's - Cambridge - Both UK and USA
- 1950's - Sony Japan, Siemens Germany
- 1960's - National 'Electronics' Ministries
- 1970's - Mass availability of semiconductors
- 1970's - India does first outsourcing work
- 1980's - China adopts market economy
- 1990's – Internet changes everything
- 2000's - Tech boom and bust and bpo boom!

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Offshore Destinations today

- India
- China
- Malaysia
- Hungary
- Poland
- Australia
- The Philippines
- Jamaica
- Russia
- Slovakia

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Review of what you can Offshore

- Core and Critical - e.g. R&D, Strategic Planning
- Core and noncritical – e.g. Pharma Clinical trials
- Nonecore and critical- e.g. IT Services, Document processing, Manufacturing, HR, Finance, Call centre
- Nonecore and Noncritical- e.g. janitorial, travel, food services

From Siva Namasivayan IT Pro Jan 2004

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What India concentrated on

- Core and Critical - e.g. R & D, Strategic Planning
- Core and noncritical – e.g. Pharma Clinical trials
- Nonecore and critical- e.g. IT Services, Document processing Manufacturing, HR, Finance, Call centre
- Nonecore and Noncritical- e.g. janitorial, travel, food services

From Siva Namasivayan IT Pro Jan 2004

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Why Did India emerge first?

- Look at some of the problems
  - Developing country
  - Poor physical infrastructure
  - Protectionist policies
  - Sclerotic legal system
  - Poor Intellectual property enforcement
  - Perceived high level of corruption

Does APEC face the same challenges?

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India BPO Timeline

- 1967 - Tata Consultancy Services (TCS) established
- 1972 - Govt. Dept of Electronics established
- 1974 - TCS completes first software export project for Iran
- 1982 - India has US$12m in software export revenues - largest of any developing nation
- 1986 - DoE announced software policy
- 1986 - Adoption of UNIX for banking industry, leading to standardization of the platform for banking – 480 systems shipped 1986-87

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Timeline -2

- 1986 - Texas Instruments establishes software park – Bangalore/Bengaluru
- 1987-88 - 1,400 UNIX systems shipped
- 1988 - Centre for Development of Advanced Computing built first supercomputer - Param 8000
- 1989 – Est 500 software companies in business, mainly in accounting packages
- 1992 - Satellite gateway for software exporters established
- 1995 - VSNL launches internet gateway.

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Timeline - 3

- 1998 - NASSCOM established to drive outsourcing, Indian companies begin to adopt Software Engineering Institute - Capability Maturity Model (SEI-CMM®) standards
- 2000 – Y2K earns Indian companies' est. US$2.5bn in outsourcing - creating brand equity of the industry.
- 2001 – dotcom collapse sent 1,000's of Silicon Valley H1B Visa holders back to India - with increased domain knowledge… and a global network.
- 2002 - industry transforms from accounting packages to diversified services, call centres, processing, programming.
- 2003 – TCS becomes first US$1bn+ Indian outsourcing co
- 2004 about 500,000 employed in IT export industry
- 2006 rises to over 1 million

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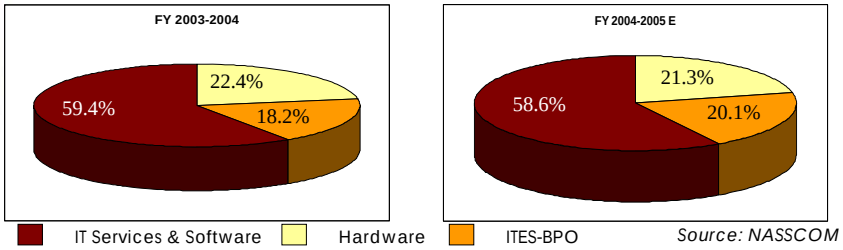
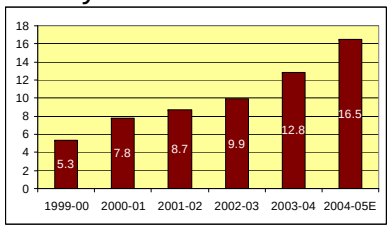
Indian IT Industry



Source: NASSCOM

Software Industry Growth FY 2000-05E - USD Billions



Source: NASSCOM

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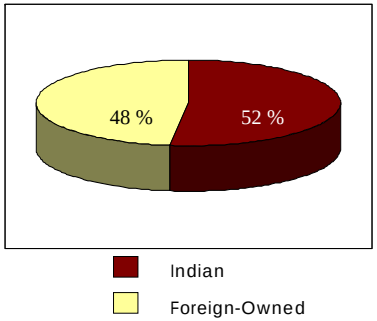
Key service and software co's: Foreign & Indian Owned

Rank	Company	Revenues USD MN
1	Tata Consultancy Services	1335
2	Wipro Ltd.	1177
3	Infosys Technologies	1094
4	Hewlett Packard India	1049
5	IBM India	625
6	Satyam Computer Services	582
7	Tech Pacific India	495
8	HCL Technologies	481
9	Intel Technology India	477
10	Redington India	426



Source: Dataquest India 2005

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Major Players in the Indian Market

Third Party	Captive
Convergys	ABN AMRO
HCL Technologies	Bank Of America
IBM Daksh	British Airways
ICICI OneSource	Citibank
Mphasis BPO	Dell International Svcs
Progeon	GE Capital Services
TCS	HSBC
Wipro	JP Morgan
Satyam	Morgan Stanley

Foreign investment – Captive centre growth.

IBM largest – 2004 bought Dakash, (remote voice/web support) with 6000 staff, 5 centers in India, plus one in the Philippines - for US$150m.

- **Unisys – Will invest US$180m 2004-9 to employ 2000 developers**
- **AMD – increasing investment in Bangalore/Bengaloru with Chip Design centre - by 2005 will employ 120 chip designers and developers.**
- **3Com – Software centre employs 100 developers for VOIP**
- **Major banks building their own in Chennai, Hyderabad, Bangalore, (also Telco's)**
- **Office Tiger (US) Secures US$50m Funding to buy outsourcing companies in India and US**

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The Role of IPR

- Indian software industry started in 1974 with adoption by banks of UNIX under licence from Xerox – standards based/govt incentivized
- IPR enforcement similar to China, low compared to world average
- Vietnam is similar – but improving
- Need to assure foreign companies their IPR is safe and to have recourse if a problem occurs
- Required under WTO trade rules (TRIPS)

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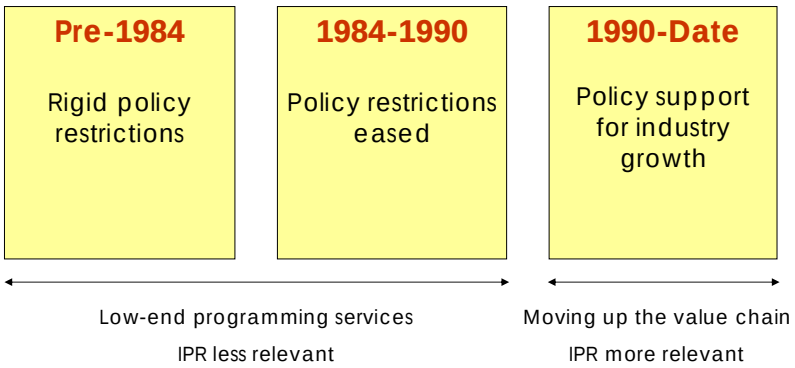
Software Industry Growth Phases

Role of IPR closely associated with industry growth



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Challenges facing the Indian Industry

- **Moving up the Value Chain**
  - Need significant domain knowledge and expertise
  - Provide end-to-end solutions
- **Shrinking Profit Margins**
  - High capital investments
  - Increased competition leading to drop in billing rates
  - Appreciation of the rupee against the US Dollar
- **Ability to quickly achieve scale**
  - Large customers prefer Vendors with Size
  - Large Vendors command a Premium price due to track record
  - Economies of scale help margins

Source:NASSCOM

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Challenges /Cont'd

- **High Attrition (25 – 40%) – Hence companies are:**
  - Careful selection to avoid job jumpers
  - Setting up operations in Class B and Class C towns
- **Infrastructure Challenges**
  - Telecom infrastructure
  - Local Infrastructure
- **Increasing backlash from US and UK on issue of outsourcing**

Source:NASSCOM

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But not all is rosy

- Increased competition – China, Malaysia Philippines - and now Vietnam?
- Political backlash from US/EU/Aust.
- Job hopping with 20%+ salary increases
- Due to preferences, (taxes, land, import tariffs removed),
  - No benefit for domestic producers
  - They can't afford the same top talent
  - Sectoral development - geography.
- Outside exports, there are still IPR issues
- By 2010 still only 0.1% pop'n directly benefit

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India overcame the problems

- Positive Govt Policy – Est. well run Govt Agency
  - Licensing of commercial IPR for export
  - Private Infrastructure development
  - Protections for Foreign investors of their IPR
- Business got started with commercial software
  - –Key MNC investment
- Local Entrepreneurs learned best practice overseas – legal/business
- Adopted CMM, most are level 4 (out of 5)
- Successfully moved from c*ost* based to v*alue* based proposition – past 10 years

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Trends in the Offshore/BPO Market

- Market Consolidation- Large number of acquisitions due to:
  - Capital intensive nature making growth difficult for small players
- Increase in third-party multiple vendor contracts:
  - Provides scalability, de-risking and competitive pricing to customers
- Foray beyond contact center into transactional processing
  - Decline in contribution to revenues from pure-play call centre business
- Growing Demand for High Quality, skilled workforce
  - Large pool of educated, English speaking manpower

Cont'd...

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Trends/Cont'd.

- Vendor Polarization
  - Biggest growth among the large players
  - Customer preference for size, track record and client references
- Increase in presence of IT Service companies
  - Provides scalability, de-risking and competitive pricing to customers
  - Ability to provide end-to-end solutions
- Customer demand for Quality
  - Quality centric – COPC, SEI-CMM, ISO, Six Sigma, TQM

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Offshore Issues - Infrastructure

- Supply of educated workers
- Reliable and fast Telecoms
- Predictable cost structure
  - Cost of Processing staff
  - Cost of premises
  - Cost of Telecoms/Internet
- Management Talent Pool
- Govt procurement policies

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The need for investment

- **A CompTIA-sponsored Nathan and Associates analysis of 57 countries found that countries that are under invested in IT capital have relatively larger percentages of total IT capital investment in IT hardware (62.2%) and less in software (13.3%).**
- **In other countries (with adequate IT investment), the hardware share of total IT investment is 36.3 percent; and the commercial software share is 21.5 percent of total IT investment.**
- **Software employs many more people that hardware in successful offshoring centers.**
- **Therefore education and training validated by certification os a pre requisite for success in offshoring and this levels the playing field, by ensuring a recognized quality level for overseas customers, thus increasing inflows on investment.**
- **Growth in software + training = sustainable growth in IT Offshoring and related supporting employment**

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Offshore Issues – Managing Risk

- **Political – homeland, white-collar backlash, local - national political, unions, professional associations, privacy**
- **Political – offshore - stability / tax laws / legal, education, qualification / certification, privacy, IPR protection**
- **Economic – exchange rates, profit repatriation, tax withholding**
- **Social – Talent pool, worker and management**
- **Technology- infrastructure, present / planned limits, outlook that affects operations e.g. RFID, Digital transactions (paperless airline tickets by end 2007)**
- **Operational- customer reaction / choice / service levels, data security, IPR security, Service Levels, loss of competencies.**

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Adoption of standards

- **A major contributor to the success of offshoring is being able to guarantee to your customers that their data will be able to be processed the way they do it back home**
- **So standards that enable both current and backward interopebility for legacy systems are key and a pre - requisite**
- **Standards, like any IT hardware/software or service, must evolve to take advantage of technology advances.**
- **If the industry is not fully engaged in the standards setting process, standards will suffer, as technology advances are not integrated into the process.**
- **The proprietary software industry (large and small companies) continues to generate the largest number of patents of any industry globally***

*Technology Review Patent Scorecard 2004

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IP and Security Issues

- Patent offices in the EU, the U.S. and Japan have been granting patents for software or computer-implemented inventions for decades.
- However in many APEC economies digital assets (software) is only covered by copyright that protects the IP in the code, but not the technical design, which is equally an innovative element.
- Security of data and customers IP is imperative
- Security, patent laws and the legal process are a competitive advantage for an economy that wants to be trusted with these assets.

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Appreciation of IP as a job creator for the offshoring industry

- When all stakeholders are fully engaged in the IP recognition process, economies have grown as the latest technology advances will be available to economies that recognize the digital IP asset process
- The EIU finds US and Japan provides the strongest environments for IT competitiveness with the legal (read IP) regime an important differentiator*
- IP respect *and* security is a prerequisite to grow offshoring
- This is a global challenge as the post Internet economy – 'IT IP' being digital - knows no physical borders

* http://www.eiuresources.com/mediadir/default.asp?PR=2007071101

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Emerging BPO Opportunities

- Education – Content/delivery
- Diversified content development
- Artistic renderings
- Remote Medical diagnosis

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Forecasts 2004-09

- Gartner 2007- value of outsourcing $173bn
- Forrester
  - 2008 total value of outsourcing $146bn
  - Sectors
    - Bulk processing $58bn
    - Shared services/HR $57bn
- Meta group respondents (650 corps)
  - 55% say India will be major destination for outsourcing for next 3-5 years
  - but China rising…
  - And others – Philippines and Vietnam

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Conclusion

- **BPO including Software Offshoring is an attractive export driven business that increases onshore skills**
- **Vietnam is well positioned to grow this due to workforce size age and education**
- **Govt policies should be equal for local and foreign Co's to encourage investment - which in turn will drive skills transfers.**
- **Competition needed in Telecoms to lower prices for centers inc adoption of VOIP as a service .**
- **Strong IPR protection a core prerequisite for offshoring**
- **Adoption of industry global standards vital to ensure data interoperability**
- **Encourage geographical diversity based on infrastructure development in the secondary cites as well as the large ones for wider social benefits**

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Thanks to

- Mr. Jayant Pendharkar – Tata Consultancy Services
- Mr. Sridhar Vedala - Mithras Consulting
- Mr Sergei Koperdak – CompTIA, Brussels, EU
- Ms. Melanie Wyne, CompTIA, Washington DC
- Sallstrom and Associates, Washington DC
- NASSCOM
- IDC
- Mr. Chee Chun Woei, Intelligen Singapore

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Thomas Friedman of the New York Times and author of the best-seller "The World is Flat" said…

"When we were young kids growing up in America, we were told to eat our vegetables at dinner and not leave them, Mothers said, 'think of the starving children in India and China and finish the dinner.'

And now I tell my children: 'Finish your math homework, think of the children in India and China who would make you starve, if you don't!"

Perhaps in his next edition he will add Vietnam!

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Thank You !

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/007
Agenda Item: 4.1

Offshore Software Outsourcing Servirces: a Case Study from CMC Software Solution

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

17th IT WEEK 2008
Improving Market Access for ICT Outsource SMEs
Sofitel Plaza Hanoi Hotel, Hanoi, Vietnam, October 27–29, 2008

Offshore Software Outsourcing Services

a case study from CMCSoft, Vietnam

Nguyen Quoc Tuan
Business Development Manager – Outsourcing services
CMC Software Solution Company Limited
A member of CMC Corporation

Content

- CMC Corporation and CMC Soft overview
- CMC Software outsourcing services: opportunities, strength and challenges
- How we proceed: Organization, quality, IP and information Security, sustained development

CMC CORP. OVERVIEW

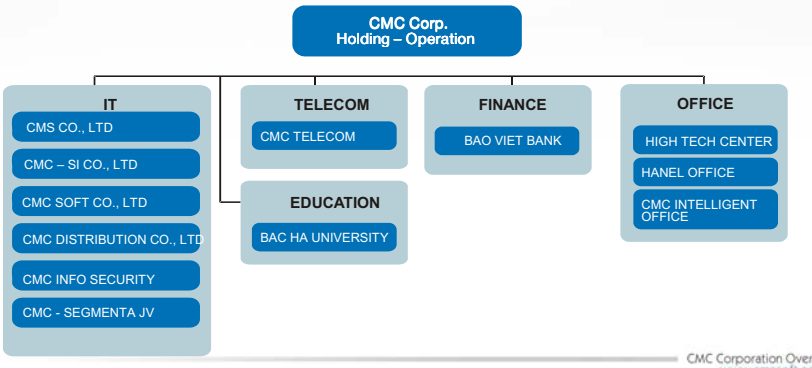
CMC Corporation - Holding

CMC corporation

Established in 1993: CMC Corp now is known as a leading ICT group in Vietnam

CMC Corp. is the corp. of ICT companies which are coordinated closely together in finance, legal, human resource, brand…

2007: 1000 employees and over 100 million USD of revenue.



Position in Vietnam

- **2Nd biggest** ICT Group in Vietnam
- Strategic partnership with the international leading ICT corporations: Microsoft, IBM, HP, Cisco, Oracle, Intel
- **Number 1**
  - in Government and Education markets Vietnamese Computer Brand
  - in software solutions for education, library, insurance, document and workflow management
  - in Open Source software solutions
- Reliable partner for all worldwide and domestic customers

Microsoft IBM cisco hp intel ORACLE COGNOS Infosys SAP

CMCSOFT

FROM OUTSOURCING PROJECTS TO STRATEGIC PARNERSHIP

CMC Software Solution Co.,Ltd
A member of CMC Corporation

General Information

- Founded in 1996, now recognized as **one of top 5 Vietnamese Software companies**
- CMCSoft - specialized in Software Development, Software Services, Software Solution and Outsourcing services.
- Domains of expertise: Finance, Insurance, E-Library, Education, Government, Enterprise industry, etc.
- 300 employees (over 200 developers and testers)

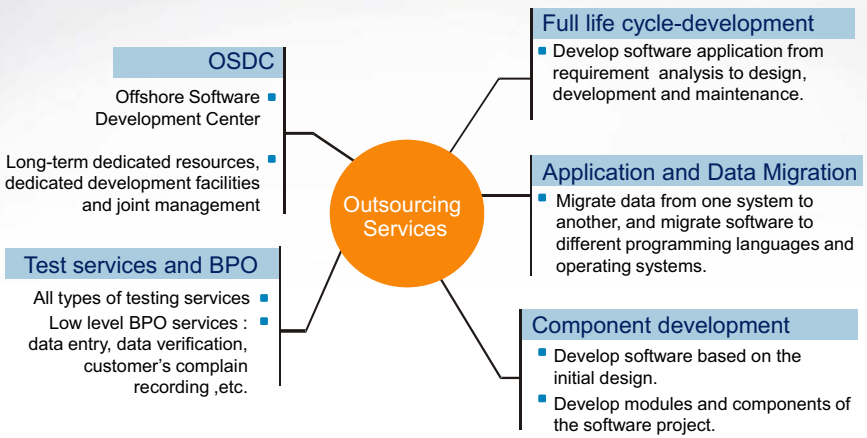
CMCSoft Head Office
14–16 Ham Long St., Hanoi

CMCSoft HCM Branch
65, 3/2 street, 10 District, Ho Chi Minh City

Products and services

Products	Services
▪ EDocMan : Document management and Workflow Management.	▪ Software development outsourcing service
▪ Electronic Library, Digital Library, knowledge portal (iLib,dLib,KPortal	▪ ERP Consulting, and implementing (Oracle, SAP)
▪ Education Management Information System (EMIS)	▪ BPO and Test services
▪ Finance and Insurance Solutions	▪ OSDC

CMC Outsourcing Services



Outsourcing services: markets overview

MARKET		Opportunities:	Challenges:
Japan	CMCSoft have established cooperation with Japan customers over the past five years. Large and medium projects have been implemented successfully	▪ Vietnam is known by Japanese companies as a destination of outsourcing with competitive advantages in terms of price, cheap labor costs ▪ Once successful projects are delivered, Japanese companies can gain confidence in the contractor company and establish long-term cooperation	▪ Japanese customers often strictly require the highest quality control of the project ▪ Language and cultural gap
Europe	On-going project with customers from France, UK and Belgium….	▪ After China, Vietnam is a new emerging and potential destination for outsourcing ▪ European customers is no longer focus on nearshore due to higher price, and overlapping projects ▪ Human resources in Vietnam are familiar with English and French languages	▪ Lack of common marketing strategy between IT companies to enhance Vietnamese image in terms of outsourcing in Europe ▪ Friction against offshoring trend and long decision-making life cycle

Outsourcing services: markets overview

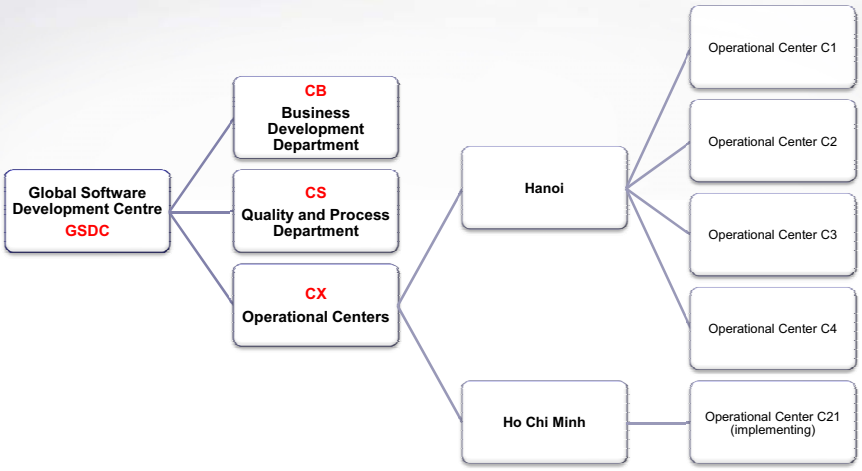
OTHER MARKETS

United state	Huge and difficult to approach Excellent English skill requires
Asia Pacific	Small financial attractiveness Potential market with emerging outsourcing needs from Australian customers.

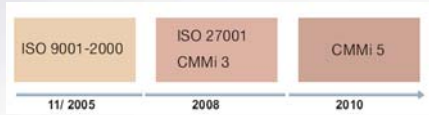
CMCSoft's advantages

- Industry experiences: 12 years of software development. Knowledge of specialized businesses, many experts in the developing areas.
- Standardized project management. Modern software development methodology
- Young, motivated and qualified human resources
- Capability for business expansion
- Outsourcing experiences
- Most of projects delivered on time, on budget
- Competitive price

How we proceed ? – Organization



How we proceed? - Quality assurance IP protection and information security

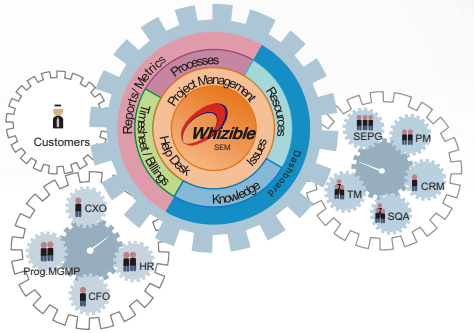


Quality Assurance:

Quality is one of the top goals of CMCSoft. Therefore, quality control is tightly carried out by separate and devoted P&Q departments through project development as well as support and maintenance.

Project Management Tool

Whizible SEM Connecting Projects, Processes and Customers



How we proceed? - Human Resource

- Over 200 developers
- Capability of immediate mobilization of more 100 supplementary developers

College degree: 45%	University degree: 50%	Master or higher degree: 5%

Recruitment process: BrainBench Test

Foreign language training (Japanese, English, French)
- Most of development staff can speak, read and write in English
- Bridge System Engineer Training and Dispatch Program

Technical Training
- Technical & Soft skills
- Processes, project management.

Strategic investor of BacHa international Universities. Partnership with leading technology universities.

Organizing for Offshore Outsourcing

Partnership Building

- Building Partnership on the basis of trust
- Frequent communication and exchange of information
- Building long-term relationship and strategic partnership on the basis of mutual understanding. Both sides need long-term planning.

Organizing for Offshore Outsourcing

Communication with customers

- Contact persons for both sides need to be assigned since very beginning.
- Group mail list for development team and contact points should be set up.
- Use various communication methods, such as e-mail, Yahoo Messenger, MSN, Skype, telephone, etc. according to project tasks. Video conference should be set up.
- Both structured communication (regular means for status updates) and unstructured communication (for team bonding) are required.
- Customer's report requirements must assiduously be met
- Miscommunication is the greatest risk in the project cycle.

Organizing for Offshore Outsourcing

Organizational issues

- Early prepare planning for all resources.
- Carefully select team leads for project.

  Strictly set up coordination mechanism of project teams
- Clearly define roles and responsibilities of all project team members.

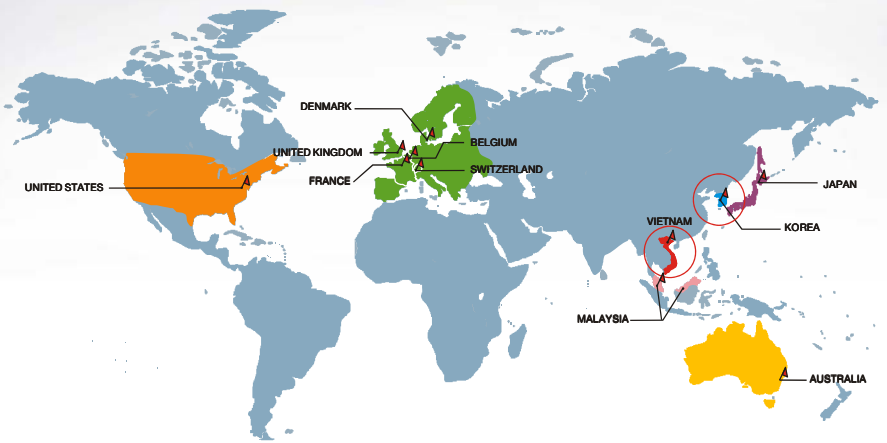
Plan a roadmap for improvement
to satisfy customers' demands

- Quality
- Security
- Reliability

How we proceed? - Markets Expansion

- Increase visibility through intensive and professional marketing campaigns
- Business development for each specific market
- Partner network around the world
- Active participation in conferences, workshops and forums

Outsourcing references



Software Outsourcing- opportunities

- Vietnam is considered a promising destination of Outsourcing due to competitive price, good supplier of skilful and assiduous workforce
- Abundant supply of engineers graduated with Bachelor degree in Information Technology: 25,000 software technician and engineers, expectedly 55,000-60,000 in 2010. Almost IT technicians are young, dynamic , creative
- Technical engineers have thorough understanding of popular technologies, familiar with English, French
- About 100 universities, over 150 colleges and vocational schools with IT curriculum. International IT education programs are under operation, such as IFI, APTECH, NIIT, RMIT.

Software Outsourcing – Challenges

- Lack of efficient common marketing strategies
- IT companies need to invest in training workforce
- Languages skill, working process of the workforce should be improved to ensure the high quality of services offer
- Lack of professional working methodologies
- Foreign language: Poor oral communication skill
- Actual financial crisis

Thank you

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/008
Agenda Item: 4.2

Software Outsourcing for Japan Market - a Practical Approach at Company Level

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Software Outsourcing for Japan market - A practical approach at company level

Le Xuan Hai
CEO of Vietsoftware International

Agenda

- Opportunities and Requests of Japan outsourcing market.
- Current status of Japan outsourcing market in Vietnam and VSII.
- Problems and solution
- Recommendation

Opportunities and Requests

- Opportunities
  - Need millions software engineers per years
  - 70,000 embedded engineers
- Requests
  - Quality of Vietnam IT engineer including: technical skills, software development process...(29%)
  - Japanese capability of Vietnam companies (28%)
  - Cost (22%)
  - Others as: management system, geography distance ... (11%)

Current Status

- Outsourcing industry of Vietnam
  - Graduated IT engineers per years: 10,000 people.
  - Working for outsourcing projects related to Japanese market: ~ 5000 people (0.05%).
  - Successful outsourcing service companies for Japan market: < 10.

Current Status

- Vietsoftware International
  - Established 2005 with 12 developers focus on USA, Japan, Europe outsourcing market.
  - 2008:
    - Greater 120 engineers works for projects of USA, Europe.
    - 15 engineers dedicated for Japan market but only 3 engineers have regular jobs.

Problems

- Japanese capability of Vietnam IT engineer
  - 4 years in Vietnam
  - 2 years in Japan
- Long time for take collaboration opportunities going alive
  - 2 – 4 years
  - Financial capability of Vietnam company is not enough for long term investment without real projects.

Solutions

- Vietnam side
  - Improving Japanese skills, technical skills, software development process of staffs.
  - Training staffs about: Japanese business manner, Japanese culture, 5S, Horensou ...
  - Investment for long-term business relationship with Japanese partnerships
- Japan side
  - Shortly go alive collaboration opportunities with Vietnam partner.
  - Supporting Vietnam companies improves their capability by giving some pilot projects.

Questions and Answers

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/009
Agenda Item: 5.1

QTSC - A World Class Software Outsourcing in Vietnam

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

QTSC - A World Class Software Outsourcing in Vietnam

"Your success is ours"

Agenda

1. Hochiminh City – an economic hub
2. QTSC – 5 Key advantages of software outsourcing
3. Conclusion

"Your success is ours"

Hochiminh City - an economic hub

- 8-million-people City is the biggest economic
- 20%+ of the country's GDP
- 100,000+ companies (30% of Vietnam) registered
- 3 EPZs, 1 high tech , 2 software and 12 Industrial parks
- 3,000 foreign rep offices from 60 countries.
- 80 universities & colleges with 400,000 students
- The biggest airport with 10 million passengers and Saion port - biggest seaport with 40,000,000 MT

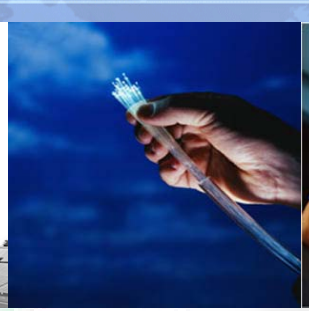
"Your success is ours"

Overview

- 15 mins International airport and 40 mins form downtown
- 7 years operation
- Based on Software City concept with 430,000sqm
- Linking to New urban area (education hub, industrial zone, tech parks, …)
- Becoming new town and a center of Greater Hochiminh City

"Your success is ours"

Quang Trung Software City
5 Key advantages of software outsourcing


Human Resources

- Hoa Sen University
- FPT University
- IT University
- HCMC IT training center

- Houston Community College (USA)
- NIIT (India)
- SK Telecom (Korea)
- UK Brain (Japan)

11,500+ students

600 students per year

Human Resources

- Networking with 30+ universities and colleges in HCMC
- Searching on candidates
- IT Job fair on March
- Connecting training center and enterprises



Telecom Infrastructure

- Fiber Optical Ring Network connect to 4 internet gateway
- Backup generator for each building
- Data center with 1,000sqm
- Bandwidth on demand
- Multiple choice services
- 24 x 7 x 365


Facilities & Services

- 18 office leasing
- 10 routes bus from downtown
- 2 banking
- 5 restaurants and canteens
- 120 apartments and 18 villas
- 1 kindergarten
- Post office, business center, …

"Your success is ours"

Coming up …

Saigon Intelligence 2010

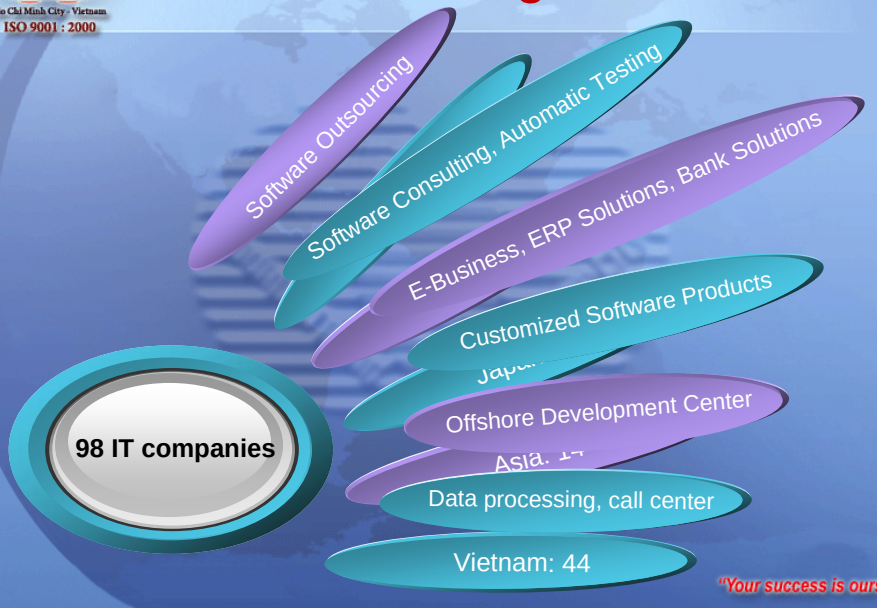
TMA Building 2009

Sunrise Office 2009

Saigon Sky Exhibition Center 2009

"Your success is ours"

Your Outsourcing Partners



"Your success is ours"

Your Outsourcing Partners

"Your success is ours"

Support and Marketing network

- Top incentives Tax from Government
- Save cost
- Easy to touch IT community
- Improve your brand name
- Get opportunities for growing

"Your success is ours"

Support and Marketing network

Business ideas

Young company within 2 years

Ready to do business

Incubation Center
(4 incubates)

"Your success is ours"

Support and Marketing network

"Your success is ours"

You are …

"Your success is ours"

Summary

QTSC located in Hochiminh City

- Location
- Economic hub

QTSC - 5 Key advantages of software outsourcing

- Human resources
- Telecom Infrastructure
- Facilities and Services
- Outsourcing Partners
- Support and Marketing network

"Your success is ours"

Thank You

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/010
Agenda Item: 5.3

Open source in outsourcing project: Difficulties and Challenges

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Tinhvân OUTSOURCING

PROFESSIONAL IN THE FLAT WORLD

Open Source in outsourcing project
Difficulties and Challenges

Hung Dao

Tinhvan Outsourcing JSC, Tinhvan group www.tvo
www.tvo.vn

Why Go Open Source Software(OSS)?

PROFESSIONAL IN THE FLAT WORLD

Developer motivation: developer interest in the project and support for free software aims

Development economics: reducing the cost of developing the product

Market adoption: increasing the utility of the product to customers

OSS trends in Outsourcing

PROFESSIONAL IN THE FLAT WORLD

Revenue based on Linux and OS environments is growing rapidly worldwide, 36 percent between 2004 and 2008

In Vietnam

PROFESSIONAL IN THE FLAT WORLD

Low percentage in comparison with other technology

Some Companies specialized in OSS

License regime: OSS vs. Proprietary

Difficulties and Challenges

PROFESSIONAL IN THE FLAT WORLD

Education and training in Vietnam: Major in MS technology (Windows, .NET, SQL server)

Business line: Game, Mobile applications….

Proprietary model of software development (IBM and HP) are not widely poplar in Vietnam

Difficulties and Challenges

PROFESSIONAL IN THE FLAT WORLD

Promotion and support for open source :

- **Government support:**
  - **Associations of OSS**
  - **Event, conference, campaign for OSS**

- **Enterprise: lack of big project in some typical domains**

OSS or NOT

PROFESSIONAL IN THE FLAT WORLD

OSS is not an option, but an imperative, in order to maintain market share

Client perspective:

- Business model and license regimes: OSS license terms may preclude from using the business models client are planning to use

Provider perspective:

- New or existing project using open source domain?
- Technical competence?
- Productive and Efficiency?

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/011
Agenda Item: 6.2

What Software and to What Extent Vietnamese SMEs Need - Opportunities for Software Suppliers

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

PROJ 191

What software and to what extent Vietnamese SMEs need - opportunities for software suppliers approaching

MSc. LE VAN LOI
Institute of Information Technology for Business (ITB)
Vietnam Chamber of Commerce and Industry (VCCI)

PROJ 191

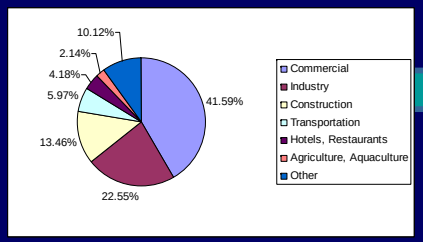
Software for SMEs – Do we know Vietnamese SMEs? (1)

- *Definition*: registered capital not exceeding VND 10 billion or annual labor not exceeding 300 laborers in work force
- *Private sector*: under Enterprise Law
- *State-owned*: under State Enterprise Law
- *Cooperatives*: under the Cooperative Law
- *Business households*: under the Government Decree No. 02/2000/ND-CP (Feb. 2000)

PROJ 191

Software for SMEs – Do we know Vietnamese SMEs? (2)

- Up to the end of 2005:
  - No of SMEs: 113.352, up to the end of 2007: 225,000
  - Commercial: 41.59%
  - Industry: 22.55%
  - Construction: 13.46%
  - Transportation: 5.97%
  - Hotels, restaurants: 4.18%
  - Agriculture, Aquaculture: 2.14%
  - Other: 10.12%



PROJ 191

Software for SMEs – Do we know Vietnamese SMEs? (3)

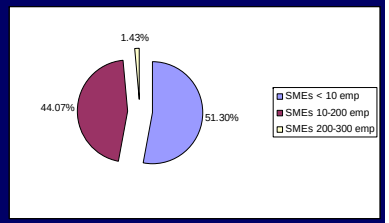
- Up to the end of 2005:
  - 53% of GDP, now believed some 56% of GDP
  - Mobilize about 55% of investment
  - Jobs: 541,000
  - *SMEs have made a considerable contribution to national output and State budget income.*
  - *SMEs created a significant number of jobs and generated incomes for laborers.*
  - *SMEs have actively participated in manufacturing, retail and service businesses and contributed to foreign currency balance through exports.*
  - *SME helped restore, maintain and develop traditional handicraft villages.*

Software for SMEs – Do we know Vietnamese SMEs? (4)

- **Weaknesses and shortcomings in SME development (up to 2005)**
  - Better growth but low performance, efficiency
  - Ratio of benefit / capital investment is low: 4.42%
  - No of enterprises with loss 27.35%
  - No of enterprises with profit 62.58%
  - Most SMEs do not realize the great impact of globalization, the international and regional integration process on the domestic economy
  - Most SMEs are of a small scale, have limited capital, a small number of employees, operate dispersedly, and do not have enough skills to compete effectively in increasingly liberal markets.

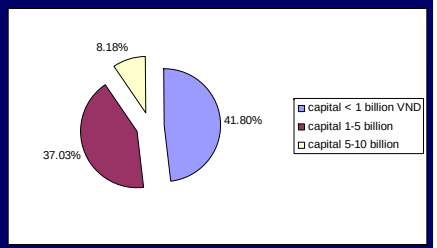
Software for SMEs – Do we know Vietnamese SMEs? (5)

- **Up to 2005:**
  - SMEs < 10 employees: 51.3%
  - SMEs 10-200 employees: 44.07%
  - SMEs 200-300 employees: 1.43%
  - Total: 96.80%



Software for SMEs – Do we know Vietnamese SMEs? (6)

- **Up to 2005:**
  - capital < 1 billion VND: 41.8%
  - capital 1-5 billion: 37.03 %
  - capital 5-10 billion: 8.18%
  - Total: 87.01%



ICT for better competitiveness

- International integration process and sustainable development of SMEs
- ICT actually becomes a vital infrastructure part of any enterprise
- After becoming a member of WTO, needs a higher and sharp competitiveness for SME sector: the world now is flat and any business body is equal to each other

Goal of this discussion

- A diagram of Vietnamese SMEs software needs (too ambitious?)
- A sorted classification of software types by SMEs' need (Descendant)

ICT adoption in SMEs

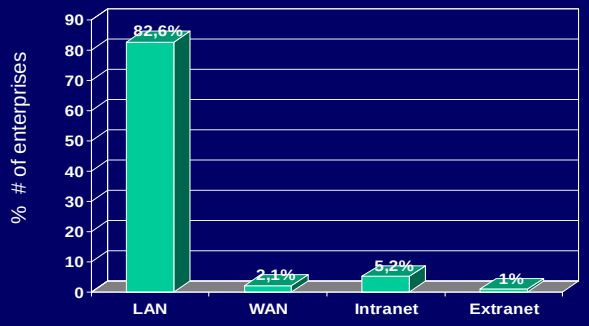
- Not very well aware of what ICT can help them in their businesses
  - Add-on investment, not a planned investment
  - Most buy hardware, hardly ever buy software
  - When they buy a PC, they believe that just like a TV set, everything is in there
- Purchasing ICT (hard, comm & soft) is by spontaneous need for a particular use in some particular units.
- Most lack planned, long term ICT investment

ICT infrastructure

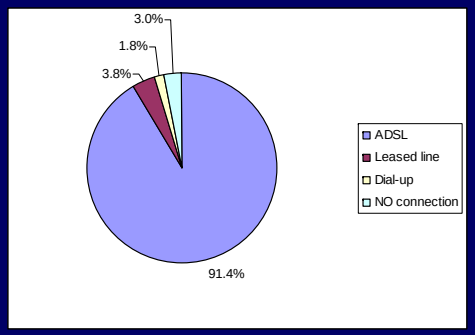
- Server
  - Most still not having a server while many have a LAN serving their information exchange
  - Many not sure of what a server can do – so a LAN with an ADSL would be very happy
- Number of PCs in an enterprise >>

# of PCs	%
0	0,1
1- 10	54,8
11- 20	17,9
21- 50	16,1
51 - 100	7,6
101 - 200	2,7
> 200	0,8

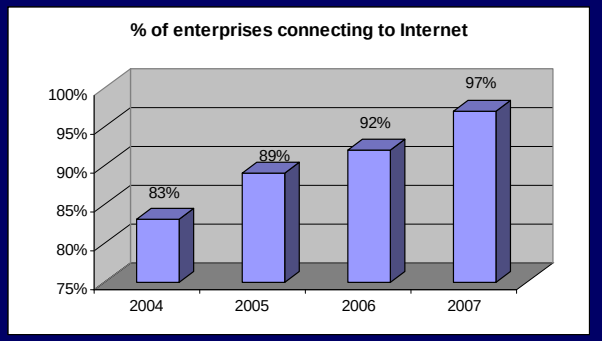
Network usage



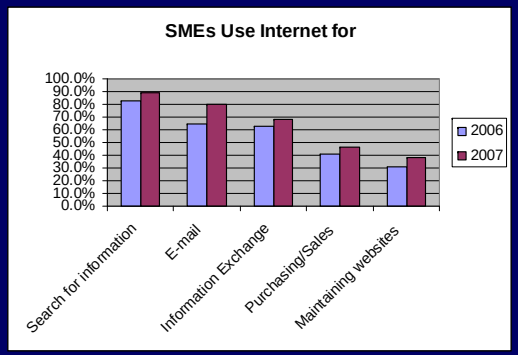
How SMEs connect to Internet?



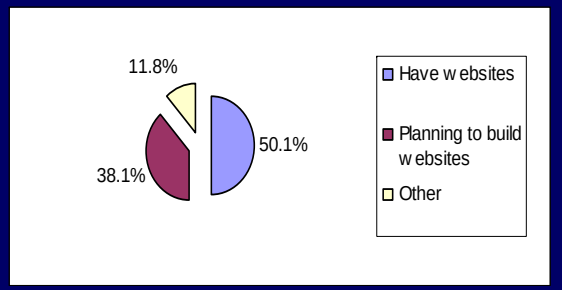
% SMEs connecting to Internet



What SMEs use Internet for?



SMEs with their own websites



What software SMEs use?

Type of software used	2006	2007
Finance, Accounting	71.3%	77.7%
HR management	41.8%	53.7%
Store, warehouse MIS	33.1%	34.8%
CRM	26.9%	30.8%
SCM	10.1%	12.5%
ERP	8.9%	10.6%
Other	7.3%	1.2%
No use of software	8.8%	4.5%

SMEs Software need analysis

- If we start by asking them what kind of software they need?
  - Usually, no answer is given
  - Worst, wrong answer
- Reason:
  - Most SMEs are of small size (< 10 persons), do not have CIO
  - Most depend on “IT experts”, on learning from other companies, on TV, radio, newspapers

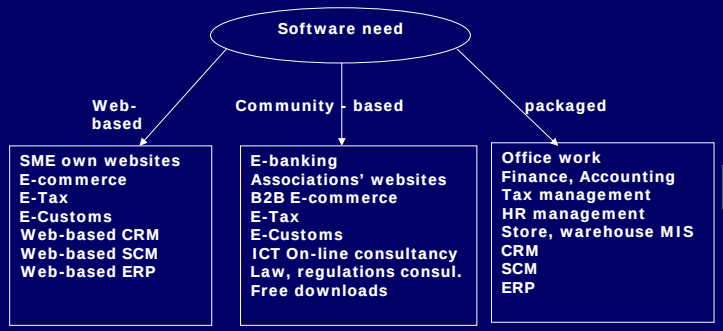
SMEs Software need analysis (cont.)

- What tasks they really need computer help?
  - Office works
  - Financial management
  - Government duties (tax, customs declaration)
- What they think computers might help them do better?
  - Look for partners, new customers, better customer satisfaction, enlarge their markets - marketing
  - With Internet, they might find something free, or cheap.
  - With Internet, they might do e-commerce

SMEs Software need analysis (cont.)

- Through surveys, data collections
  - A large number of surveys carried out annually
  - Most use direct questions like what kind of software they used for their jobs
  - Rarely have direct interviews in a large scale
- Through workshops, seminars
  - Collect data through forms for participants
  - Through Q&A sessions

A brave diagram & classification



Pricing: challenges & opportunities

- For really small enterprises: with a price > USD **1,000**, feasibility is low
- Packaged software should be less than USD **500**
- We should try to look for something that is used by a relatively large community, then each SME only pays a small amount
- We should try to look for **payment by installment**
- We also look for some other SME supporting programs such as **micro-banking**
- Look for some support that divides into smaller chunks: licensing, training courses, service-on-demand, ...

A brief conclusion

- For us to know SMEs software needs, we try to have a better understanding of SMEs
- Then we also try to know what ICT infrastructure they acquired in recent years
- We looked at what they do with their PCs and networks internally
- We tried to figure out what software they look out
- We also look at figures, analysis from surveys
- We express ourselves some reasons why doing SMEs software requirements is not an easy task
- And finally, a brave diagram & classification with recommendations on pricing

Thank you!

- We look for your comments, discussions, questions.

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/012
Agenda Item: 6.3

Building Rural Enterprise through Outsourcing Information Technology

Purpose: Information
Submitted by: Thailand

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Building rural enterprise through outsourcing information technology

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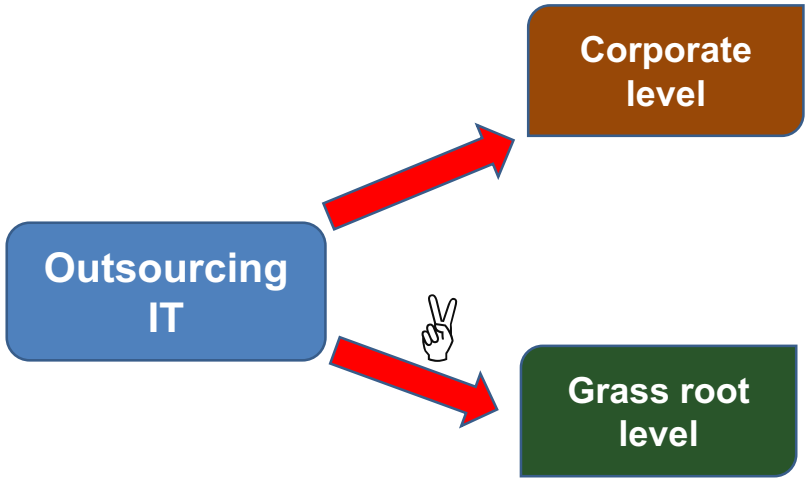
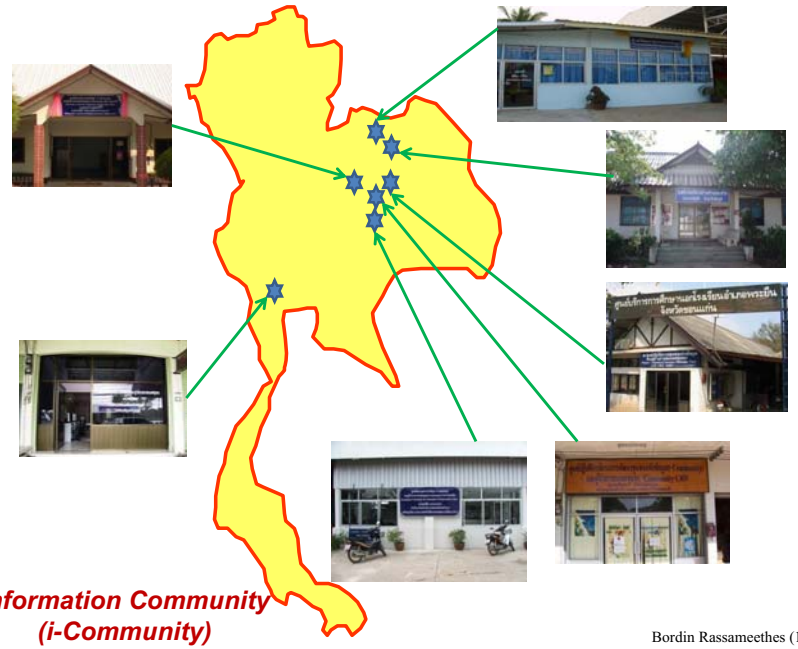
Hanoi, Vietnam



i-Community project, Thailand
e-Agriculture project, Thailand

Information Community (i-Community)

- The community networks through the use of information technology
- Information available in the community allow the community to make smart decisions.
- Low priced access to the high-bandwidth communication supporting the new learning environment
- Every i-Community is managed and received financial support from the community.
- About 5,000 people are members of i-Community
- Some have developed social relations among members in different sites.
- Farmers in the rural areas start to get enough information on livestock, equipment, seed, fertilizer, and market that fit their needs.



Information Community (i-Community)

Bordin Rassameethes (10/28/08)

Electronic Agriculture (e-Agriculture)

- A database that collect data from stakeholders
  - government agencies
  - local wisdom
  - Marketplace
  - farmer 's fields
- Use i-Community as the implementation sites
- Database contains necessary information that caters to all segments of agro industry

Bordin Rassameethes (10/28/08)

www.ekaset.net

kaset (Thai word) = Agriculture

Bordin Rassameethes (10/28/08)

Structure of www.ekaset.net

- Introduction
- Agriculture information
- Environment
- Farmer information
- News
- Agricultural price
- Business/Marketing/Finance

Bordin Rassameethes (10/28/08)

Agricultural information

- General knowledge related to agricultural sector
  - (e.g., Pest hazards, weed control, moisture insufficiency, soil fertility, farm credit, labor shortage, soil erosion, fertilizers, seeds, feeds, plant protection chemicals, agricultural machinery, equipment, water, agricultural technology, agricultural credit, marketing, new agricultural theory, technique that can raise productivity)

Bordin Rassameethes (10/28/08)

How to ensure good information

- A database that collect data from stakeholders
  - government agencies
  - local wisdom
  - Marketplace
  - farmer 's fields
- Use i-Community as the implementation sites
- Database contains necessary information that caters to all segments of agro industry

Bordin Rassameethes (10/28/08)

Bordin Rassameethes (10/28/08)

Community CIO

Bordin Rassameethes (10/28/08)

Training local people

How rural enterprise get build?

- By publicizing information → people in the rural area can get access to better information
- Community collaboration → bringing more diverse ideas/local wisdoms/connection/know how/target market etc.
- Alter the improvement of less skilled community workforces → ability to come up with greatly improved local products and production process

Bordin Rassameethes (10/28/08)

Harvesting collectors

Middlemen

Farmers

Information/ Data

Government officials

Agricultural & Cooperatives office
Agricultural extension office
Livestock office
Fisheries office
Land reform office
Commercial affair office
Etc.

Exporters

Bordin Rassameethes (10/28/08)

Why outsource?

- Problem solving
- Distributed budget
- Solutions to problems are solicited from a wide variety of people
- Encourage people in the community to work on local/business problems
- The gains from new information/ideas can be shared by everyone

What we are outsourcing?

- Information gathering
  - Agricultural price
  - News, local contents
  - Government contents
  - Market information
- Updating information
- Local activity

What do we get?

- Necessary information to arrange better supply chain
- Create social network that improve relationships
- Distributed income
- Keep stakeholders in constant streaming contact with one another
- Build cottage industry and rural enterprise
- Turn information into income, jobs and growth

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/013
Agenda Item: 7.1

The Challenges of Building Capacities and Skill Sets for an IT Outsourcing Partner

Purpose: Information
Submitted by: USA

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

The Challenges of Building Capacities and Skill Sets for an IT Outsourcing Partner

By: Hoang Nguyen (PacificLinks Foundation, USA)

ABSTRACT:

At the beginning of this century, many people still thought that IT Outsourcing is a fad, a marketing ploy. Several years ago, a number of visionary leaders of the industry and business world started recommending that IT Outsourcing be taken more seriously, in the context of corporates' strategic thinking. The concept of 'partner' has been used more frequently to indicate the preferred roles to be played by IT Outsourcers.

We are now in 2008, and many outsourcing relationships are still struggling or broken up all together. Root causes of this not-so-rosy situation are complex, and stakeholders are still trying to draw good lessons from the experiences.

From an IT practitioner's own experiences, the presenter will try to understand the challenges an IT Outsourcer would face. The analysis and comments are mainly focused on the required skillsets of the development team that an IT Outsourcer would need to bring to the partnership. Given the current state of the Vietnamese IT industry as well as the preparation of its workforce, it is the presenter's hope to contribute into the serious discussions of how to prepare for a strong IT industry, in which outsourcing is a crucial component.

OUTSOURCING PARTNERSHIP: THE CHALLENGE

The Challenges of Building Capacities and Skill Sets for an IT Outsourcing Partner

APEC Symposium on Improving Market Access for ICT Outsource
Hanoi- 2008

Hoang Nguyen
Pacific Links Foundation
Oct. 2008

The Global Search For Talent

- A study presented (in 2006) to the U. S. National Academies -- the nation's leading advisory groups on science and technology -- suggested that more and more research work at corporations will be sent to fast-growing economies with strong education systems, like China and India.
- Also, it stated: "multinational corporations were global shoppers for talent"

(NYT February 16, 2006)

- Its applicability to IT R&D

Is Low-Cost Still A Factor?

- "Cheap labor" advantages of offshore outsourcing are on the way out
- Contributing the (local) talents
- Cutting cost by raising the efficiency of the development process and the quality of the delivered solutions.
- Outsourcers to out-perform in-house development departments?

Expectations

- The "Partnership" model
- Roles of a solution provider
- To be able to take part in the full (and complex) development cycle process
- The verticalization of skillsets
- Build expertise for one industry at a time

Do SW Development the Right Ways

- The *impossible* triangle: Time - Cost - Quality
- Know our weaknesses using the industry's benchmarks and norms.
- Know our strengths and the competitors' on the "Cost" issue.
- The Challenges are still on "Quality" and "Time"
- Survive (and exploit) the "Interdependencies"

Can We Make It?

- Current state of the industries:
  - The talent pool
  - The “still developing” IT industries of some developing countries
- The well accummulated knowledge base of the global IT industry
- Benefits of a young workforce

Where The IT Industry Is Small

- Focus on Quality, Quality and Quality
- Specialization (coupled with effective education & training) of our IT workforces
- Strength of Cooperations/Alliances: Coopetition.
- Building for the Future: The IT industry alone won't be able to make it.
- A healthy local market helps in talent development

Thank You For Your Attention.

Your Thoughts and Comments?

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/014
Agenda Item: 7.2

The necessity of a collaboration tool in outsourcing projects, a case study with EPM

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Entire Project Monitoring System

The necessity of a collaboration tool in outsourcing projects, a case study with EPM

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Agenda

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  - Collaboration in outsourcing
- A case study with EPM
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  - Mapping EPM's functions with PMBOK's knowledge areas
- Zoom-in for Project Management with EPM
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  - Human Resource Management
  - Work-load Estimation
  - Planning & Progress Checking
  - Requirement Management with Change
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  - Quality Management
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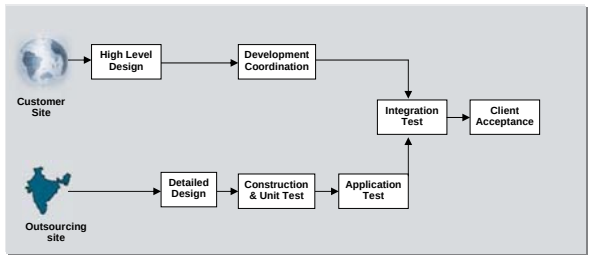
- Q&A

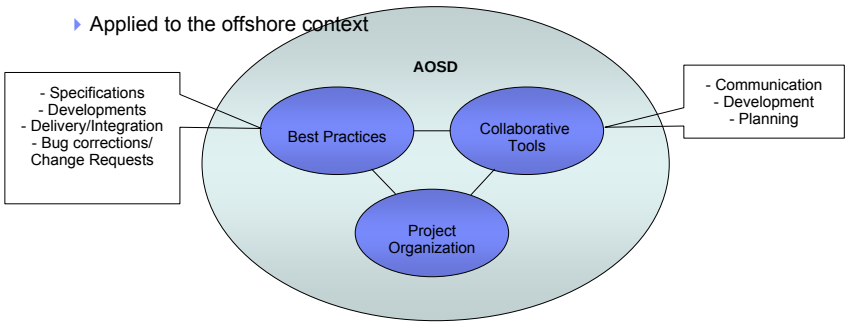
Outsourcing Global Delivery Model

Customer site	Outsourcing site
Project Scoping, User Requirements	Technical Design
Functional Design	Coding, Development
User Testing	System Testing
Deployment	Regression, Performance Testing
User Acceptance	Documentation



Outsourcing Software Development

- Visibility at all levels
  - Code, Quality, Productivity, Risk management
- Based on XP, RUP and Open Source practices
  - Applied to the offshore context



Outsourcing Centre Management: A Summary

Phases	Activities	We	Client
Project identification	Initiation		
Requirements	Planning		
Design	Execution		
Test plans	Reporting		
Coding & unit testing	Monitoring		
System testing	Delivery		
Integration	Approval		
Implementation	Closure		

Collaboration in outsourcing

- Multiple partners take part in project.
- Communicate by phone, mail, chat
- Daily report, weekly report, productivity report (Excel)
- Track progress realtime is necessary

→Need a collaboration tool that is used in both side.

- **EPM is a solution !!!**

A collaboration tool in outsourcing, A case study with EPM

- Theoretical Approach
- Applying EPM System

Theoretical Approach

- Influence from IBM Rational Unified Process (RUP)
- Use Case-oriented: Functional Requirements are firstly mapped into Package/STRQ/FEAT/UC
  - STRQ (Stakeholder Request): general requirement at high level
  - FEAT (Product Feature): product is break-down into concrete features
  - UC (Use Case - also called Software Feature): how user and system interact when accessing to FEAT
  - Sample…

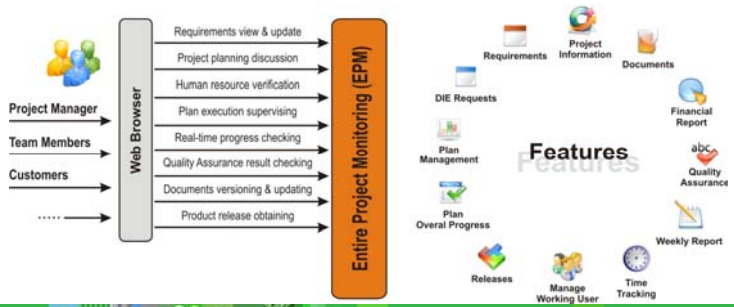
Sample of mapping

Func.-oriented	→ UC-oriented
Package	→ *Package/STRQ*
Menu/Sub-menu	→ *Package/FEAT*
Screen	→ *FEAT/UC*
Screen interaction	→ *UC*

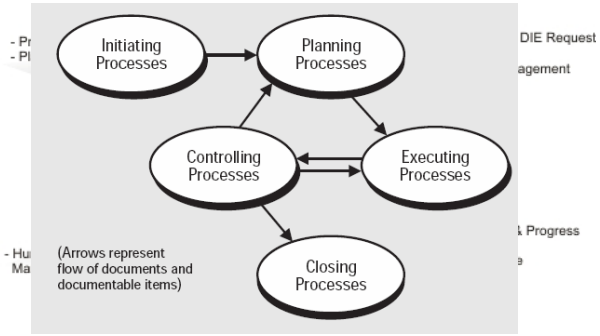
- Requirement change, work-load estimation & human resource management, planning & progress checking, quality control, discussion management, etc… are internally managed based on the project's requirements "tree" STRQ/FEAT/UC
- When necessary, project management reports are mapped back into partner's requirements structure in order to submit to partner

Applying EPM system

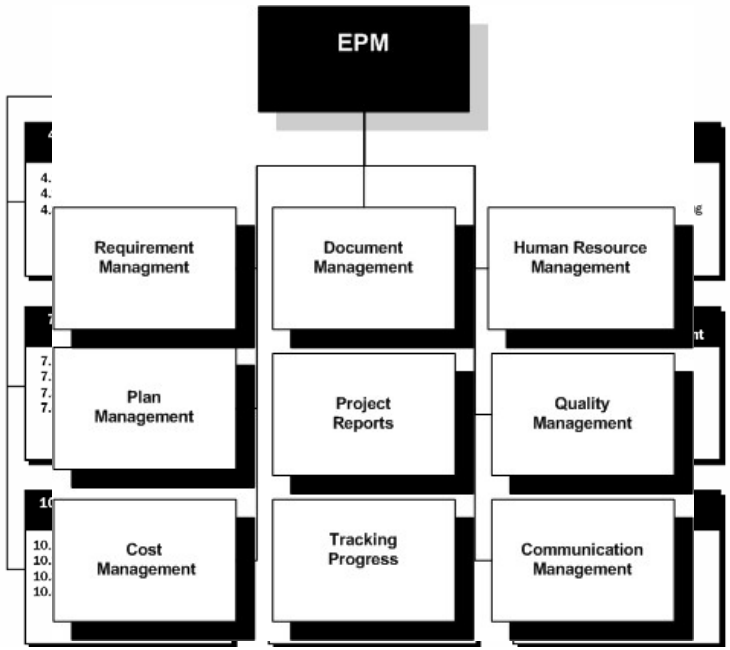
- Entire Project Monitoring System
  - Copyright by EVSoft Co. Ltd., 2006-2008
  - Based on PMBOK methodology
  - Providing environment for both side
  - Supporting efficient project management tasks with low cost
  - Customizable in order to adapt to different partner's software development process
  - Support multiple languages



EPM process based on PMBOK methodology



- **Plan:** Initialize a plan schedule, tasks and assign to members
- **Do:** Execute the tasks and update result status
- **Check:** check the progress based on each task, generate reports
- **Action:** manage human resource, tasks, schedule and re-cycle new plan

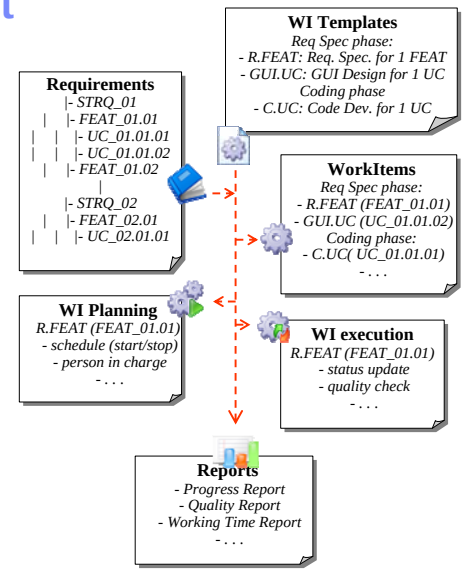


Mapping EPM functions with PMBOK's knowledge areas

Knowledge Area \ Process Groups	Initiating	Planning	Executing	Controlling	Closing
4. Project Integration Management		4.1 Project Plan Development	4.2 Project Plan Execution	4.3 Integrated Change Control	
5. Project Scope Management	5.1 Initiation	5.2 Scope Planning 5.3 Scope Definition		5.4 Scope Verification 5.5 Scope Change Control	
6. Project Time Management		6.1 Activity Definition 6.2 Activity Sequencing 6.3 Activity Duration Estimating 6.4 Schedule Development		6.5 Schedule Control	
7. Project Cost Management		7.1 Resource Planning 7.2 Cost Estimating 7.3 Cost Budgeting		7.4 Cost Control	
8. Project Quality Management		8.1 Quality Planning	8.2 Quality Assurance	8.3 Quality Control	
9. Project Human Resource Management		9.1 Organizational Planning 9.2 Staff Acquisition	9.3 Team Development		
10. Project Communications Management		10.1 Communications Planning	10.2 Information Distribution	10.3 Performance Reporting	10.4 Administrative Closure
11. Risk Project Management		11.1 Risk Management Planning 11.2 Risk Identification 11.3 Qualitative Risk Analysis 11.4 Quantitative Risk Analysis 11.5 Risk Response Planning		11.6 Risk Monitoring and Control	
12. Project Procurement Management		12.1 Procurement Planning 12.2 Solicitation Planning	12.3 Solicitation 12.4 Source Selection 12.5 Contract Administration		12.6 Contract Closeout

EPM WorkItem Concept

- The smallest piece of work to construct complicated project plans
- Can be automatically generated based on a set of WI Templates in associating with requirements (STRQ/FEAT/UC)
- Can be assigned to a project member in order to process
- Quality can be checked based on the project regulation
- Status can be tracked real-time in order to build the whole plan/project progress report at any time
- ➔ EPM can be customized to support different software development processes from different partners thanks to the capability of freely defining WI Templates & WI-based Reports

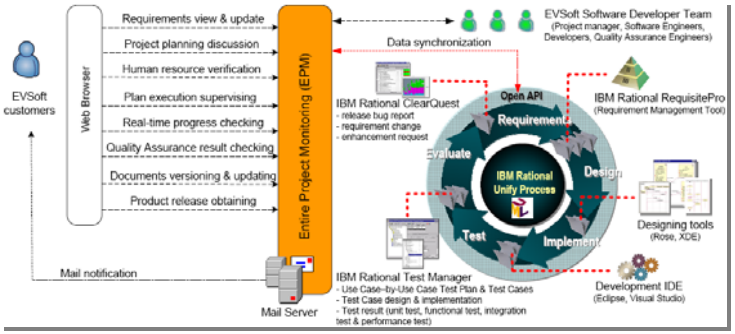


Zoom-in for Project Management with EPM

- Working Environment
- Human Resource Management
- Work-load Estimation
- Planning & Progress Checking
- Requirement Management with Change
- Communication Management
- Quality Management
- Security Management

Working Environment

- EPM provides insite & outsite management environment & report
- Documents and source code sharing is not covered by EPM
- Testing environment is also not covered by EPM
- Data synchronization between development/testing tools with EPM can be automatically or manually

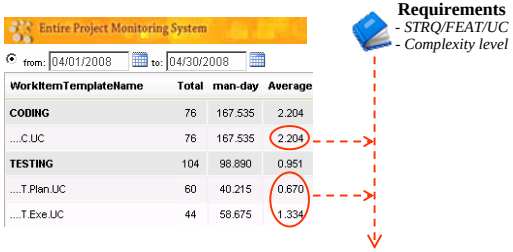


Human Resource Management

- Project member roles
  - Project Manager (PM): plan, progress & report
  - Software Engineer (SE): architecture, design & code review
  - Programmer (PG): code development & unit test
  - Quality Assurance Staff (QA): integration test & performance test
  - Communicator: Japanese translating, customer communicating
- Sharing human resource with partner (mostly for out-sourcing project)
  - Project members outside and inside should be able to easily collaborate
  - Checking & reporting working productivity of all project members
- Sharing HR information with partner/customer (mostly for man-day based maintenance project)
  - Project members as well as their working hours can be real-time checked in EPM system
  - Working productivity and quality of each member also can be checked at EPM system

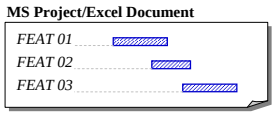
Work-load Estimation

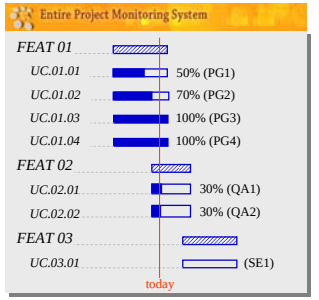
- WorkItem-based with requirements list (STRQ/FEAT/UC)
- Complexity of each UC/FEAT is estimated by 4 levels (*simple*, *normal*, *complicated* and *very complicated*) for each Design, Coding and Testing phase (sample)
- Average man-day required to carry out each UC/FEAT WorkItem is calculated with "similar" project by EPM system
- Total work-load is calculated with the UC/FEAT list (with the complexity level) and average UC/FEAT WorkItem man-day

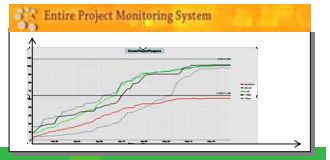


Planning & Progress Tracking

- High-level Planning
  - Normally used to discuss and agree with customer
  - Constructed at FEAT level, with FEAT's WorkItem (concrete enough but not too detail)
  - Activities duration are calculated as work-load estimation
  - Sample
- Detail Planning
  - For carrying out the tasks that already agreed with customer
  - Implementation of high-level plan, at UC level, with UC's WorkItem
  - Registered into EPM system & assigning plan's WorkItem to project member for updating status & tracking progress
  - Sample
- Plan Progress Tracking
  - Real-time plan progress tracking based on the WorkItem status update
  - Man-day before/behind schedule calculating
  - Progress report as customer request (sample)
- Overall Project Progress Tracking
  - Number of FEAT completed by total FEAT
  - Number of UC coded/tested by total UC
  - Sample

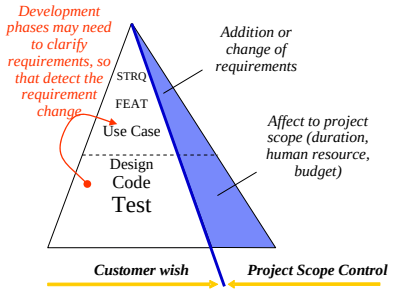






Requirement Management with Change

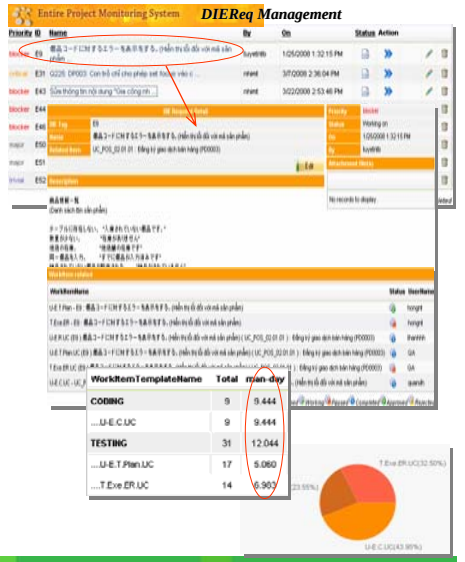
- Requirements Management
  - Structures by STRQ/FEAT/UC tree
  - One STRQ is satisfied by a number of FEAT, one FEAT is satisfied by a number of UC
  - Change of STRQ level may affect to all related FEAT/UC (affect much to project scope)
  - Change of FEAT level may affect to only related UC (acceptable)
  - Change of UC level must be taken into account when executing the development phases (design, code, test)



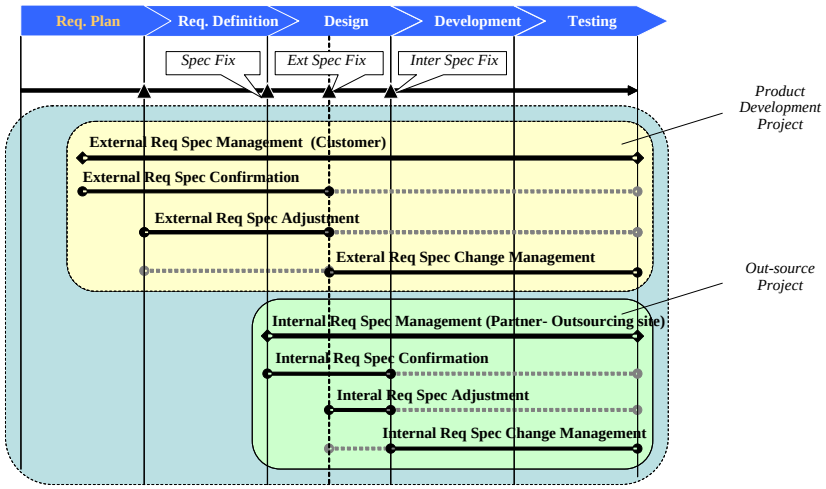
- Philosophy of Requirement Change Management accepted by EVSoft
  - Always keep the original requirements (for controlling the project scope) but accept requirement change
  - Project scope change (duration, human resource, budget) must be estimated and notified to customer
  - Final project scope change (mostly man-day added) is re-calculated and reported to customer is necessary
  - ➔ how to ???
- **EPM is our solution !!!**

Req. Management with Change (2)

- EPM DIERequest Concept
  - Defect: bug reported by customer
  - Internal Request (IR): EVSoft internal req.
  - Enhancement Requirement (ER): additional requirement or change of existing requirement
- Requirement Change Process
  - Requirement change request can be received from and confirmed with customer in many ways, but finally submitted to EPM as a DIERequest (ER)
  - Related requirements (mostly FEAT/UC) are associated with ER in order to manage the change scope
  - Appropriate WorkItems are generated with related FEAT/UC and assigned to appropriate project members
  - The plan to process ER (based on related WorkItems) is notified to customer and the progress can be tracked
- Requirement Change Report
  - List of Enhancement Requirement related to each FEAT/UC (sample)
  - Status of each Enhancement Requirement
  - Total man-day provided to process Enhancement Requirements



Planning for Req. Mgnt. with Change



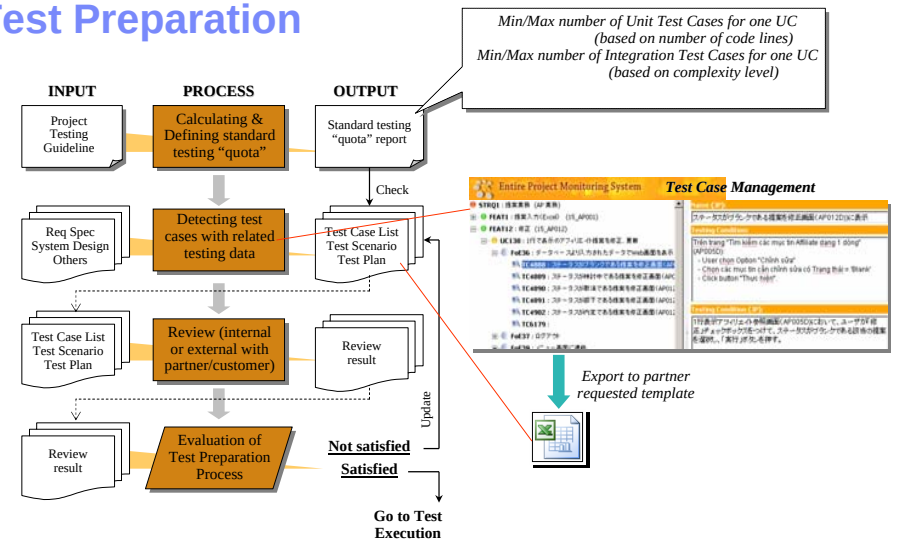
Communication Management

- EVSoft's objective in Communication Management
  - To define the regulation and operate communications timely and correctly for all information occurred in the Project
  - But, if necessary, flexible and appropriate communications will be acceptable according to the information security policy
- Communication Methods
  - Meeting
  - Question & Answer (Q&A)
- Communication Control
  - Q&A can be carried out with EPM Discussion feature (supporting email notification)
  - Or, follow the partner's communication standard flow (sample) and Q&A sheet (sample)
  - But, always keep communication log in EPM
  - If necessary, EPM can support *Special Q&A sheet export* feature to export the discussion contents to a specific template
- When necessary, all communication log related to one requirement (STRQ/FEAT/UC/ER) can be easily retrieved from EPM

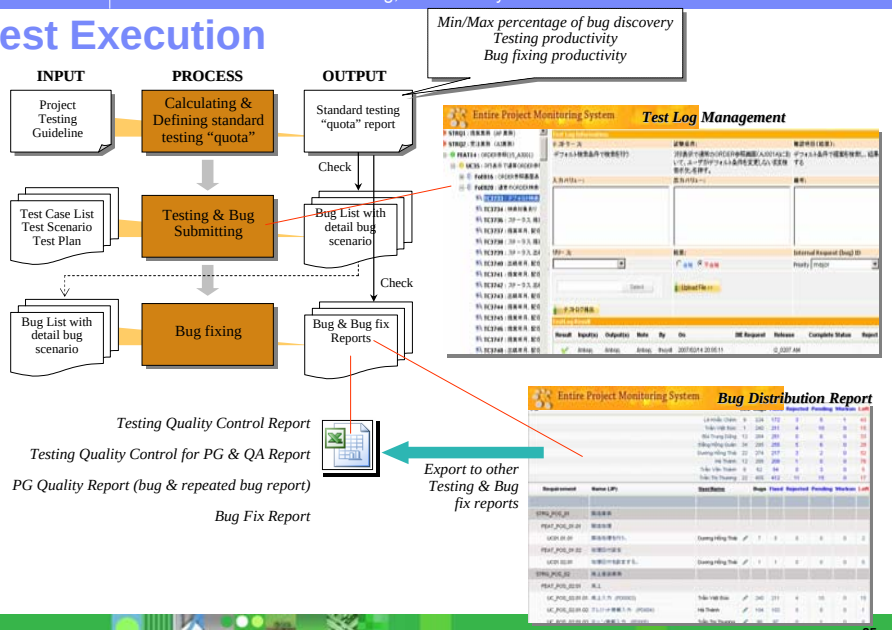
Quality Management

- EPM's objective in Quality Management
  - Develop the system meeting to customers' requirements and to improve the customer satisfactions
  - Detect as soon as possible the risk points that lead to "wrong system development"
- Quality Management is carried by 4 items
  - Review
    - To confirm whether the outputs of each development phase have been developed correctly or not (even the system is not developed yet).
    - Review can be at the Req Spec phase (with customer), at design phase (with out-source partner), at coding phase (internal), at integration test phase (with customer/partner)
    - From experience, requirement change requests are mostly issued at Review. Depended on the related FEAT/UC already developed or not, these issues will be treated as requirement adjustment or enhancement requirement
  - Testing
    - To check if the system (or a part of) has been developed correctly or not
    - Unit Test at coding phase, by PG
    - Integration Test & Performance Test at testing phase by QA
    - Product Test at Delivery phase, at the customer's site, within customer's environment
  - Quality Control
    - To analyze results from every Review or Test
    - Quantitative and Qualitative methods
    - Decide the appropriate solutions to improve the quality
  - Delivery/Acceptance Testing
    - To confirm with customer that the whole product has been developed correctly as customer's requirements

Test Preparation

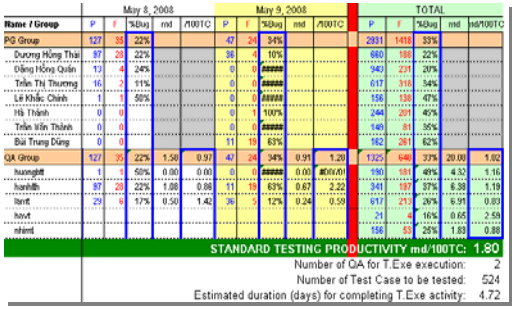


Test Execution

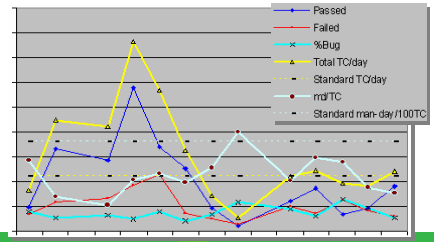


Quality Control - Quantitative Method

- Number of TC/UC
- Bug discovery rate (number of TC test failed/total TC/UC)
- Testing productivity (man-day for testing 100TC)
- PG's bug rate
- PG's repeated bug rate
- Etc…

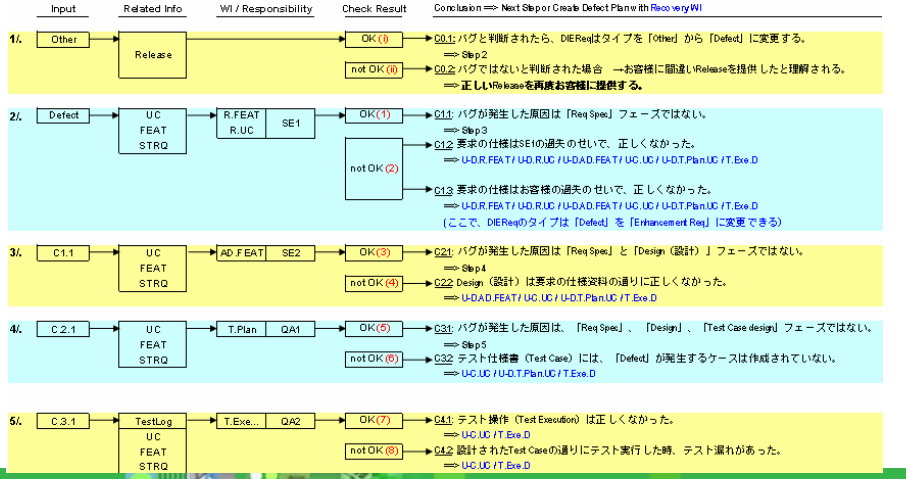


PG	Passed	Failed	%Bug	x1	x2	x3	x4
	2822	1032	27%	806	107	4	0
Đặng Hồng Quân	1184	191	14%	163	14	0	0
Dương Hồng Thái	678	193	22%	161	16	0	0
Trần Thị Thương	311	103	25%	83	10	0	0
Hà Thành	133	99	43%	76	10	1	0
Lê Khắc Chính	243	198	45%	121	34	3	0
Bùi Trung Dũng	160	185	54%	155	15	0	0



Quality Control - Qualitative Method

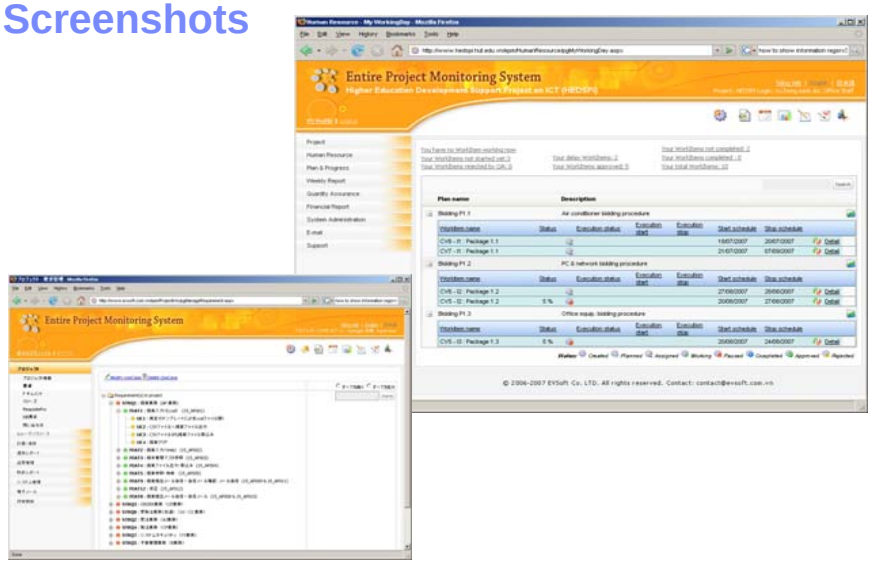
- Mostly for bug reported from partner/customer
- Bug analysis process & result (sample)



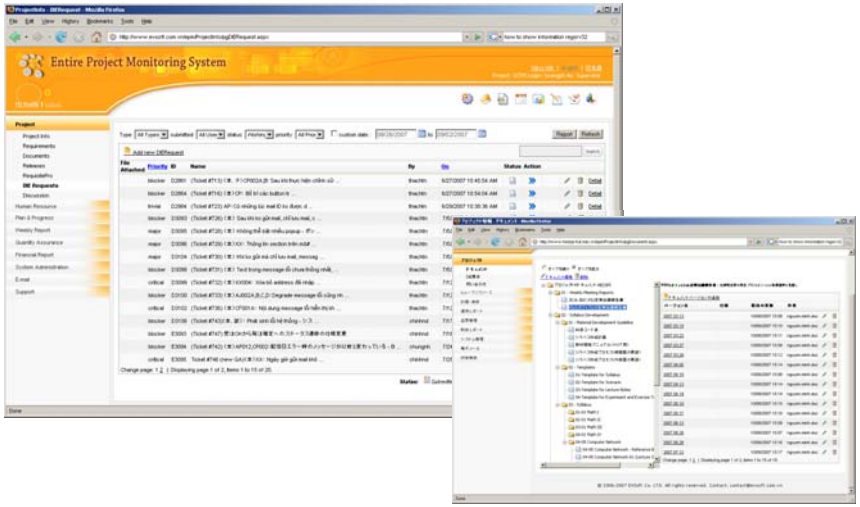
Security Management

- To be followed fully conditions for confidentiality defined in contract customer
- Information Management
  - Receiving and Creation
    - Respecting security level requested from customer/partner: "Strictly Confidential", "Confidential", "Confidential – Company Internal only", "Confidential – Group only", "Important"
    - Restriction un using portable media such as FD, CD-Rom, USB-Key etc.
  - Storage
    - Data or information stored with encryption.
    - Not copy the information so much if unnecessary.
  - Distribution
    - Electronic-data must be sent with password (if sending through the external network)
    - In case of using postal services or fax transmission, tracking and confirming of receiving is necessary.
  - Usage
    - In case of leaving the desk or going back home, confidential information shall not be kept on the desk or public space.
    - Prohibited to use lap-top PC in "project network zone" as customer/partner requested
- System Management
  - Common Issue: project data shall be stored in the shared file system. Not in the individual PC client
  - Password
    - Password shall be difficult to guess by third parties.
    - Password shall be controlled confidentially.
    - Prohibite to know other members passwords and use these passwords.
    - If the confidentiality of password can not be kept, password shall be changed time by time.
    - Prohibite to note the password on the paper.
  - Anti-Virus
    - Anti-virus system must be used at server as well as every project member PC
    - Daily update virus database
  - Other security issues
    - Firewall is applied to protect access from outside
    - VPN can be established with partner if necessary

Screenshots



Screen shots



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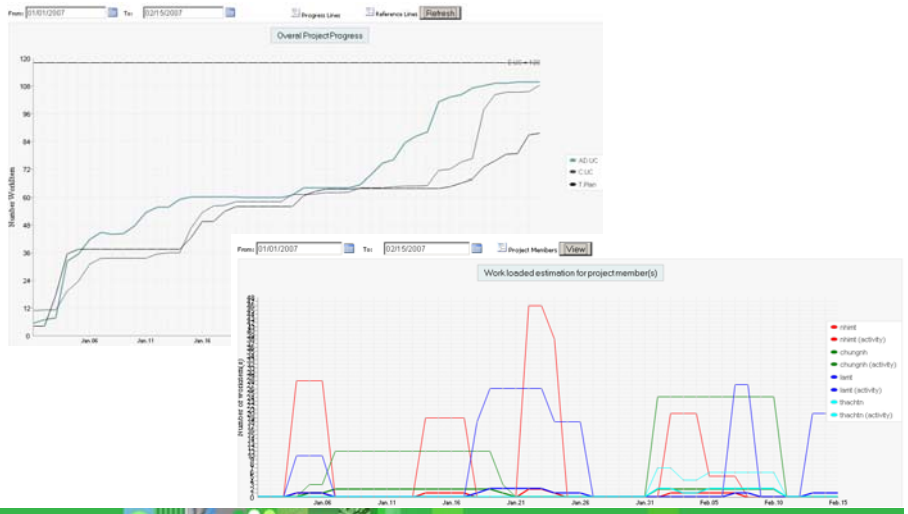

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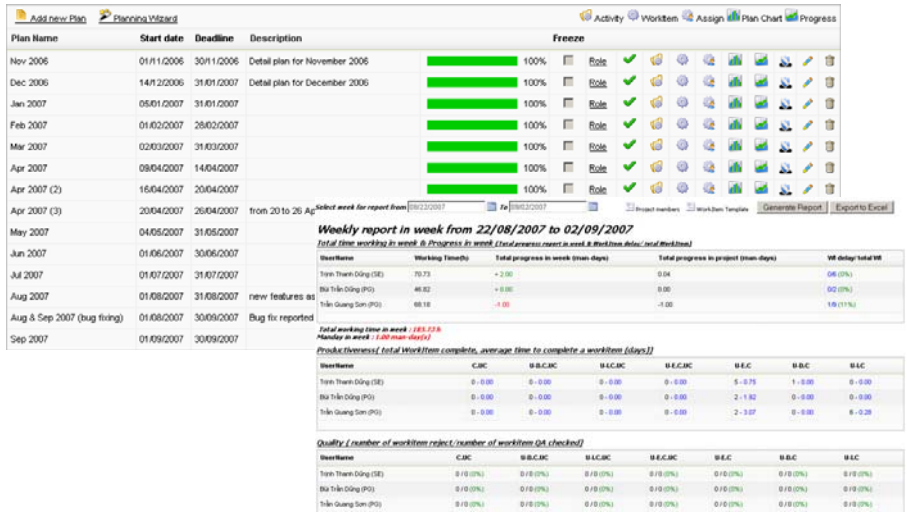

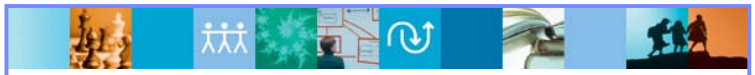

Questions

Thank You

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/015
Agenda Item: 7.3

Moving up the value chain in the global context of software outsourcing process

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Moving up the value chain in the global context of software outsourcing process

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Contents

Offshore IT Outsourcing Trends

- Global scale: the whole business process instead of discrete pieces of work
  - By InformationWeek 500 list of business technology innovators
    - 2004: 43% do offshore IT outsourcing
    - 2007: 67%
  - According to the consulting firm NeoIT
    - 75% of the world's 2000 largest companies
    - Offshore: Current 20% may scale up to 40% of their IT budget
- Cost: still the most important factor
- More collaborative client-provider relationship
  - Result-based contracts
  - More critical work to be outsourced: e.g. Business process outsourcing (BPO)
    - BPO in InformationWeek 500: 17% (2004) vs. 40% (2007)

Risks for Clients

- Outsourcing more critical work → How to foster new IT leaders [system work, company knowledge]??
  - Teradyne: architecture design, project management, etc. (20%)
  - HCL: infrastructure, desktop support, application development (80%)
- Better vendor management skill
- Reverse effect from outsourcing destinations
  - Talent shortage
  - Rising wage + high employee attrition
    - Attrition: 12% or more among IT service providers
    - E.g.: Infosys (lost 11,000 out of hired 30,964 in 2007); TCS (3,200 among 12,500 in a single quarter)
  - Providers: Keeping up human resource and work quality with the growth of business

Strategies of Clients

- From technical level to broader business outsourcing process
  - Clients - providers: comparative (even absolute) advantage in different segments of value chain
- Result-based outsourcing contract: shorter, more incentives
- Closer relationships with offshore providers
  - Helping the vendors to keep ***skilled and experienced*** workers
- Work allocation: sharing more information with vendors
  - Client: high value-added services
  - Vendor: low-level services but ***moving up***
  - Difficult decision on "core" and "external" parts??
- Employee and outsourced worker: blur distinction
  - Outsourcing is still better than hiring!!

Global Offshore Outsourcing Process

Synergy of the two sides: client and provider

How outsourcing providers, especially SMEs, utilizes this trend for their own sakes??

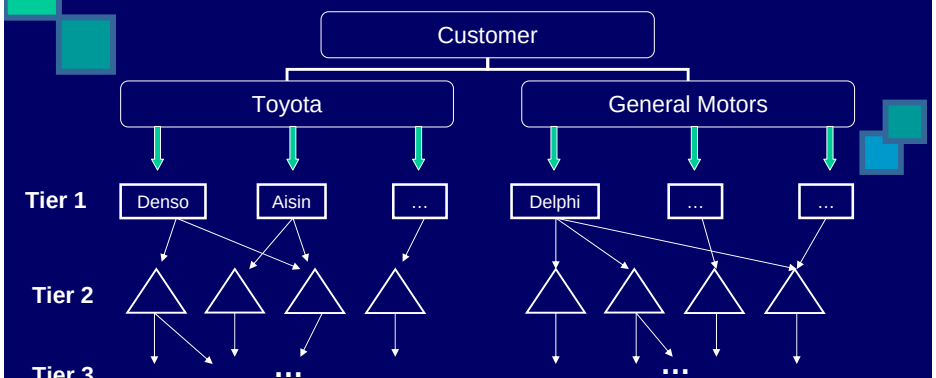
⇓

An answer: analyzing the supply chain of clients and moving up the chain appropriately by minimizing the reverse risks of clients

Supply Chain

- Traditional (GM, Ford): price-based sourcing
  - Revealing as little information as possible
  - Avoid losing edge to the suppliers
- Automotive supplier partnership: Win-Win
  - Toyota, Honda
  - Manufacturers and suppliers: long-term commitment
  - Improving each other's capabilities
  - Collaborating openly on lowering costs + raising overall performance
  - Competition:
    - not Toyota vs. GM
    - Toyota's supply chain vs. GM's supply chain

Supply Chain



Supply Chain

- IT industry: the same competition style will hold??
  - 1st tier IT suppliers start to increasingly outsource pieces of their own projects
  - The process keeps going until there is a multi-tier IT supply chain
- Often, supply chain is close to "value" chain
- The higher level in the chain, the more power and value-added innovation a company possesses
  - Companies, especially SME, are encouraged to move up the chain for
    - Better skills, technology, bargaining power
    - More experience on large scale projects
    - Cost cutting via economy of scale

Competitive Edge on Client Side

- Focusing only on "core" technology
  - "Comparative advantage" principle
  - More critical works are outsourced
    → Difficult decision: which parts are core, which parts could be outsourced
    → Nurturing IT leaders of their own
- Slimming the management workload
- Taking advantage of their suppliers
  - More freedom in selecting suppliers among many
- "Collaboration": a must for any success in the globalization process
  - Dynamic organization instead of conglomerate structure

Competitive Edge on Vendor Side

- Improving skills and experiences
- Flexible among various clients
- For SMEs, big projects are important
  - Possibility of high value-added services
  - Economy of scale
- "Collaboration": a must for any success in the globalization process
  - SMEs act as satellites of the big client (Tier 1 or 2)
- The higher level in value chain, the more competitive a company
  - "Moving up the supply chain"

Critical Factors

- Software: specific type of manufacturing products
  - Software development: parallel with manufacturing
  - Complying all major critical factors for success
- Key performance indicators:
  - Quality [Q], C [Cost], D [Delivery], S [Security] and S [Service]
  - Rooted at QCD in lean manufacturing
  - Measuring business activity
  - Offshore outsourcing: C is still the main goal
- Competition: mainly considering within these 5 indicators

Critical Factors

- QCD can be used in various environment:
  - Supply chain
  - Engineering
- Benefits of QCD:
  - Straight forward
  - Applicable to both simple and complicated processes
- QCD in supply chain: how to measure the 3 aspects
  - Q: best defined as the no. of errors within a process of the chain
  - C: obviously important → via internal inventory control and accounting
  - D: timeliness of software delivery w.r.t an agreed schedule

Critical Factors

- QCD metrics:
  - Directly related to the measurement of supply chain activity
  - Valuable mechanism into finding areas for improvement
- QCD strength and weakness:
  - Strength: simple and best method for the environment in which information and physical flows
  - Weakness: not the best method for certain service industry such as IT consulting

An Approach

- For Vietnamese SMEs in IT industry
  - Mainly quality assurance and simple application development
  - Low-tech: human-based testing
  - Cheap and labor-consuming works
- Problems/concerns in supply chain of [Japanese] clients:
  - Software quality [Q]: delivered not as good as expected
    - Common to the world's software industry
    - Outsourcing at the lowest parts in the software chain
  - Cost [C]: utilizing cheap labor in Vietnam

An Approach

- Resolving reverse effects on clients' risks
  - Talent shortage: via top-ranked academic institutions in Vietnam
    - Quality vs. quantity
  - Rising wage + high employee attrition
    - Working environment and promotion
  - Keeping up human resource and work quality with the growth of business
    - Working environment and culture in the firm
    - Technology and expertise
- An approach:
  - Focusing on Q factor of the whole supply chain
  - Climbing the chain appropriately
  - R&D for more advanced technology: international collaboration
    - Academic institution (JAIST, IoIT), outsourcing provider (IoIT) and industrial partners (NANO, …) in Japan
  - Applying world-level technology into a particular clients' concern

An Approach

- Japanese IT market:
  - 2nd largest single market in the world
  - Industry-based economy sector is large compared with the U.S
  - Embedded software: priority
  - Quality: major concern for all businesses
- Typical software chain: involving people, process and technology
  - Outsourcing may span all 3 areas
  - Unlike US and European businesses, Japanese companies currently outsource mainly in technology area
  - People: language barrier
  - Process: different working environment and culture?

An Approach

- Technology aspect in software chain
  - New ideas/application projects, data analysis etc.
  - Project management
  - Architecture design, system design
  - Application development
  - Quality assurance: testing, verification
  - Maintenance: infrastructure, desktop support etc.
  - …
- Automatic software quality-enhancing tool
  - Quality assurance activity in the chain, specifically code development
  - Static code analysis: MISRA-C based code checker
  - Run-time unit testing: JUnit-like dynamic testing

An Approach

- Static code analysis: catching post-compile violations
  - MISRA-C: embedded software programming standard
  - Making source code safer and more comprehensible
- Run-time unit testing: catching possible run-time errors
  - Weaving the testing code right at the module to be checked
- In the future, moving up the chain
  - Evaluating quality of system and architecture design
  - How??
  - Availability of technology??
  - Willingness of information sharing from clients??

Conclusion

- New era of IT offshore outsourcing: ***globalization***
- Supply chain
- Attaining competitive edge:
  - Client perspective
  - Outsourcing provider
- Critical performance indicators on value chain
- An approach for SMEs
  - Ensuring Q factor in the higher levels of supply chain

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/016
Agenda Item: 8.1

Issues on Quality-of-Services and the Role of Training

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Issues on QoS in Outsourced Projects

The Rôle of Training

Dang Van Hung

College of Technology
Vietnam National University, Hanoi

Why Outsource?

- to maximize your revenue
- to minimize your expenses
- to get access to specialized skills and services
- to concentrate more on your core business
- to save on money, time and infrastructure
- to improve **customer satisfaction**
- etc.

ICT Outsourcing

- Information and Communication Technology (ICT) is one of the most popular areas of outsourcing
- ICT involves a range of issues: software, equipment, premises, people, third party agreements, and so on
- The outsourcing transition plan should include the Service Level Agreement (SLA) and the outsourcing contract.

Outsourcing Boom

- ICT job outsourcing to India, China and many other countries
- Quality of ICT products is increasing
- Economy of outsourcing countries has increased tremendously after outsourcing (UK, Norway, Australia, US)

QoS: Outsource Main Criticism

- QoS: Two-thirds of the companies that responded to a survey by Information Week reported **either no change or a worsening in customer satisfaction** as a result of business-process outsourcing.
- Training people alone would cost more money: Not only to teach people the actual process of what they have to do, but also to teach them about the company, how business is done in the outsourcing countries, and how to interact with customers
- Saving cost from the contractor sides may reduce the QoS and customers' satisfaction

QoS Improvement

- QoS Improvement is the critical point for the success of outsourced projects
- QoS Improvement includes
  - Internationalization, localization, companies' culture
  - Standardization
  - Security
  - Advanced technology

Component-based Approach for Business Systems!

Component-based Approach

- A system as a set of components
- A component forms a unit of composition with **contractually specified interfaces** and explicit dependencies
- Components interact via their interface
- The approach responds to the increasing demand on QoS and system evolution

Engineering of CB Systems

- begins with the establishment of requirements for the system, and then an architectural design.
- examines requirements to determine what subset is directly amenable to **composition** rather than construction (rather than moving immediately into more detailed design tasks). Doing by asking for each requirement:
  - are commercial off-the-shelf (COTS)?
  - are internally developed reusable components available to implement the requirement?
- to develop those new components meeting the requirements that cannot be implemented with COTS

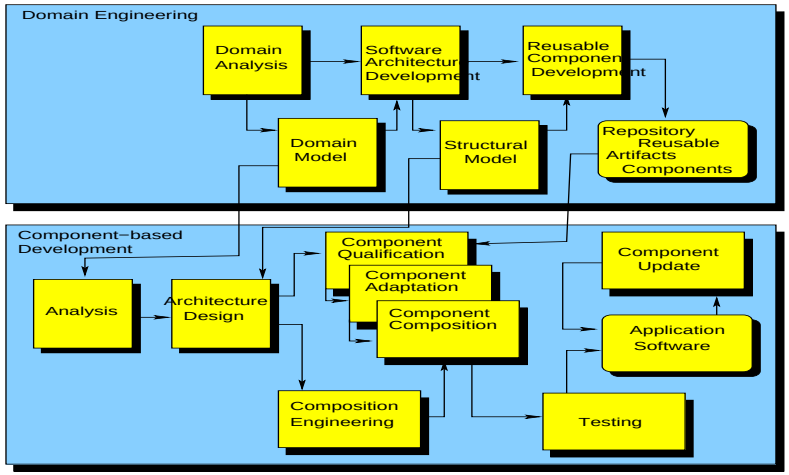
Outsourced IT Project as CBSE

- **CBSE:**
  - different sets of software engineering activities applied to construct new components and to adapt available ones
  - formal techniques to specify component interface (contracts) and to verify if the component is implementing interfaces
- **Outsourced IT Project**:
  - activities to look for suitable partners to construct new components and to adapt available ones to the project
  - techniques to make SLA (Service Level Agreements)

Software Components

- **Qualified components**–assessed by software engineers to ensure that not only functionality, but performance, reliability, usability, and other quality factors conform to the requirement of the system or product to be built
- Adapted components–adapted to modify unwanted or undesirable characteristics
- **Assembled components**–integrated into an architectural style and interconnected with an appropriate infrastructure that allows the components to be coordinated and managed
- **Updated components**–replacing existing software as new versions of components become available

The CBSE Process



Principles Migrated from CBSE

- Component – a nontrivial, nearly independent, and replaceable part of a system that fulfills a clear function in the context of a **well-defined architecture**
- Business component – the software implementation of an autonomous business concept or business process should also have **well defined interfaces**
- Domain engineering to identify a well-defined architecture and components to be implemented with outsourced partners

Principles Migrated from CBSE

- Clear specification of component interfaces (as contracts)
- A contract should include:
  - functionality of services as mapping from required interface to provide interface,
  - **all factors form the QoS** of the business concern
- Component qualification (the required functionality met, fitting into the architecture, exhibiting the quality characteristics)
- **Easy-to-adapt to the requirement changes** should be an important factor of the quality of Architecture and Components

ICT SME Capacity Building

- Capacity to ensure software quality for products in their business area
- **Software Quality Assurance (SQA)** involves the entire software development PROCESS - monitoring and improving the process, making sure that any agreed-upon standards and procedures are followed, and ensuring that problems are found and dealt with. It is oriented to 'prevention'.
- Capacity to train their staff with advanced technologies to follow SQA

Main Quality Attributes?

Availability
Efficiency
Flexibility
Installability
Interoperability
Maintainability
Portability
Reliability
Reusability
Testability
Usability
Performance
Security

Quality Standards

Quality Standards and Auditing Organizations

- SO (International Organization for Standardization).
- CMMI (Capability Maturity Model Integration).
- IEEE (Institute of Electrical and Electronics Engineers).

ISO 9001:2000 (What)

ISO 9001 is a series of documents that define requirements for the Quality Management System Standard. ISO 9001 is one of the documents in this set; it contains the actual requirements an organization must be in compliance with to become ISO 9001 Registered.

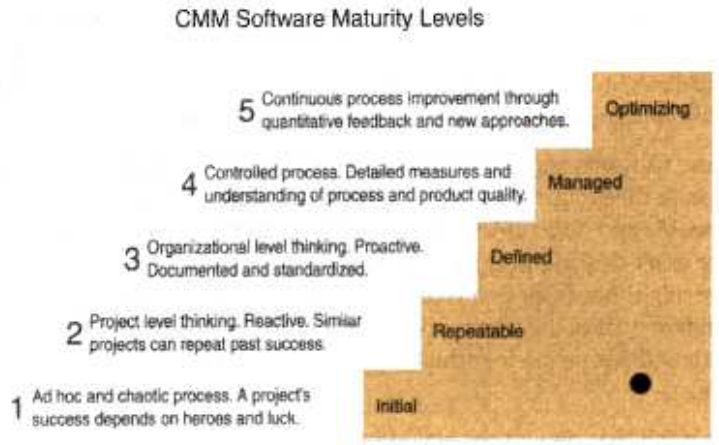
ISO 9001:2000 (Why)

Why Do Companies Want ISO 9001:2000? Many organizations decide to Implement ISO 9001 and obtain registration because it assures customers that the company has a good Quality Management System (QMS) in place. An organization with an effective QMS will typically meet customer expectations better than an organization that does not have an effective QMS. Many organizations require their suppliers to have ISO 9001 Registration.

What Is CMMI?

Capability Maturity Model Integration (CMMI) is a process improvement approach that provides organizations with the essential elements of effective processes. It can be used to guide process improvement across a project, a division, or an entire organization. CMMI provide guidance for quality processes, and provide a point of reference for appraising current processes.

The 5 Levels of CMMI?



The 5 Levels of CMMI

Level One Initial Company has no standard process for software development. Nor does it have a project-tracking system that enables developers to predict costs or finish dates with any accuracy.

Level Two - Managed Company has installed basic software management processes and controls. But there is no consistency or coordination among different groups.

Level Three Defined Company has pulled together a standard set of processes and controls for the entire organization so that developers can move between projects more easily and customers can begin to get consistency from different groups.

The 5 Levels of CMMI

Level Four Quantitatively Managed In addition to implementing standard processes, company has installed systems to measure the quality of those processes across all projects. Âă

Level Five - Optimized Company has accomplished all of the above and can now begin to see patterns in performance over time, so it can tweak its processes in order to improve productivity and reduce defects in software development across the entire organization.

What Is IEEE?

The Institute of Electrical and Electronics Engineers (IEEE) is a non-profit organization that develops, defines, and reviews electronics and computer science standards.

Rôle of Training

A ICT SME should look at itself and see where the organization currently stands, and where it wishes to stand, with repsect to the IT service.

- Time and cost for training staff with advanced Software Technology
- Technologies like Component-based Software Development, Formal Techniques, standard software process should be taught in Universities and retaught in SME
- Fundamental theories to make one selves adapted easily to a new technology

Conclusion

- QoS is a critical issue in outsourced IT projects
- Both the Business System Architecture and Components are contributing to QoS
- CBSE approach to improve QoS
- SME should be aware of SQA
- Training staff with new Technologies and Fundamental Theories as well as skills to follow SQA

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/017
Agenda Item: 8.2

Collaboration in Research and Software SME for IT Training – Experiences of IT Faculty, Hanoi University of Technology

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

APEC Symposium on Improving Market Access for ICT Outsource SMEs

Collaboration in Research and Training for Enhancing Training Quality

Sharing Experiences of IT Faculty, Hanoi University of Technology

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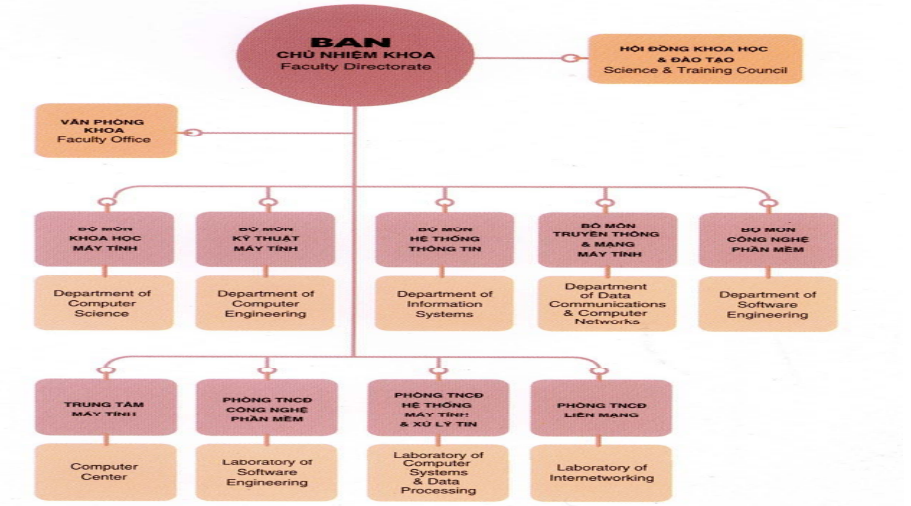
Content

- Introduction of Faculty of Information Technology (FIT)
- Training activities at FIT
- Improving the quality of training
- Research Activities at FIT
- Improving the level of collaboration in research with industry
- Proposals and Conclusion

Introduction

- **Faculty of Information Technology (FIT) of Hanoi University of Technology (HUT)** is one of the leading IT faculties in Vietnam.
- **FIT was established in 1995** by merging three HUT's departments
- **FIT has 5 departments, 1 computer center, the laboratories.**

FIT's Organization Schema



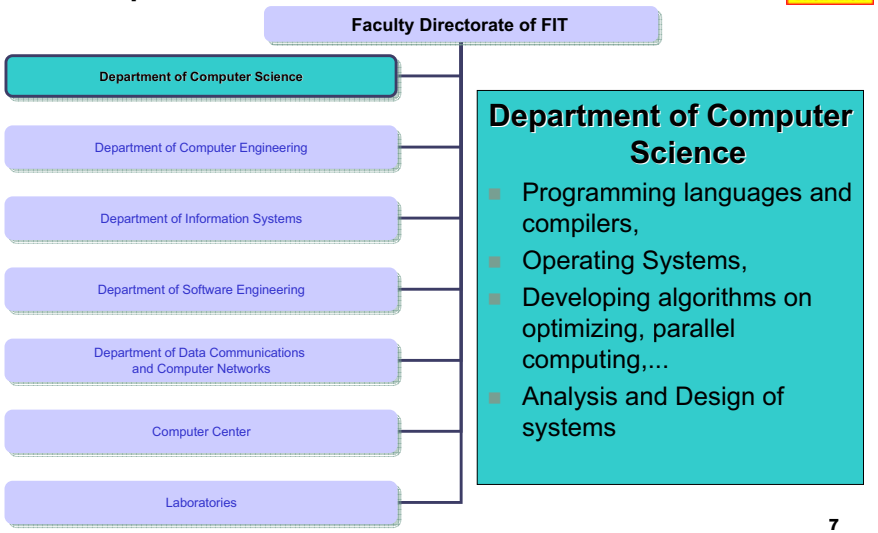
Organization

- **FIT has 5 departments, 1 computer center, the laboratories.**
- **Departments are responsible for:**
  - Teaching, formation of undergraduate degree, of master degree, PhD degree.
  - Scientific research projects
- **Computer Center participates in:**
  - Training, research,
  - Providing services to practice with computers for whole university students.
- **Laboratories support training and research activities of the departments.**

Staff of FIT

- Total staff of FIT- 9/2008: 115 members
- Teaching staffs: 95
  - Professors + Associate Prof.: 7
  - PhD: 27
  - MSc (including PhD students): 46 (22 PhD and Master students in foreign country)
- Support service and technician staff: 17
- Admin. Staffs: 3

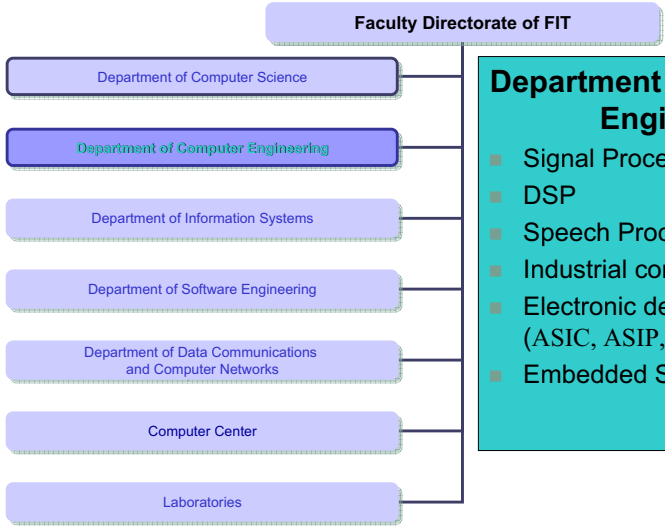
Departments'research areas



Department of Computer Science

- Programming languages and compilers,
- Operating Systems,
- Developing algorithms on optimizing, parallel computing,...
- Analysis and Design of systems

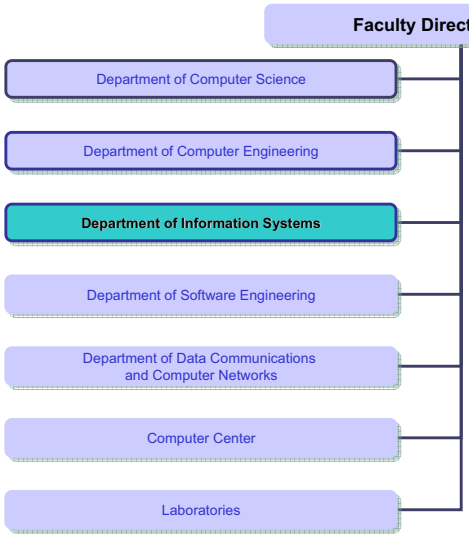
Departments' research areas



Department of Computer Engineering

- Signal Processing,
- DSP
- Speech Processing
- Industrial computer systems,
- Electronic design: chips (ASIC, ASIP, FPGA), circuits..
- Embedded Systems,..

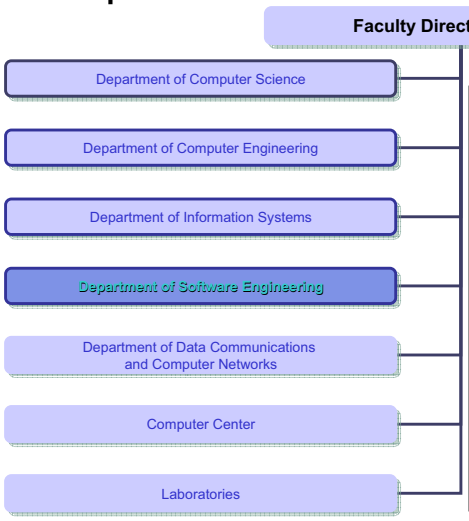
Departments'research areas



Department of Information Systems

- Data bases and management systems,
- Information system analysis and design,
- Artificial intelligent,
- Fuzzy systems.
- Grid Computing

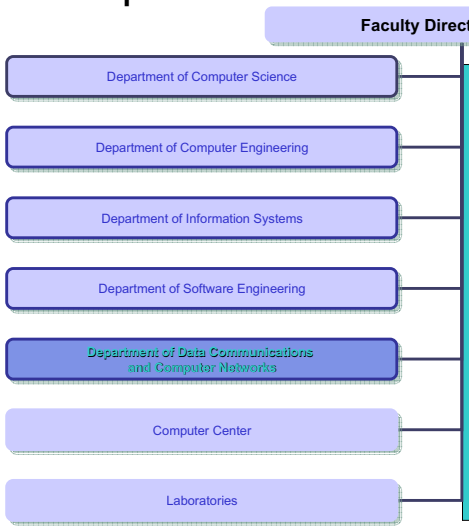
Departments'research areas



Department of Software Engineering

- Software engineering: methods, techniques, tools, standards,… for constructing software,
- Advanced programming models,
- Computer graphic, virtual reality
- Open Sources Software

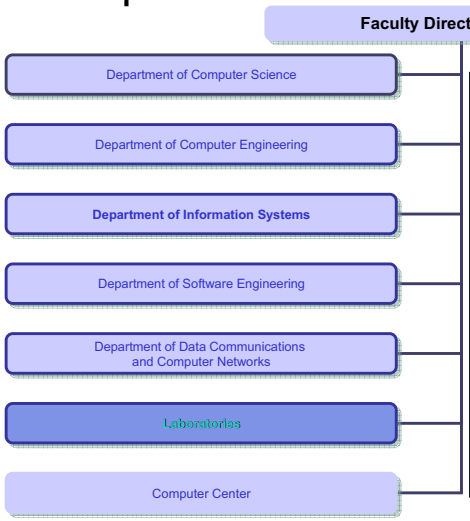
Departments'research areas



Department of Data Communications and Computer Networks

- Network Technologies
- QoS and Performance, Evaluation
- Distributed Systems
- Digital Communication,
- Multimedia Communication
  Image-Video processing
- Wireless Network and mobile communication
- Network Security and Biometric Based Information Security System

Departments'research areas



Laboratories

- Laboratory of Computer Systems and Information Processing,
- Laboratory of Internetworking, Data Communication and Multimedia.
- Laboratory of Software Engineering
- Laboratory of Information Systems
- Laboratory of Computer Science

Content

- **Introduction of Faculty of Information Technology (FIT)**
- **Training activities at FIT**
- **Improving the quality of training**
- **Research Activities at FIT**
- **Improving the level of collaboration in research with industry**
- **Proposals and Conclusion**

Training activities

Undergraduate programs

- Program for IT Engineering training: 5 years
  - Regular program in 5 specializations
  - IT Talented students training Program
  - Francophone Informatics Program
  - PFIEV Program
  - IT Vietnam-Japan Training Program
- International Training Program (ITP).
- Program for IT Engineering IT training: 2 years
- Program for IT Bachelor IT training: 3 years
- Courses for demands of the companies and organizations in Vietnam.

Training activities

- Five-year of training course for engineer's degree
  - 550 IT engineers per year.
    - 40-50 with aspiration to continue in Master/Phd. Courses in abroad
    - Others (80-90%) have a good job and career
- Two-year of engineering training course for those who have obtained an other university's degree
  - 50 IT engineers per year.
- Three year of training course for bachelor's degree
  - 300 IT bachelors per year.

Training activities

- **Post-graduate programs**
  - Two-years master program
    - Master of Information Technology.
      - 45 to 60 MSc per year (5-10 graduate with scientific paper in national conferences).
    - Master of Information Processing and Communication
      - 25 to 35 MSc per year (3-5 graduate with scientific paper in national conferences).
  - Ph.D program: about 5 per year

Training activities

- Objective:
  - Fundamental Knowledge
  - Technological Skill
  - English
  - High Level of Soft-Skill
- To meet demands of students:
  - Successful finding a good job in industry: 85-90%
  - Successful applying master and Phd. scholarship in abroad (5-8%) or continuing at master courses in Vietnam (4-5%)
  - Starting own business: establishing the private company, joint-stock company, …

Content

- **Introduction of Faculty of Information Technology (FIT)**
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- **Proposals and Conclusion**

Improving the quality of training

- To improving the level of obtaining the Fundamental Knowledge
  - Curriculum Development:
    - Follow the ACM/IEEE Guideline (www.acm.org)
    - Reviewing the Teaching Materials for each subject by the end of academic year
  - Improving teaching process: to follow the in-process evaluation - homework, assignment, midterm, final exam
  - Starting the teaching assistant and student-assistant system

Improving the quality of training

- To improving the Technological Skill for students
  - Provide courses on technology know-how based popular companies such as Microsoft, IBM, Oracle, Cisco, Sun, …
  - Support FIT student in getting technological certifications:
    - Technical Consulting for technological certificate preparation
    - Marketing promotion program for discounted exam pricing
  - Organize students club for exchange the skill in technology: IBM Student club, Microsoft student club
  - Organize workshop/seminar on new technology/application
  - FIT has strong collaboration with: IBM, Microsoft, Oracle, ..

Improving the quality of training

- To improving the English and Soft-Skill
  - Increasing the students awareness of using English
  - Inviting the expert from industry or professor from foreign institutions to give presentation at FIT
  - Regularly organize the TOEIC or TOELF examination for FIT Students to check the level of English
  - Visiting and internship at companies to observer the real situation at industry
  - Organize the seminar for job orientation with the companies
  - Recruitment workshop
  - Thesis development on-site at the companies, the thesis topic also provided by the companies

Content

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Research and Development

- Implement many science projects, including HUT level, region level, national level projects and projects with international collaboration
- Organize and co-organize the workshops, conferences and symposiums

R&D Projects 2002- 5/2008

- National Project of Science -Technology: 3
- National Project of Fundamentals: 16
- Project on Ministre level : 20
- Projects on HUT level : 23
- International Collaboration Projects 2002-2008

International Collaboration Projects

- Research Project: Advanced open Source Web Service Platform and Applications in HUT, 2004 – 2005, Collaboration VLIR-HUT (Belgium)
- Project: Linux & Open Source (C3LD) 2004 – 2006, Collaboration: AUF/Programme TIC/Formation/C3LD/010
- Project: Web Services, Collaboration with Japan
- Research Project: Vietnamese Speaker Recognition, Asia Institute, 2005-2007.
- JEAGAL Project: Joint European-Asian education and application development program on GALileo, 2005 – 2007, European (EC)

International Collaboration Projects

- Asia Link Project: Computational Logic and Logical Foundation of Computer Science, 2005-2007.
- Research project: BKGrid - an Open Source Platform for Grid and High Performance Computing, 2006-2007, Collaboration VLIR-HUT (Belgium)
- Research project: A Natural Language Interface for Querying Database and Automatically Generating Reports, 2006-2007, Collaboration VLIR-HUT (Belgium)
- Research project: Bio-PKI Based Information Security System, 2006-2008, Collaboration with MMU Malaysia
- A lot of the other cooperation activities with the International companies

Content

- **Introduction of Faculty of Information Technology (FIT)**
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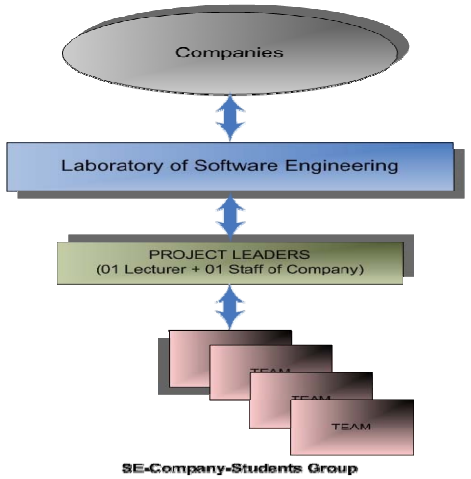
- **Improving the level of collaboration in research with industry**
- **Proposals and Conclusion**

Improving the level of collaboration in research with industry

- Research agreement by theme with some companies
  - Regularly progress checking and monitoring
  - Using English for communication
- Onsite practice of students in some companies
  - Topic given by companies
  - Regularly evaluation and monitoring system



Improving the level of collaboration in research with industry

- 5-6 agreement per academic year
- 40-50 students (10%) involve in the practice (on-site) at the companies

Content

Proposals and Conclusion

- **Collaborative Training and Internship**
  - Support FIT students in practice and internship programs at the companies
  - Finance support FIT students in organizing the activities to improve the English and soft-skills such as seminars, workshops, …
  - Creating Innovation club to exchange the technological knowledge and skill between the students and experts from companies
  - Supporting FIT students in getting the technological certifications

Proposals and Conclusion

- **Collaborative Research**
  - Support young faculty members and students to research on new technologies and publish papers or participate international conference.
  - Facilitate student-led (engineer, master and PhD) and young faculty members research projects in FIT via partnership program with leading technological companies in the world
  - Transfer research results into improved systems and products and possibility to provide in the market.
- Conclusion: The stronger collaboration between the academia and industry is right way to enhance the education quality

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/018
Agenda Item: 8.3

Software Outsourcing Human Resource: the Teams as Good as the Weakest Link

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

The Team is as strong as the weakest link!

Toward a successful software engineering team

Nguyen The Trung
DTT Group
Acknowledged: Pro. John Vu, Boeing, CMU

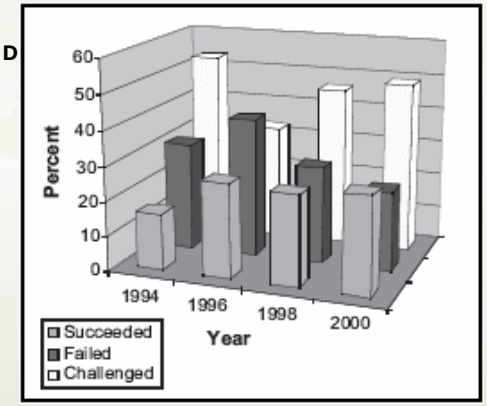
Software problems - No silver bullet

- " Software project, at least as seen by the non technical manager is usually innocent and straightforward, but is capable of becoming a monster of missed schedules, blown budgets, and flawed products".
  - **Complexity** : essential complexity and its nonlinear increases with size.

    a scaling-up of a software entity is not merely a repetition of the same elements in larger sizes, it is necessarily an increase in the number of different elements. In most cases, the elements interact with each other in some nonlinear fashion, and the complexity of the whole increases much more than linearly.
  - **Conformity** : much complexity comes from conformation to other interfaces; this complexity cannot be simplified out by any redesign of the software alone.
  - **Changeability** : the software product is embedded in a cultural matrix of applications, users, laws, and machine vehicles. These all change continually, and their changes inexorably force change upon the software product.
  - **Invisibility** : Software is invisible and unvisualizable

Why Software Projects fail

- **Unrealistic Schedules**
- **Inappropriate Staffing**
- **Changing Requirements D Development**
- **Poor-Quality Work**
- **Believing in Magic**



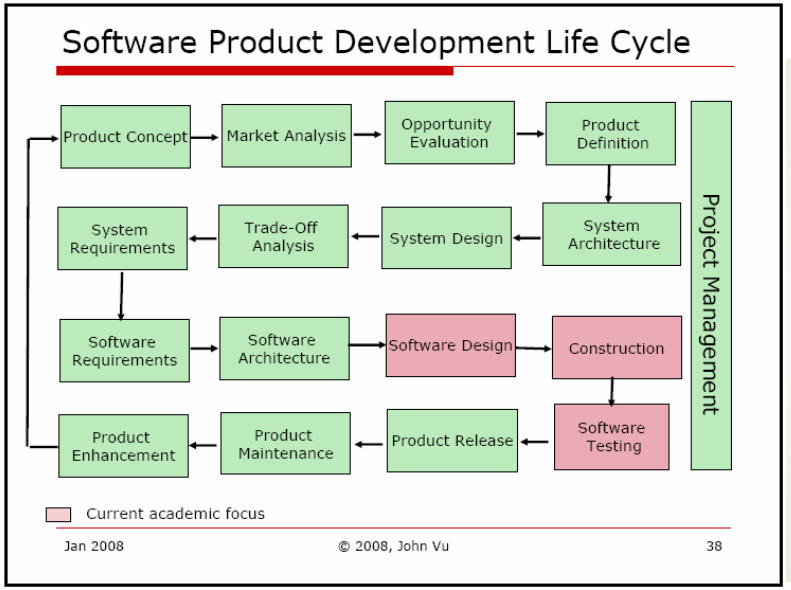
Five reasons why software projects fail, C Watts S. Humphrey , ComputerWorld

Challenges of Offshore Outsourcing

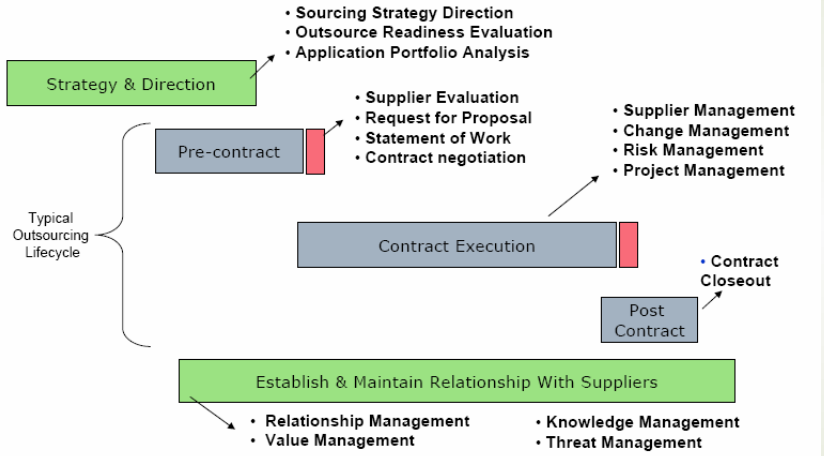
Challenges	%
Managing Communication	67%
Cultural Differences	51%
Lack of internal Processes for specifying work	40%
Lack of internal customer management skills	32%

www.cio.com

Software Product Development Life Cycle



Outsourcing lifecycle

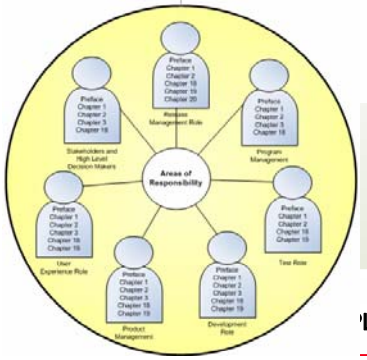


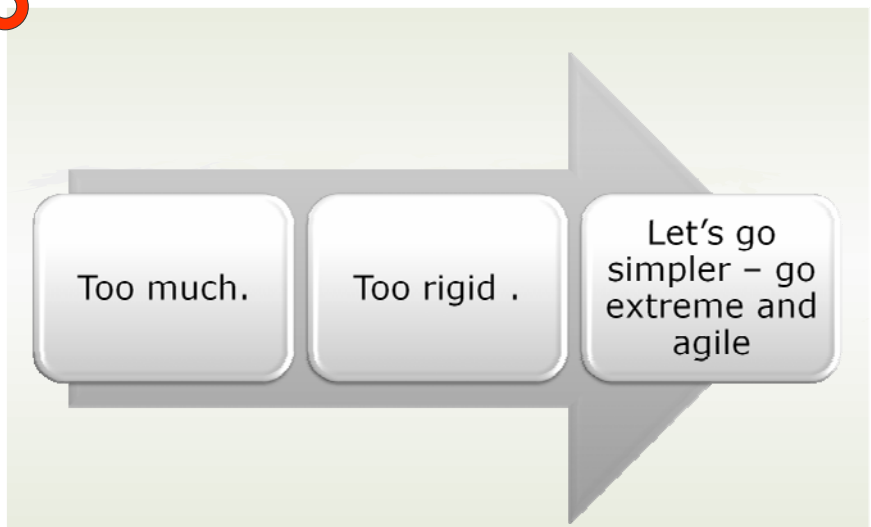
There are many roles in any SD process model !!!

Breadth and depth roles in RUP disciplines

Discipline	Breadth role	Depth role
Business Modeling	Business Process Analyst	Business Designer
Requirements	Systems Analyst	Requirements Specifier
Analysis and Design	Software Architect	Designer
Implementation	Integrator	Implementer
Test	Test Manager	Test Designer
	Test Analyst	Tester
	Test Designer	
Deployment	Deployment Manager	Tech Writer, Course Developer, Graphic Artist
Project Management	Project Manager	Project Manager
Environment	Process Engineer	Tool Specialist
Configuration and Change Mgt	Configuration Manager	Configuration Manager
	Change Control Manager	Change Control Manager

MSF Team model





Four roles in Scrum:

- The **scrum master** reviews the team's progress team and ensures time estimations are
- updated.
- The **product owner** writes user stories and defines acceptance tests.
- The **scrum team** estimates task durations and develops stories and unit tests.
- The **manager** provides directions to keep the work going according to plan and removes obstacles.

Six [core] roles in Feature-Driven Development (FDD):

- The **project manager** leads the team and reports on its progress.
- The **chief architect** is responsible for system design.
- The **development manager** is responsible for the development activities.
- The **chief programmers** provide technical leadership to the smaller teams.
- The **class owners** are developers who each own one class and are responsible for making all changes in it.
- The **domain experts** are the users.

Six roles in Lean Development:

- The **customer** provides the requirements.
- The **master developer** is responsible for system design.
- The **expertise leader** is responsible for specific technical areas such as GUI design, database development, and security.
- The **project leader** is responsible for time estimations and the team's progress.
- The **observer** takes notes on the team's process.
- The other team members are the **programmers**.

Six roles are mentioned in ASD Adaptive Software Development (ASD)

- The **executive sponsor** is responsible for the product being developed.
- The **developer** and **customer** representatives.
- The **facilitator** plans and leads the development sessions.
- The **project manager is** responsible for product delivery.
- The **scribe** records requirements, agreements and decisions reached.

Seven roles in Extreme Programming (XP):

- The **programmer** analyzes, designs, tests, programs, and integrates.
- The **customer** tells and writes stories to be implemented and decides when they will be implemented.
- The **tester** uses the customer's viewpoint in order to determine which items most require verification.
- The **tracker** measures progress quantitatively, by comparing estimations with actual results.
- The **coach** is responsible for the process as a whole.
- The roles of **consultant** and **boss** are external and are filled by people from outside the team.

Eight roles in Crystal Clear:

- The **sponsor** provides the mission statement.
- The **senior designer** produces the system design.
- The **user** helps with use cases and screen drafts.
- The **designer-programmers (designers**) design, code and test.
- Four additional merged roles are identified in Crystal Clear, which means that they can come from the people filling the above-mentioned roles:
- The **business expert** can come from the sponsor, user, or senior designer.
- The **coordinator** can come from the senior designer and is responsible for the schedule and the release sequence.
- The **tester** can come from the designers and is responsible for test results and defect reports.
- The **writer** can come from the designers and is responsible for the user manual.

Eleven roles in Dynamic Systems Development Method (DSDM):

- The **executive sponsor** is a high-level executive who is responsible for the system and
- for its fast development progress.
- The **ambassador user** represents the entire user community.
- The **visionary user** makes sure that the vision of the product is not lost.
- The **advisor user** brings daily business knowledge to the development team.
- The **project manager** is responsible for ensuring project delivery, coordinating and reporting to the management.
- The **technical coordinator** reports to the project manager and assists all development teams.
- The **team leader** ensures that the team functions as a whole, and that the objectives are met.
- The **senior developer** interprets user requirements into prototypes and deliverable code.
- The **developer** assists with these tasks as part of DSDM skills development.
- The **facilitator** is responsible for managing the workshop process, an interactive communication technique for making decisions.
- The **scribe** records requirements, agreements and decisions reached.

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DTT TECHNOLOGY GROUP

SOLUTION !!!

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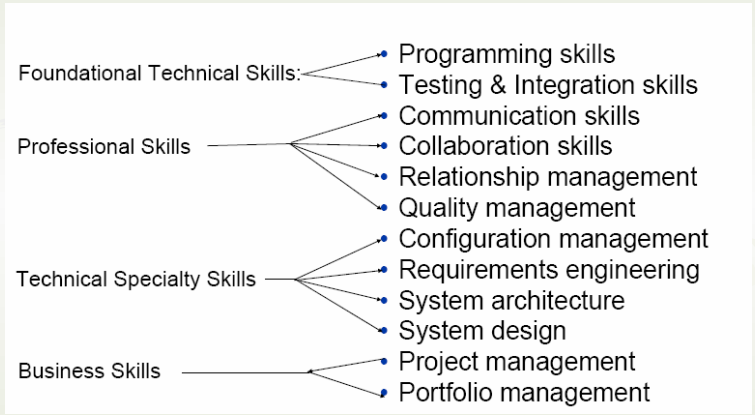
Skills needed in outsourcing business



PEOPLE ◦ SHARE ◦ TECHNOLOGY
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Programming skills

Knowledge of implementation issues, including the use of virtual machines in language understanding; representation of data types; sequence control; data control, sharing, and type checking; run-time management; and language translation systems.

• Skills in the construction of the software components that are identified and described in the design documents. Including knowledge about translation of a design into an implementation language, program coding styles, software reuse, and the development and use of program documentation.

• Knowledge and skills in the translating a software design into an implementation programming language. Including knowledge about modular and incremental programming, structured programming, and knowledge of various programming paradigms (assembly, procedural, object-oriented, functional, and logic). It also includes knowledge about how to use source code development tools and programming language translation tools.

Testing and integration skills

• Ability to establish test cases and scripts that correct a defects in providing solution to a problem.

• Testing is a multi-stage process that consists of activities for validating

the software product, from the most primitive elements up to the fully integrated system.

• Ability to develop and conduct unit testing, performance testing, integration testing, system testing, and acceptance testing.

• Ability to verify and validate software components and final product to meet clients' requirements.

Requirements Engineering Skill …

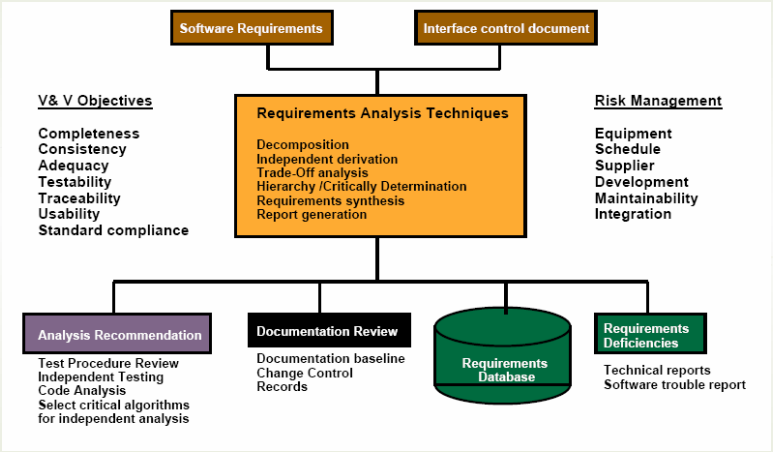
• Ability to work cooperatively with clients to obtain better requirements by understanding their business needs and to assist clients to write good requirements in their contract, to set up requirements baseline, and to manage requirements changes.

• Ability to obtain a precise formal requirements specification from the informal and often vague contracted work authorization written by clients.

• Ability to validate client's requirements and build traceability between requirements to system and software components.

• Ability to manage changes to requirements during contract duration and ensure formal configuration control of all changes against baseline.

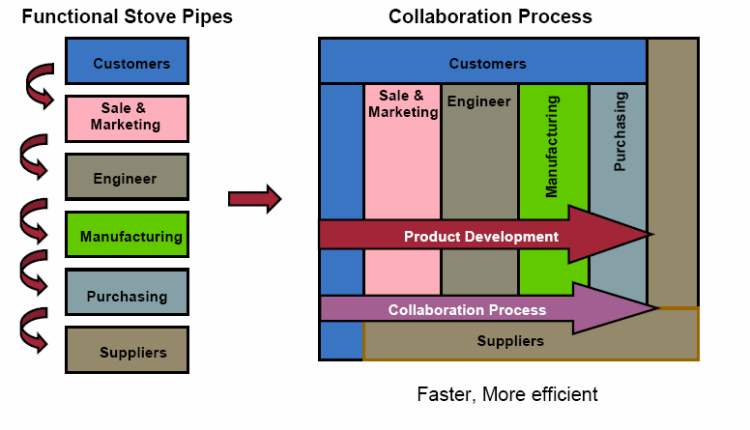
Requirements Analysis



Collaboration skills

• Ability to work together effectively as a team members and across job functions and levels to guarantee results in today's service oriented business environment.
• Ability to maximize the sharing of ideas, knowledge and technological know-how to make value-added decisions, resolve conflicts, and maintain trust.
• Ability to communication clearly and concisely to facilitate collaborative decision making skills.
• Ability to articulate vision, mission and objectives collaboratory.
• Ability to resolve conflict via a defined process
• Ability to maintain perspective in the workplace

Collaboration management



System Architecture

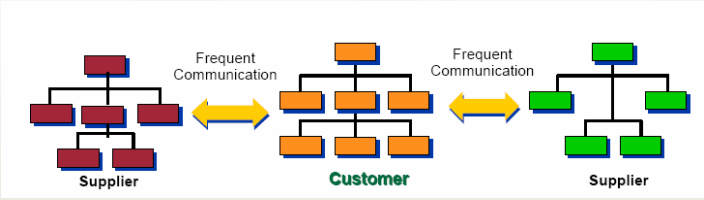
• Ability to design, understand, and evaluate software systems at an architectural level of abstraction.
• Knowledge of methods in planning, organizing, designing efficient, reliable computing systems to satisfy a high level, often vague requirements.
• Skills in architecting in both traditional Von-Neumann architecture and the evolution of non-Von Neumann architectures such as Pipelining; Reduced instruction set computer (RISC); Complex instruction set computer (CISC) architectures, multiprocessors and multi-computers, parallel programming, data flow architecture, interconnection networks, and neural networks.
• Skills in network-centric architectures: protocols and standards, transmission techniques and devices, speed and quality tradeoffs, and security and encoding algorithms.

System Design

• Ability to transform requirements into a description of how these requirements are to be implemented.
• Knowledge of variety of techniques and forms of representation to conduct architectural design, abstract specification, interface design, component design, data structure design, tasking design, and algorithm design.
• Skills in identifying and documenting the subsystems making up the overall system, and the relationships between and among the subsystems. Including knowledge about design methods and techniques for functional design, object-oriented design, real-time system design, and client-server system design.
• Skills and knowledge about the interface between subsystems and users including knowledge about interface design principles, task analysis and interface modeling, implementation tools, information presentation, design evaluation, and user documentation.

Communication

- • Suppliers must builds trust through frequent, open and honest communication with customers.
- • Meet and discuss when things are OK, Not just problems
- • Understand customers' expectations
- • Document the shared goals and expectations
- • Manage customer's stated project performance, measures and monitor them as a firm requirements
- • Track and resolve concerns and issues



Project Management

• Ability to define project objectives, assessing project needs and resources, developing estimates for the work to be performed, establishing the necessary commitments, and defining the plan for performing the work.

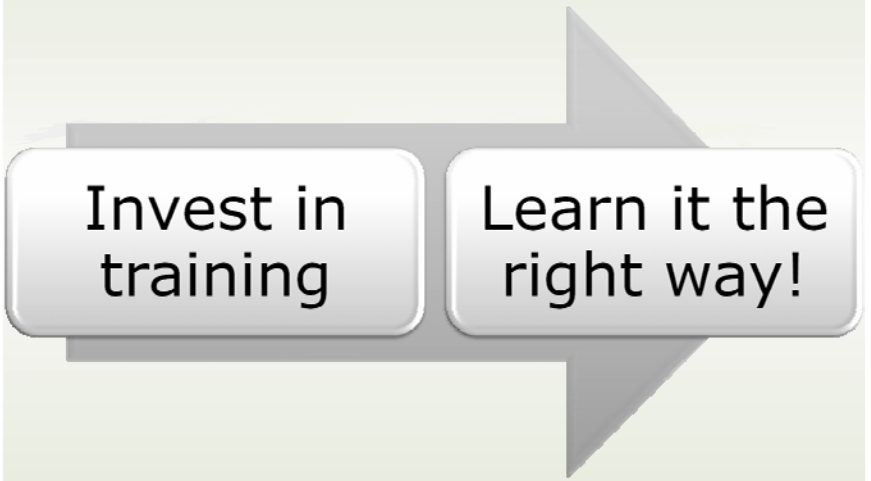
• Ability to prepare a project plan that include scope, goals and objectives, strategies, policy and estimates of size, functions, schedule, and resources needed

• Ability to manage and control project execution according to the project plan and metrics, managing changes and report status and capturing historical data.

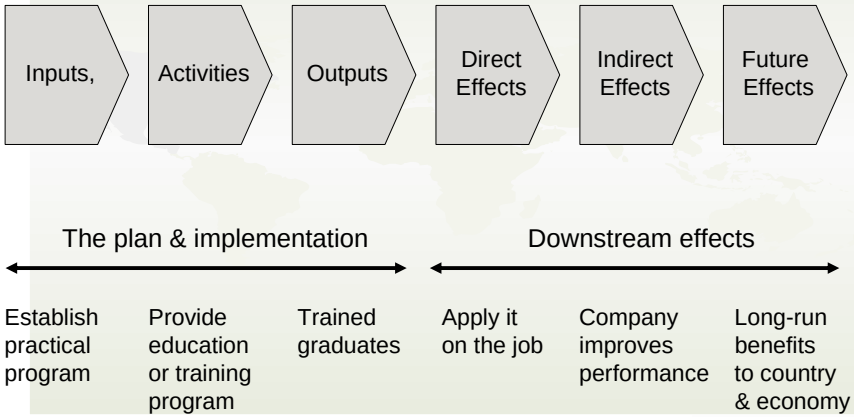
Relationship management

Ability to:

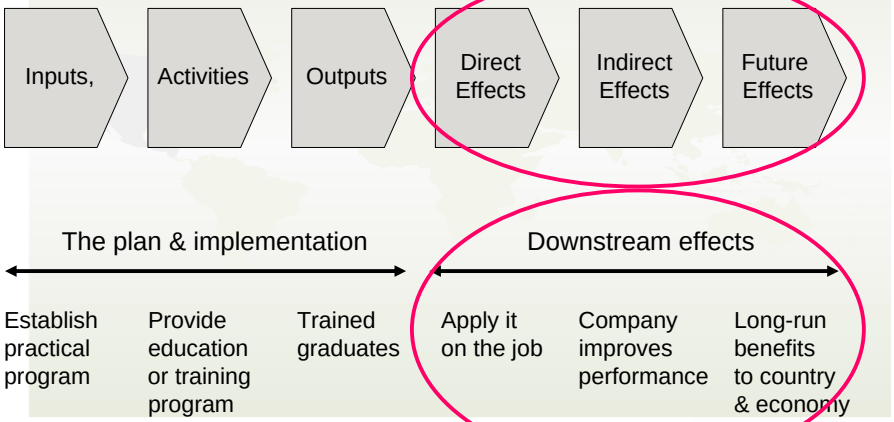
• Establishing trust
• Managing clients' expectations
• Ensuring positive experiences during interactions
• Managing cultural differences
• Ensuring confidentiality
• Managing relationships
• Preventing communication breakdowns
• Measuring service performance
• Developing employee satisfaction, avoid turnover
• Capturing lessons learned

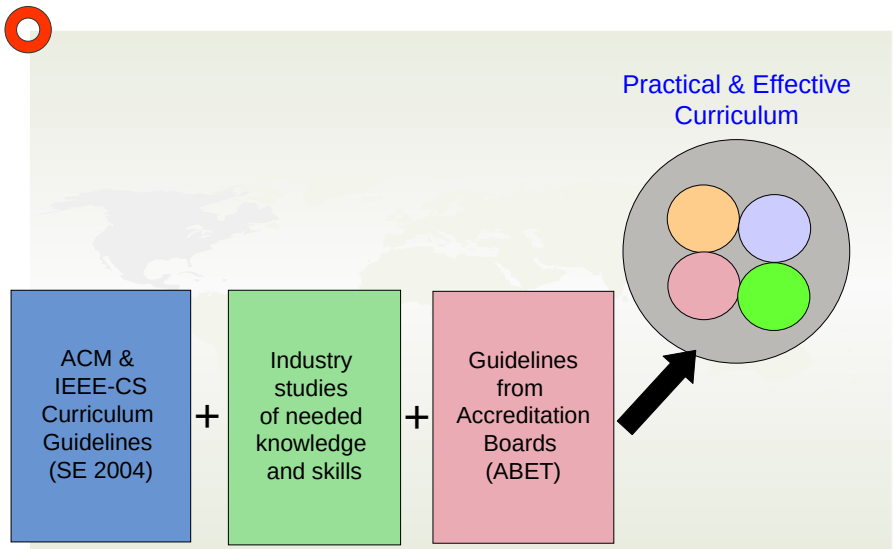


The Long Term Evaluation

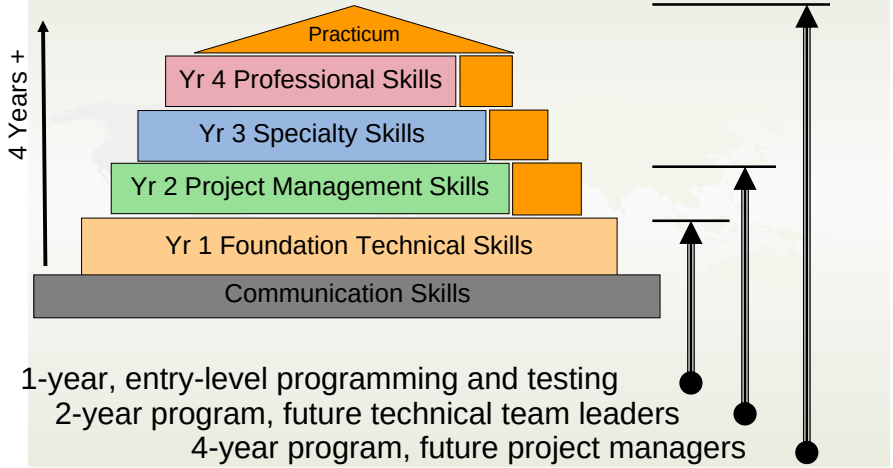


The Long Term Evaluation





A Practical 4-year Curriculum



Practical Software Engineering	ABET & Accreditation Criteria
Professional Practice	
Capstone project (2 semesters)	Demonstrate Mastery of Knowledge & Skills
Professional Seminars (Twice a year)	
Computing Fundamentals	
Fundamentals of Computing 1	Data Structures, JAVA, Algorithms
Fundamentals of Computing 2	Data Structures, OOD, UML, JAVA
Introduction to Network & Telecom	Distributed Programming, JAVA
Advanced Concepts in Computing	C#, OOD, Modeling, Problem Solving
Software Construction	Formal methods - PSP/TSP Programming
Information Systems Applications	Introduction to Databases, Data mining
Application Development Practices	Problem Solving
System Integration Practices	Problem Solving
Software Engineering	
Introduction to Software Engineering	Software Principles & Life Cycle Concepts
Software Architecture & Design	Concepts of Design & Tests
Software Testing	Concepts of Verification & Validation
Requirements Engineering	Concepts of Requirements Analysis
Software Project Management	Concepts of Software Management
Software Process & Quality	Concepts of Quality Management
Software Measurement & Analysis	Concepts of Measurements, Logic
Software Reuse & Integration	Concepts of Components & Integration
Group Dynamics & Communication	"Basic Communication & "Soft Skills"

US Industry Skills Recommendations	ABET & SE 2004 Student Outcomes	Practical Software Engineering Courses
Ability to apply knowledge of science, engineering and mathematics	Show mastery of the software engineering knowledge, and professional skill necessary to begin practice as a software engineer	Capstone project for Software Engineering Application Development Practices System Integration Practices Software Reuse & Integration
Ability to design and conduct experiments (analyze & interpret the data)		Requirements Engineering Advanced concept in Computing Software constructions Software Architecture & Design
Ability to function in a team	Work as an individual and as part of a team to develop and deliver quality software artifacts	Group Dynamics & Communication Applications Development Practices System Integration Practices Capstone Project for Software Engineering
Ability to design systems, components, process to meet customer's needs within realistic constraints	Reconcile conflicting project objectives, finding acceptable compromises within limitations of cost, time and knowledge in existing systems and organizations	Requirements Engineering Software Project management Software Architecture & Design Software Construction Software Testing Software Measurement & Metrics Software Reuse & Integration
Understand professional & ethical responsibility	Design appropriate solutions in one or more application domain using software engineering approaches that integrate ethical, social, legal and economic concerns	Introduction to Software Engineering Group Dynamics & Communication System Integration Practices

US Industry Skills Recommendations	ABET & SE 2004 Student Outcomes	Practical Software Engineering Courses
Ability to use techniques, knowledge, and skills to solve problems		Fundamental of Computing 1 Fundamental of Computing 2 Advanced Concept of Computing Software Architecture & Design Software Construction Applications Development Practices System Integration Practices Capstone Project For SE
Ability to communicate effectively	Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for problem identification and analysis, software design, development, implementation and documentation	Group Dynamics & Communication Requirements Engineering Software Project Management Software Architecture & Design
Knowledge of contemporary issues	Learn new models, techniques and technologies as they emerge and appreciate the necessity of continuing professional development	Introduction to Software Engineering Software Process & Quality Management Software Reuse and integration Introduction to Network & Communication
Understand the impact of an engineering solution in global economics, and the environmental/social context		Introduction to Software Engineering Introduction to Network Communication
Ability to work in one or more significant application domains		Introduction to Network Communication Information System Applications

Thank you

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/019
Agenda Item: 9.1

Marketing Policy for Crafter in SMEs

Purpose: Information
Submitted by: Indonesia

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

MARKETING POLICY FOR CRAFTER IN SMALL AND MEDIUM ENTERPRISES (SME's)

BY : H A R T O N O

I. INTRODUCTION

To create more innovative and competitive handicraft products in addition to market compatibility, it is necessary to have improvement and environmental care by the government and large sized business to the crafters.

Main duties on Crafter in Small and Medium Enterprises improvement are:

1. To improve Crafter in Small and Medium Enterprises market capacity and orientation;
2. To build and develop marketing infrastructure;
3. To create business or conducive business of Crafter in Small and Medium Enterprises.

The purpose of Crafter in SME improvement is to increase awareness, understanding, skill of small and medium enterprises throughout innovative aspects of product design, product quality, marketing, competitive effort and product compatibility in the middle of rapid market, also influenced by marketing infrastructure so that the process of Crafter in Small and Medium Enterprises' products marketing are guaranteed, marketable.

SME Crafting generally resists to natural resources crisis. The skills of art and traditional taste have been acknowledged by domestic and international market as state of the art products, but the technology, management science and ability of fast and right order deliveries are still limited.

The support of government and domestic market are extensive, the business opportunity is attractive, natural resources availability and rich variety of traditional culture.

The rapid competition of similar products and large sized business expansion are limiting the space of SME.

II. CONDUCIVE ATMOSPHERE CONCEPTION

In order to protect Crafter in SME from mass craft production by modern and foreign businesses that can make a shift to the products of the SME, government should make a space order for the SME.

Protection for the Crafter in SME shall be made in the form of:

Placement zone for Crafter in SME' products in modern market, for example placement zone especially on Sarinah Thamrin Jakarta, Pasar Raya Blok M Jakarta, Pasar Sukowati Gianyar, Pasar Seni Kuta Bali, etc.

1. The location where art or souvenir shops are gathered can potentially be an interesting and strategic souvenir shopping tourism as one of local government asset that should be preserved.
2. Promotion of the Crafter in SME' products shall become visualization of domestic products' sense of belonging and public's pride to the domestic products.
3. Eliminating terms of trade that could harm SME as modern retail supplier (hypermarket).
4. Controlling hypermarket on private labeling for the Crafter in SME' improvement. This case may cause SME do not have bargain value if the brands are owned by hypermarket.

Protection of Crafter in SME products is national commitment and the culture of Crafter in SME products as domestic products' sense of belonging, for example fabric from Minang's embroidery. Some of handicraft products as one of local icon are the traditional food packing from plaited bamboo. Local farming product such as coffee from Toraja packed in a wooden handicraft with typical design from Toraja. Traditional snacks, honey or syrup that are packed in plaited material will have different value.

III. INFORMATION AND PRODUCT PROMOTION

Information and product promotion are inseparable market opportunity from business world, especially for the Crafter in SME, to increase their product's innovation, quality and quantity. Information opportunity can be created in digital world or printed out in special magazine for Indonesian's handicraft products, or in a periodic exhibition rapidly held by government of private company. Some product information as follows:

a. Trading board is a media on the Internet, which can be accessed by the Crafter in SME through www.indonesian-products.biz, this site consists of ± 2.500 SME with ± 10.000 handicraft photos from 11 provinces. The goal of Trading Board is to help the Crafter in SME to receive and distribute buyer's demand through e-mails, telephone or fax. There have been around 150.000 visitors in 2007 from America, England, Australia, Europe and Asia since it's been created in 2005. The Crafter in SME product database shall be continuously updated by their product innovation.

b. Trading House by Institution of Marketing Service Coops and SME, known as Gallery UKM, is an activity to improve Crafter in SME in marketing regularly, permanent display showcase, financing facilitation, marketing training, consultation center, virtual office. In Trading house, the buyer can visit the gallery to see physically the desired products. Generally, the products that have been showed until today are furniture, home furnishing, accessories and handicraft. In order to support export activity, the Gallery UKM is connecting to the Trading House in Plovdiv, Bulgaria to enable access in Europe and the Trading House in Jeddah, Saudi Arabia as the gateway to the Middle East countries and Africa.

c. The role of Trading Councils to concentrate on promoting Crafter in SME Products in the world as promotion representative thus business intelligence on delivering market information. The Introduction promotion with adequate explanation from the trading councils is the reference for the tourists, visitors or buyers that come to Indonesia.

d. Publishing Crafter in SME in-flight catalogue periodically to easier the tourists and buyers on their flight to have information regarding small medium businesses products. This promotion is one of effective off line form and buyer can directly connect to the Crafter in SME. The placement target of the in-flight catalogue is international and domestic flights to tourism areas.

e. Kriya magazine publishes specifically for potential handicraft products from beginners to advance crafters from Indonesia and has quite good selling value, this monthly magazine consists of detailed information about the crafter existence with their production process. This magazine initiated by National Handicraft Council (DEKRANAS) and always presents in every handicraft exhibition.

f. Handicraft magazine is also focused on handicraft and to deliver information regarding exhibition events periodically, this magazine provides additional information on potential handicraft world, which has not been touched by the developer or handicraft designer to promote and develop their products.

g. The prestigious exhibition events that have handicraft icons, periodic, and focused on handicraft innovation are INACRAFT, ICRAFT, INDOCRAFT, Pekan Produk Ekspor/PPE (Trade Expo), Pekan Produk Budaya Indonesia (PPBI), Pekan Produk Indonesia (PPI), SME'sCO Festival, SME'sCO Tematik (Craft, Fashion, Food and Packing, Home Furnishing), IFFINA, Pameran Mutumanikam, Bali Fashion Week, Jogya Fashion Week, Adhiwastra Nusantara, Gelar Batik, Gelar Kerajinan, Gelar Tenun, etc.

h. Handicraft workshop and technical guidance is one of consideration form in developing handicraft to deliver concept and knowledge in order to increase trend, quality and market information.

i. The competition of souvenir product designs, leather products and other handicraft will make the activity as an event to show the skills in creating new competitive and artistic designs. These competitions shall be promoted and to grant more incentive to the winners to join international and domestic handicraft exhibition.

j. Design power which targeting 200 good design products made in Indonesia is a national program that absolutely builds creative industry to have healthy competition and Indonesian can have their own identity towards domestic product design.

IV. BUSINESS FACILITY AND INFRASTRUCTURE

The product swift and development by marketing needs to be supported by adequate and competitive business facility and infrastructure for the Crafter in SME products, therefore the government is providing incentive in the form of promotion center as follows:

a. Souvenirs outlet in airports and tourism area are one of effective facility to invite buyers in a short time.

b. Art shop/souvenirs gallery for Crafter in SME products is the marketing area allocation as tourism area in marketing Crafter in Small Medium Business' products,

c. The usage of display room in Indonesian representative office around the world as replica that Crafter in SME products can be bought and known by buyers who haven't had time to visit Indonesia.

d. Permanent Display in UKM DKI Mall building in Jakarta is a permanent display for UKM DKI Jakarta handicraft products and where exhibitions held periodically to attract visitors and tourists in Jakarta.

e. SME'sCO Promotion Center (SPC) in Jakarta is a Coops and SME (KUKM) products marketing center in Jakarta facilitating export oriented Crafter in SME and becomes KUKM products Trading House nationally.

f. Borneo Convention Center (BCC) in Pontianak, West Kalimantan, is a Coops and SME (KUKM) Kalimantan region convention and promotion center which promotion target are the neighboring countries such as Malaysia, Singapore and Brunei Darussalam.

g. Celebes Convention Center (CCC) in Makassar, South Sulawesi is a KUKM Sulawesi and other east region convention and promotion center, had been used for routine exhibition events until today.

h. Sriwijaya Convention Center (SCC) in Palembang, South Sumatra is a KUKM Sumatra region that promotes potential Crafter in Small Medium Business' products periodically and the place where exhibitions held.

i. Paradise Convention Centre (PCC) in Manado, North Sulawesi is a exhibition center facility in north region to capture visiting domestic and foreign tourists.

j. Sentra Business Coops and SME (KUKM) in Bandung, West Java, is a KUKM products marketing center in West Java region focusing the potential producer KUKM. It has mission to improve the KUKM to market their products by open business and to make the products ready to compete with other products.

k. Exhibition event facility by government or private/event organizer, government facilitates the Crafter in SME to join the events as a stimulus in obtaining market and market information.

V. PARTNERSHIP SYNERGY

The partnership mandated by Act Num. 20/2008 regarding Micro, SME article (1) is a cooperation in business both directly and indirectly in a dependence basic, trustworthy, mutual strengthen and beneficial involving micro and medium businesses with large business.

The growth of business atmosphere by local government depends on partnership aspect as follows:

1. To create partnership between micro, SME;
2. To create partnership between micro, small, medium and large enterprises;
   a. To support mutual relation in business transaction between micro, small and medium enterprises;
   b To support mutual relation in business transaction between micro, small, medium and large enterprises;
3. To develop partnership to increase bargain position of micro, small and medium enterprise;
4. To support market structure, guarantees the growth of healthy business competition and to protect consumer.
3. To prevent market domination and centralized business by individual or group that could harm small and medium enterprises.

Partnership with company owned by government in the form of partnership program and environmental care (PKBL) as Corporate Social Responsibility (CSR). This program has been running quite long as one of government involvement.

Partnership with reference to mutual sustainability and benefit, there should be modern retail support in providing certain estate for SME.

VI. MAINTAINING DOMESTIC TRADE EVENT MOMENTUM

To maintain momentum in domestic trade event generally is a business opportunity for Crafter in SME to join the marketing events periodically.

Facilitations provided by the exhibition events make business opportunity has to be maintained and preserved by Crafter in SME and to open wide network. Domestic trade generally influenced by increasing local/domestic market demand especially to the most favorite products in the market. Trade event momentum in general promotion is more to the exhibition that's not just showing the products, but also seeking and keeping the network as marketing.

The big domestic trade potencies is an opportunity for Crafter in SME in capturing the market, but still difficult to obtain as local/domestic necessity because of the following:

1. The weak market access by Crafter in SME.
2. Crafter in SME product continuity.
3. Financial source in growing the products.
4. Market assurance as result of less market information.
5. Periodically marketing

Financial supports for Crafter in SME were to strengthen raw material financing, but considering the financial distribution was performed by banks, the governmental institution was the financial facilitator. Financial support is the factor in maintaining the domestic products, i.e. capital assurance/Crafter in SME financing.

VII. ACCESSING EXPORT MARKET

Most of domestically marketed SME products are potentially marketed foreign market, considering the quite large volume of export value and the unstoppable world trade globalization. As an illustration, SME export value in 2004 was Rp 95.5 trillions, increasing up to 14% to Rp 109.1 trillions. And in 2006, small medium business product export raised to 10.3% in to Rp 120.4 trillions as result from export product competition to China, Vietnam and Thailand.

The government therefore, always supports by giving the Crafter in SME market opportunity to Saudi Arabia, Uni Arab Emirate, Bulgaria, West Germany, South Africa, Hong Kong, Malaysia, Singapore and Vietnam.

There are still opportunities in East Europe as doorway to other European market, specifically in Abente and tendentious lifestyle in Messe-Frankfurt, West Germany, even Hong Kong for fashion products and accessories.

VIII. CLOSING

To strengthen marketing access for varied small medium business products is the pillar of success Crafter in SME improvement to increase the product, quality and innovation, which directly impacts on economic improvement, which directed to 4 targets as follows:

1. Creating conducive, efficient and healthy business climate for small medium businesses;
2. To contribute as much as possible to create new occupation opportunity or highly deploy manpower;
3. To increase the wealth of Crafter in SME;
4. To support real sector, the productive business sector by the SME.

THANK YOU

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/020
Agenda Item: 9.2

How to get a Freelance Job?

Purpose: Information
Submitted by: Singapore

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

How to get a freelance job?

CodeMonkey

free-and-happy.com

Contents

- About me
- Why freelance?
- Where to find a freelance job?
- How to build your profile?
- How to deal with customers?
- You and your customer are a **team**
- Get **5 star ratings**
- More trustworthy, more well known, **more jobs**

About me

Why freelance?

Choose the job you want

Source: http://www.odesk.com/jobs/

Very good payment rate (USD per hours)

Skill	Avg	High
Access (2,521)	$16	$65
AJAX (5,280)	$16	$60
Application Design (2,275)	$20	$60
ASP (2,998)	$16	$50
ASP.NET (5,063)	$16	$60
C#/.NET (5,460)	$17	$60
C/C++/Unix (2,053)	$17	$67
C/C++/Win32SDK (2,243)	$18	$60
CSS (5,452)	$16	$67
Design/Flash (2,048)	$15	$42
Drupal (467)	$14	$25
Flash/Actionscript (1,822)	$16	$36
Graphics (2,663)	$18	$60
HTML/DHTML (8,402)	$16	$67
J2EE (3,156)	$18	$56

Skill	Avg	High
JavaScript (4,154)	$16	$60
Joomla (1,694)	$14	$50
LAMP Administration (1,063)	$17	$60
MySQL (4,628)	$17	$60
OsCommerce (1,169)	$13	$25
Perl (1,339)	$18	$36
Photoshop (5,877)	$15	$60
PHP (3,692)	$16	$50
Project Management (2,691)	$18	$67
Python (578)	$19	$56
QA (1,014)	$16	$60
Ruby (625)	$20	$44
SEO (1,646)	$13	$33
Tech Writer (1,242)	$16	$60
Visual Basic (2,314)	$17	$65

Source: http://www.odesk.com/

Better working skills

- You are a whole company
  - You are a salesman
  - You are a programmer
  - You are a customer supporter
  - You are the boss of yourself
  - You play every role in an IT company

Do you want do to freelancing? What are difficulties?

1) Is English the hardest difficulty to get a freelance job?
yes [42.86%]
no [57.14%]

2) Do you feel confident when text chat or email with foreigners?
yes [57.14%]
no [42.86%]

3) Do you think that you are not as good as foreigner developers?
yes [50.00%]
no [50.00%]

4) Do you believe that you can finish a project from begining to the end?
yes [50.00%]
no [21.43%]
don't know [28.57%]

5) If some one ask you to do a freelance job, do you want to do?
yes [96.43%]
no [3.57%]

6) Have you done freelancing before?
yes [21.43%]
no [78.57%]

(a survey among 30 Vietnamese IT students)

Where to find a freelance job?

- odesk.com
- elance.com

(a comparison between odesk.com and elance.com)

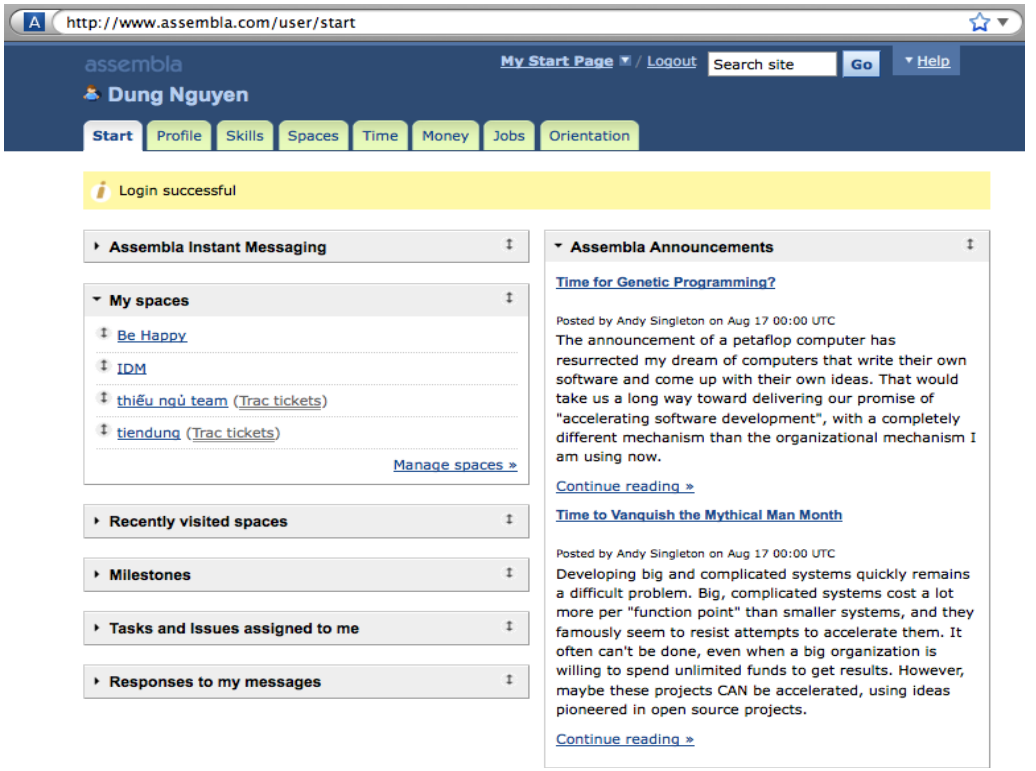
- getafreelancer.com
- getacoder.com
- rentacoder.com
- vnfreelance.com
- lamthem.vn

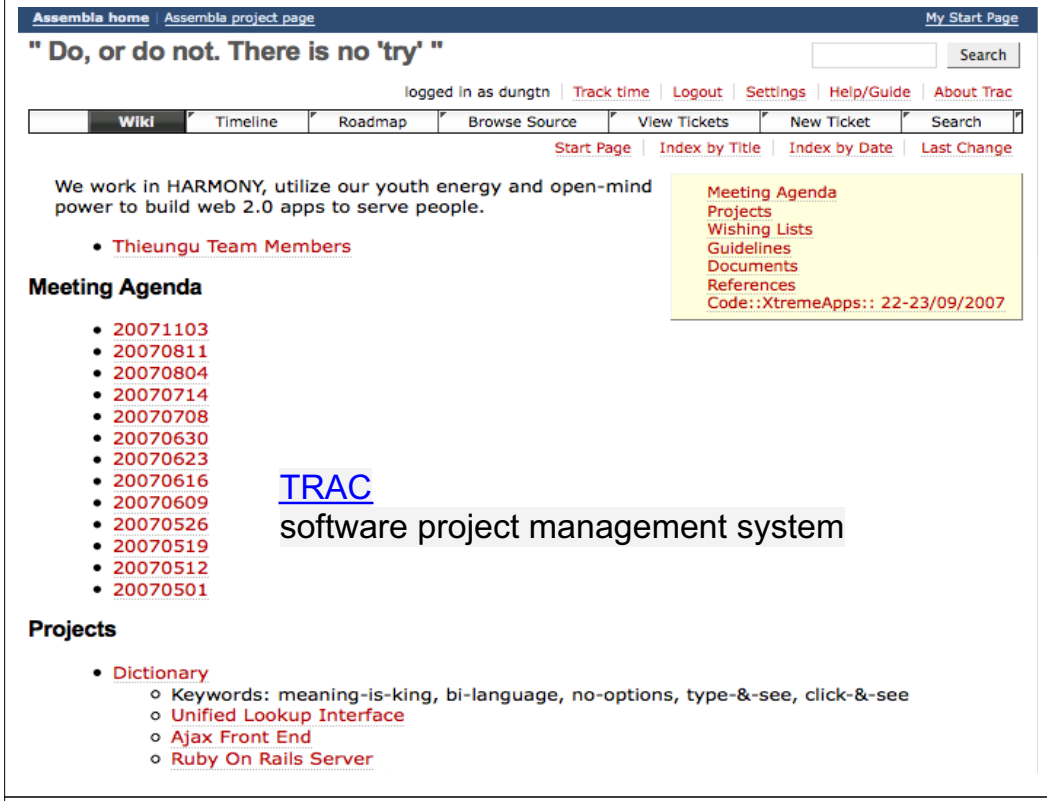
How to build your profile

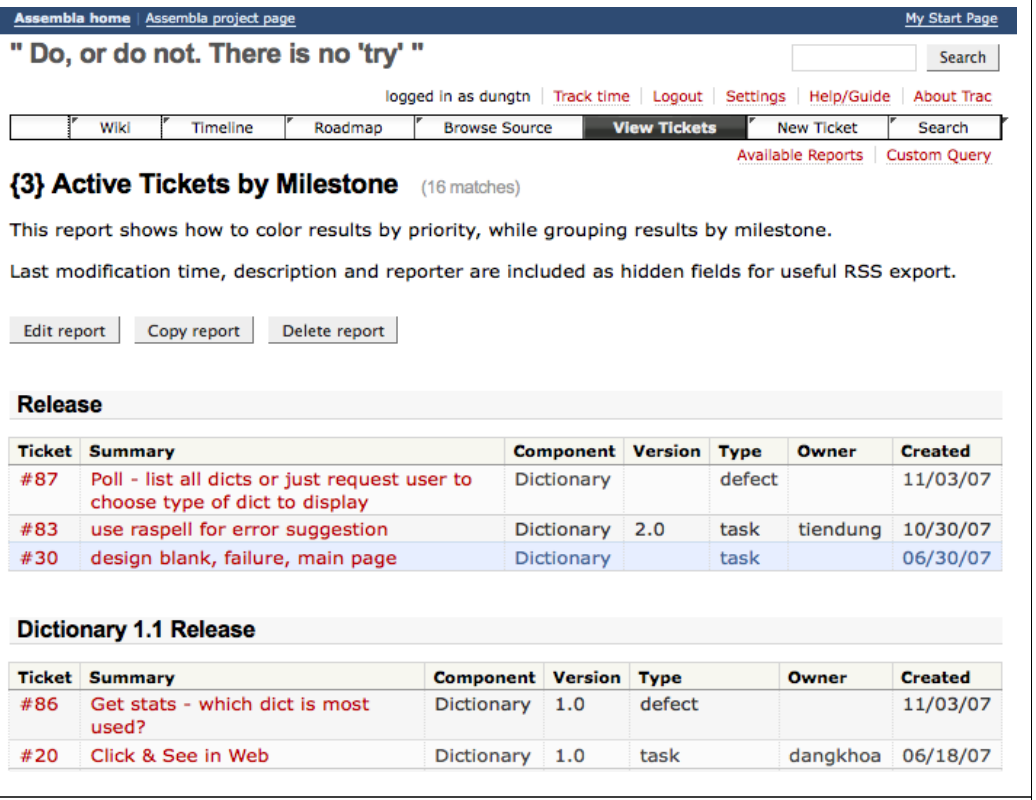
- Be an expert in your professional
- Be well known in the Internet
  - Blog about your professional
  - Join programmers' communities
- Take skill tests
- Get skill certificates

Mastering programming & communication tools

- Source Code Version Controller
  - SVN
  - GIT
- Software Project Management
  - TRAC
  - Lighthouse
- Communication Tools
  - Text Chat
  - Voice Chat
  - Screen Sharing Tool (iChat)




Assembla home | Assembla project page
My Start Page
" Do, or do not. There is no 'try' "
Search
logged in as dungtn | Track time | Logout | Settings | Help/Guide | About Trac
Wiki | Timeline | Roadmap | Browse Source | View Tickets | New Ticket | Search
Start Page | Index by Title | Index by Date | Last Change
We work in HARMONY, utilize our youth energy and open-mind power to build web 2.0 apps to serve people.
Thieungu Team Members
Meeting Agenda
Projects
Wishing Lists
Guidelines
Documents
References
Code::XtremeApps:: 22-23/09/2007
Meeting Agenda
20071103
20070811
20070804
20070714
20070708
20070630
20070623
20070616
20070609
20070526
20070519
20070512
20070501
Projects
Dictionary
Keywords: meaning-is-king, bi-language, no-options, type-&-see, click-&-see
Unified Lookup Interface
Ajax Front End
Ruby On Rails Server
TRAC
software project management system


Assembla home | Assembla project page
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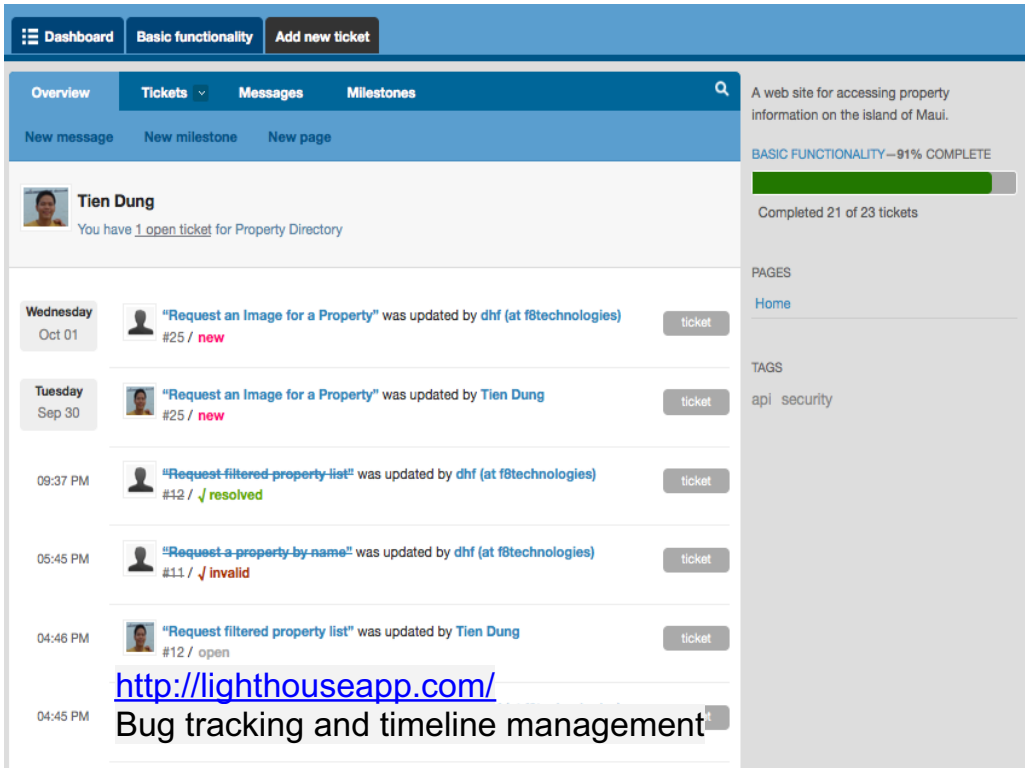
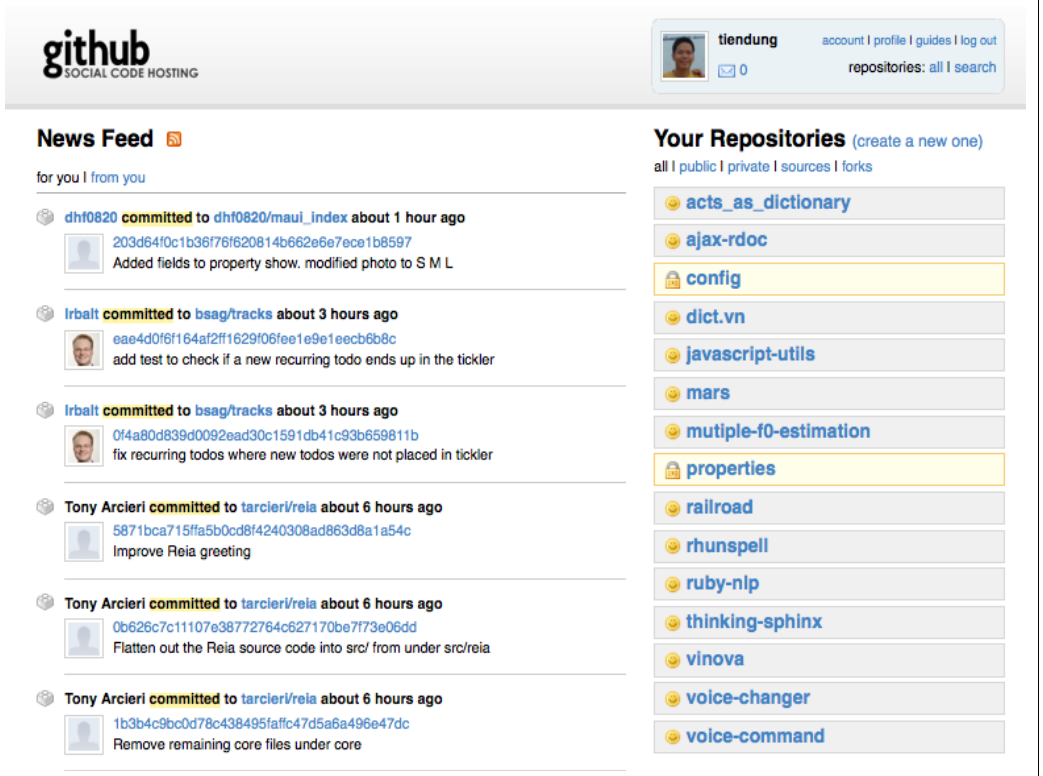
" Do, or do not. There is no 'try' "
Search
logged in as dungtn | Track time | Logout | Settings | Help/Guide | About Trac
Wiki | Timeline | Roadmap | Browse Source | View Tickets | New Ticket | Search
Available Reports | Custom Query
{3} Active Tickets by Milestone (16 matches)
This report shows how to color results by priority, while grouping results by milestone.
Last modification time, description and reporter are included as hidden fields for useful RSS export.
Edit report | Copy report | Delete report
Release
Ticket | Summary | Component | Version | Type | Owner | Created
#87 | Poll - list all dicts or just request user to choose type of dict to display | Dictionary | | defect | | 11/03/07
#83 | use raspell for error suggestion | Dictionary | 2.0 | task | tiendung | 10/30/07
#30 | design blank, failure, main page | Dictionary | | task | | 06/30/07
Dictionary 1.1 Release
Ticket | Summary | Component | Version | Type | Owner | Created
#86 | Get stats - which dict is most used? | Dictionary | 1.0 | defect | | 11/03/07
#20 | Click & See in Web | Dictionary | 1.0 | task | dangkhoa | 06/18/07


Dashboard | Basic functionality | Add new ticket
Overview | Tickets | Messages | Milestones
New message | New milestone | New page
Tien Dung
You have 1 open ticket for Property Directory
A web site for accessing property information on the island of Maui.
BASIC FUNCTIONALITY—91% COMPLETE
Completed 21 of 23 tickets
PAGES
Home
TAGS
api security
Wednesday Oct 01
"Request an Image for a Property" was updated by dhf (at f8technologies)
#25 / new
Tuesday Sep 30
"Request an Image for a Property" was updated by Tien Dung
#25 / new
09:37 PM
"Request filtered property list" was updated by dhf (at f8technologies)
#12 / resolved
05:45 PM
"Request a property by name" was updated by dhf (at f8technologies)
#11 / invalid
04:46 PM
"Request filtered property list" was updated by Tien Dung
#12 / open
04:45 PM
ticket
http://lighthouseapp.com/
Bug tracking and timeline management


github
SOCIAL CODE HOSTING
tiendung
account | profile | guides | log out
0
repositories: all | search
News Feed
for you | from you
dhf0820 committed to dhf0820/maui_index about 1 hour ago
203d64f0c1b36f76f620814b662e6e7ece1b8597
Added fields to property show. modified photo to S M L
lrbalt committed to bsag/tracks about 3 hours ago
eae4d0f6f164af2ff1629f06fee1e9e1eecb6b8c
add test to check if a new recurring todo ends up in the tickler
lrbalt committed to bsag/tracks about 3 hours ago
0f4a80d839d0092ead30c1591db41c93b659811b
fix recurring todos where new todos were not placed in tickler
Tony Arcieri committed to tarcieri/reia about 6 hours ago
5871bca715ffa5b0cd8f4240308ad863d8a1a54c
Improve Reia greeting
Tony Arcieri committed to tarcieri/reia about 6 hours ago
0b626c7c11107e38772764c627170be7f73e06dd
Flatten out the Reia source code into src/ from under src/reia
Tony Arcieri committed to tarcieri/reia about 6 hours ago
1b3b4c9bc0d78c438495faffc47d5a6a496e47dc
Remove remaining core files under core
Your Repositories (create a new one)
all | public | private | sources | forks
acts_as_dictionary
ajax-rdoc
config
dict.vn
javascript-utils
mars
mutiple-f0-estimation
properties
railroad
rhunspell
ruby-nlp
thinking-sphinx
vinova
voice-changer
voice-command

More Examples

- Blogs of
  - Lawrence Salberg
  - Sarah Lewis
- Programmer communities
  - refactormycode.com

My case

- Created a blog
- Published a Ruby gem
- Published a Rails plugin
- Get high ranks on programmer communities
  - Top 2% (#15 out of 1,025 people) on refactormycode.com
  - Top 8% (#935 out of 12,768 people) on workingwithrails.com

Difficulties

- English communication
- Work alone
- Discipline

How to deal with customers?

- Give customer a resonable price
- Be confident during the interview
- Show them projects you are already done
- Be flexible on price, working hours / week

You and your customer are a TEAM

- Treat customer as your teammate
- You work with him, not work for him
- Have fun while talking or working with him
- Be understanding, be passionate
- Respect deadlines

Get 5 star ratings

If everything go well. After the project is finished. Ask the customer give you a 5 star rating and you can do the same for him.

More trustworthy, more well known, more jobs

Questions, please

Instant Memory

http://www.youtube.com/watch?v=hQQHCai3yUk

In following items, which one is not a software? :D

- GreaseMonkey
- IronMonkey
- CodeMonkey
- TraceMonkey
- SpiderMonkey

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/021
Agenda Item: 9.3

Refinement Of The Vision System Development Platform (VSDP) For Commercialization And Its Application

Purpose: Information
Submitted by: Malaysia

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

PROJECT TITLE / PROGRAM TITLE:

Refinement of the Vision System Development Platform (VSDP) for Commercialization and its Application.

ABSTRACT

The objectives of this module are as follows:

- To develop a powerful image processing software library, that will consist of a comprehensive functions and modules. The library also can process colour images. The library will be developed using C# language.
- To develop a graphical user interface to demonstrate how to use the software library.
- To commercialize VSDP as an image processing library and a software development kit (SDK) which can be used by software and system developers.

The architecture of VSDP library will cover several major fields in image processing, artificial intelligence, mathematic, statistic, automation and integration. Main VSDP component blocks are as shown in Figure 1.

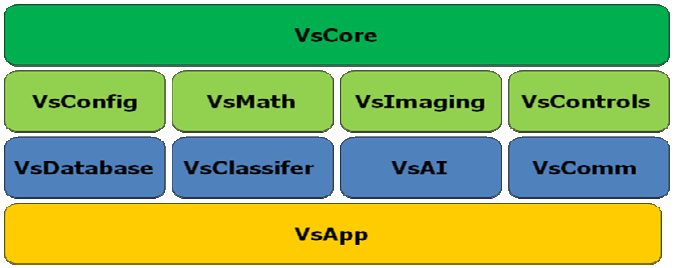


Figure 1: VSDP Architecture

The entire project will be developed in C# languages for quick, easy and stable development. The processing library will be developed in C# language (for performance) as a class library which can be used in other projects and all the testing program will be developed also C# language. The deliverable will be an intellectual, technical, and/or specialized application of knowledge and/or know how in the area of algorithms and techniques of Vision System Development Platform, and all incidental and necessary process in the development of a successfully commercialized product using VSDP as an essential component of its unit. The delivery format will be a completed source-code (in C# Language) that can be implemented on any PC and also embedded system, together with the complete set of documentation on the source-code, the algorithms and techniques, and the hardware design.

Generally, all libraries that are being developed can be used in a lot of applications such as:

- Face Recognition
- Lead detection
- OCR
- Crack detection

Refinement Of The Vision System Development Platform (VSDP) For Commercialization And Its Application

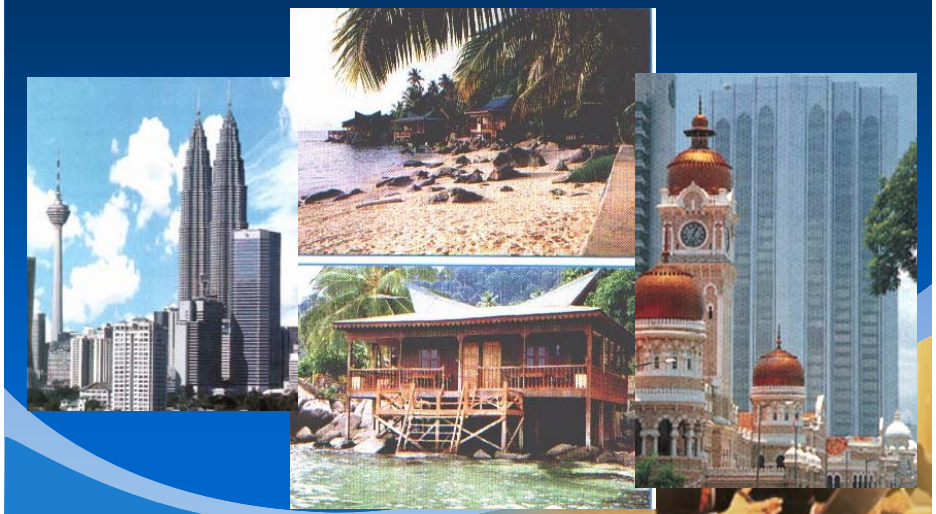
APEC SYMPOSIUM ON IMPROVING MARKET ACCESS FOR ICT OUTSORCE SMEs

27 – 29 OCT 2008

SOFITEL PLAZA HANOI HOTEL, HANOI, VIETNAM

By: Azwan Ramli
CAIRO UTM KL, Malaysia

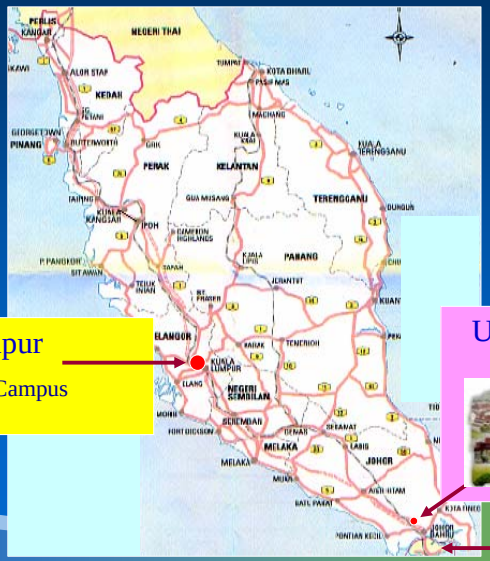
Some images of Malaysia



About UTM

- Premier university in technological fields in Malaysia
- Has 29,000 students and 2,400 Academics
- Two Campuses: Johor and Kuala Lumpur
- 10 Faculties (EE, Mechanical, Civil, Science, Computer Science, Chemical Eng., etc.
- 20 Centers of Excellence

About UTM



Kuala Lumpur

UTM Branch Campus
(CAIRO)

UTM Skudai (Johor)

Singapore

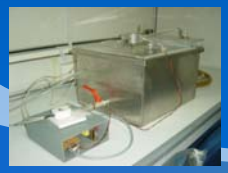
Brief Overview About CAIRO

- Set up on 1st January 1997
- Involves in Process Automation, Robotics, Vision Systems, Data Analysis and Variety of AI Applications
- One of 20 Centers of Excellence in UTM
- One of the Most Active Research Centers in Malaysia
- Grants totaling more than RM11 million (>US$3 million) over 11-year period
- Have published over 500 papers and engaging in the Commercialization of Products





Facilities in CAIRO UTM KL


VSDP for Commercialization And Its Application

This presentation consists of 2 parts which are:

- VSDP Library Discussion
- VSDP Applications

Part 1: VSDP Library Discussion

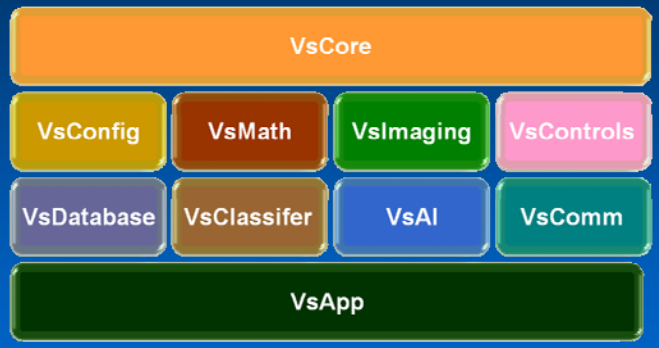
VSDP for Commercialization And Its Application

- The objectives of this module are as follows:

To develop an image processing software library, that consists of a comprehensive functions and modules which can also process colour images. The library is currently being developed using C# language.

To develop a graphical user interface to provide user friendly control of the software library.

VSDP Library



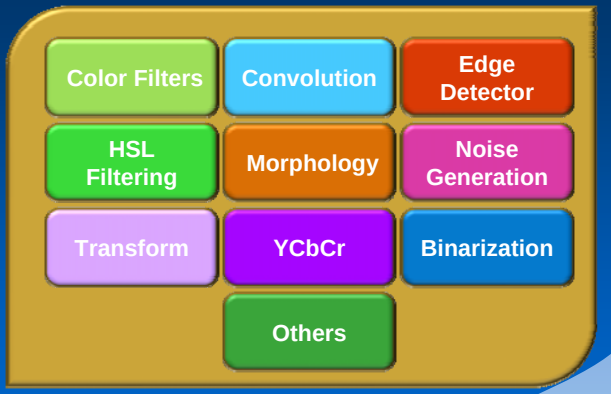
VsCore

- Consists of a set of functions for basic processing like matrix processing, numeric objects, arrays and others.

COMPONENTS	DETAILS
VsPixel	This class is the generic object that contains the pixel value for R,G and B channels.
VsMatrix	This function is used to apply matrix processing
VsWin32	This function is used to connect with Win32. Win32 is the 32-bit Application Programming Interface (API) for modern versions of Windows.
VsUtils	This class contains generic utility function for read image, array processing, matrix, number conversion

VsImaging

- A set of functions consisting image processing algorithms.
- More than 80 different classes (algorithms)
- Divided into 10 main groups

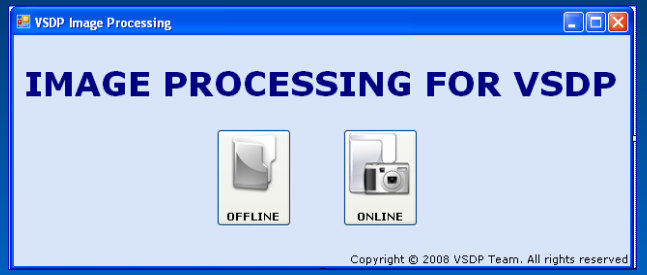


VsImaging : Example

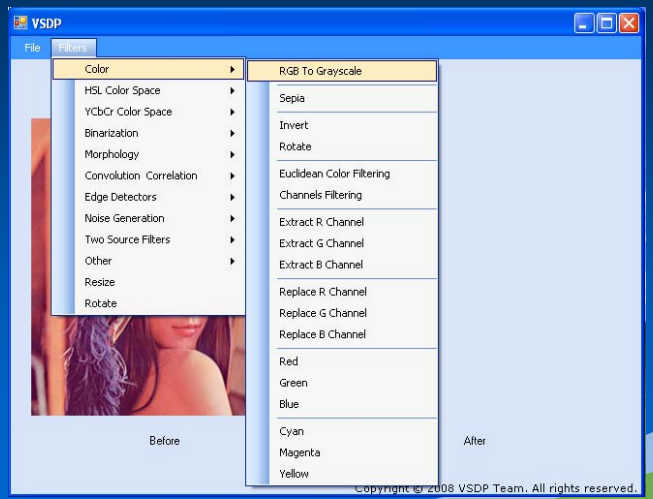
Example of within one group :
Color Filters Class Group

- Grayscale
- Invert
- Channel Filtering
- Sepia
- Rotate Channel
- Extract Channel
- Gamma Correction
- Cyan

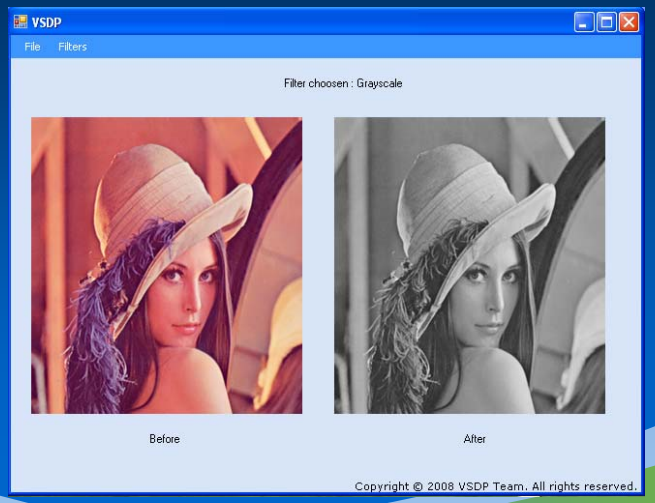
VsImaging: Test Program



VsImaging: Test Program



VsImaging: Test Program



Comparison with Other Commercial Software

Compare With

VSDP Processed Image using Grayscale Technique

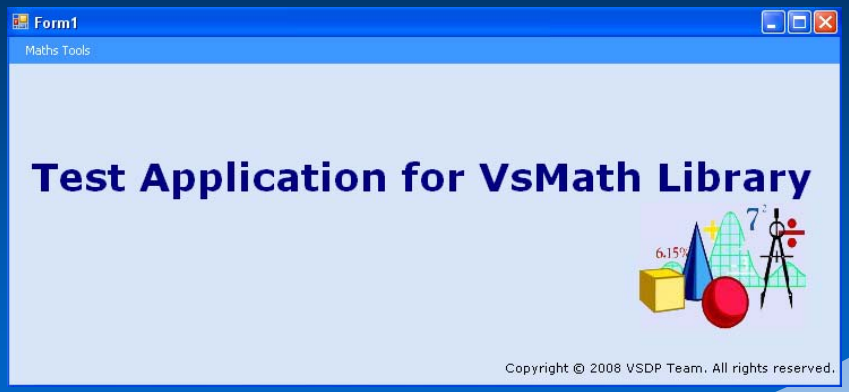
Image from Adobe Photoshop Using Grayscale Technique

VsMath

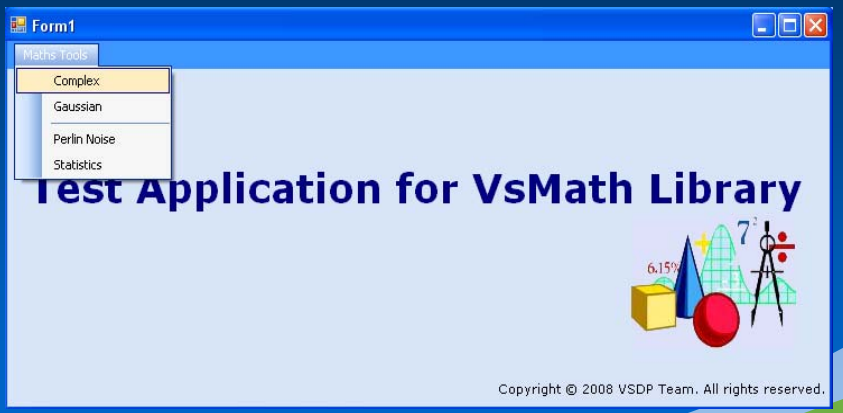
- Set of functions for mathematical functions

TYPE	DESCRIPTION
Complex	Complex number
ContinuousHistogram	Histogram for continuous random values
Direction	Fourier transformation direction
Fourier Transform	Fourier transformation
Gaussian	Gaussian function
Histogram	Histogram for discrete random values
PerlinNoise	Perlin Noise function
Statistics	Set of statistics functions
Tools	Set of tool functions
AffineTransformation2D	2D affine transformation

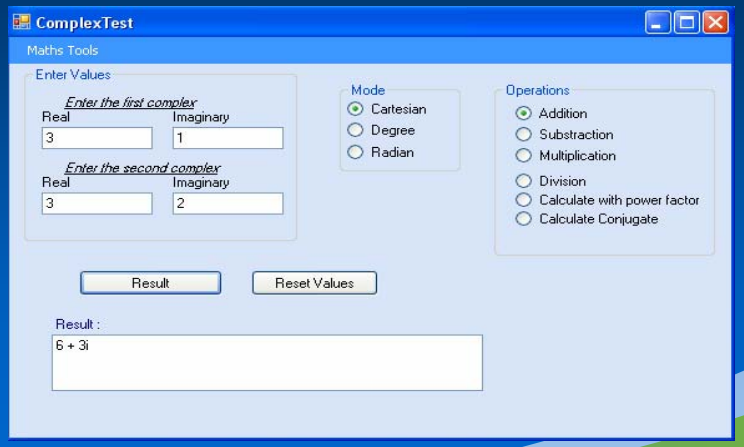
VsMath: Test Program



VsMath: Test Program



VsMath: Test Program



VsAI

- Contains set of artificial intelligence algorithms.

TYPE
Backpropagation Neural Network (BPNN)
Expert System
Fuzzy Logic
Genetic Algorithm
Fuzzy Artmap

VsClassifier

- Contains set of classifiers and feature extraction algorithms

TYPE	DESCRIPTION
PCA	Principan Function Analysis functions
LDA	Linear Discriminant Analysis functions
CSLDA	Client SpecifiicLDA functions
BayesianPCA	Bayesian PCA functions
Euclidean Distance	Euclidean Distance function
GLCM	Grey Level Co-occurent Matrix feature extraction
Haar	Haar functions
Adaboost	Adaboost functions
Mahalanobis	Mahalanobis function

VsConfig

- Set of functions to ease users to read and write the configuration files in XML or INI format.

TYPE	DESCRIPTION
XML	Extensible Markup Language format
INI	.INI format

VsControl

- Set of automated functions to enable users to interface with hardware such as controllers, I/O module, camera and etc via RS232, RS485, Ethernet.

TYPE	DESCRIPTION
ADAM 6050	Control Digital I/O (Ethernet)
ADAM 6017	Control Analog I/O (Ethernet)
ICP CON	Control Digital I/O (Serial)
WEBCAM	Capture Image using Webcam
FRAMEGRABBER	Capture Image using CCD Camera
GSM	GSM module

VsDatabase

- Set of functions to ease users to connect, read and write data to the RDBMS databases

TYPE
MySQL
SQLite
FireBird
MsAccess
MSSQL Server

VsComm

- Set of communication functions between the software and other communication protocols such as

TYPE	DESCRIPTION
SSH Tunneling Client	Secure Shell (SSH) protocol
Socket Server	Socket server computer communications
Socket Client	Socket client communication at the client site
FTP Client	File Transfer Protocol network
HTTP Client	Hypertext Transfer Protocol network
XML-RPC Server	XML Remote Procedure Call Server
XML-RPC Client	XML Remote Procedure Call Client

Part 2: VSDP Applications (VsApp)

VsApp

- Set of applications libraries for specific usage to ease the user to use pattern recognition and other preprocessing algorithms.
- All the applications will be developed using C# language
- Using all library that has been developed in VSDP
- All applications is stand alone (do not have any dependencies)

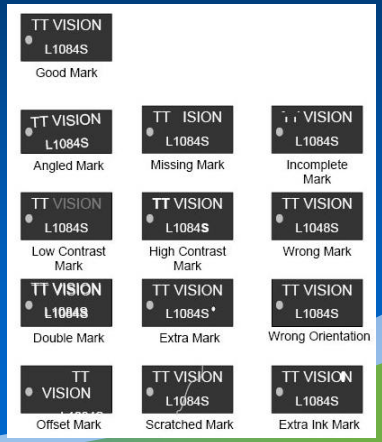
TYPE
Lead detection (outsource)
OCR (outsource)
Face recognition(outsource)
Needle counter
Digital Watermarking
Wood Recognition

VsApp : Lead Inspection

- Used in machine vision system
- Largely used in factory such as Texas Instruments, Microchip, Motorola.
- Manage to detect defect leads such as IC.
- Manage to sort IC by their types, serial number, etc.

VsApp : Lead Inspection

Example of Application: Lead Inspection

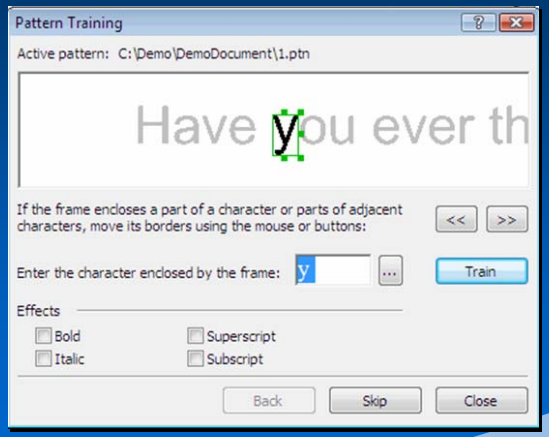


VsApp : OCR

- Optical Character Recognition
- Field of research in pattern recognition, artificial intelligence and machine vision
- Convert handwritten, typewritten, or scanned text to machine- editable text.
- Largely used in hand phones, touch screen, etc
- The accurate recognition of Roman Alphabet, typewritten text currently exceed 99%
- Hand printing, cursive handwriting, and printed text in other scripts (especially those with a very large number of characters still the subject of active research.

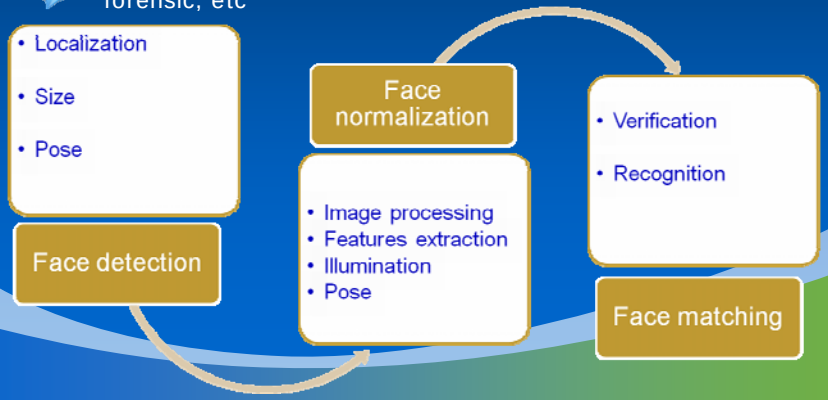
VsApp : OCR

Example of Application: OCR



VsApp : Face Recognition

- Neuroscientists and Psychologists also interested in this application
- Used in commercial industries for security purpose, forensic, etc



VsApp : Face Recogniton

Example of Application: Face Recognition

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/022
Agenda Item: PD

Proposal of the Project "A Collaboration Network"

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Proposal for ICT SMEs Collaborative Network

Pannel Session

APEC ICT-SME's 08 Symposium Organising Committee

APEC Symposium on "improving market access for ICT outsource SMEs"

Motivations

- SMEs in both developed countries and developing countries have some difficulties in finding partners for outsourced projects because of the lack of information and contacts
- Not clear understanding about outsourced projects, not only outsourced software, but also a software components (incomplete software)
- High QoS is always a difficult requirement from outsourced project, outsourcing high quality software is more difficult to build since it is done remotely with the lack of understanding the customer requirements and needs
- Language Barrie for non-English speaking countries in outsourcing

Objectives

- To help the APEC-region's ICT SMEs to access the ICT outsourcing markets by providing a necessary links and information of the markets and business opportunities
- To provide a forum for experience exchange and to give recommendation/instructions for the efficient cooperation among ICT SMEs
- To provide information as to guide ICT SMEs on how to improve the competitive capacity of ICT SMEs

Contents for Collaboration

- Information sharing: The member SMEs can share
  - Information of the markets, business opportunities
  - Necessary information about the potential partners for ICT outsourced projects
  - Experiences on business development
- Shared channels to communicate with government agencies and seek for supports from the APEC secretariat
- Technical supports for improving the competitive capacity of ICT-SMEs (standardization, information on new technologies and tools, QoS improvement)

Form of Collaboration

As usual, the physical collaborative network consists of a set of nodes connected via communication channels.

- Nodes: Network members, any ICT SMEs and Government agencies, training service providers, ICT product traders
- Edges: supported by the Internets and other communication media
- Information centers: special nodes, distributed over the network for the comfort of maintenance

Initial Services provided: portals, ICT SME forum, Collaborative Network website, databases, repository of useful information, links, and contacts.

Network Administration

- A technical support and administration team from each economy
- Virtual Office
- Cost for installing and maintaining covered by the local government and APEC Secretariat
- Information sharing policies have to be developed

Discussion Issues

- Is such a collaborative network really needed by SMEs in APEC economies?
- Enhancement of the network operation, how to keep it alive, how to make it satisfied by SMEs, how to make it more than a repository of useful information, links, and contacts
- What are the administration and technical supports for the network
- The role of local governments in maintaining and controlling

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/023
Agenda Item: PD

Presentation of Kansai Economic Federation on Embedded Software Industry

Purpose: Information
Submitted by: Japan

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

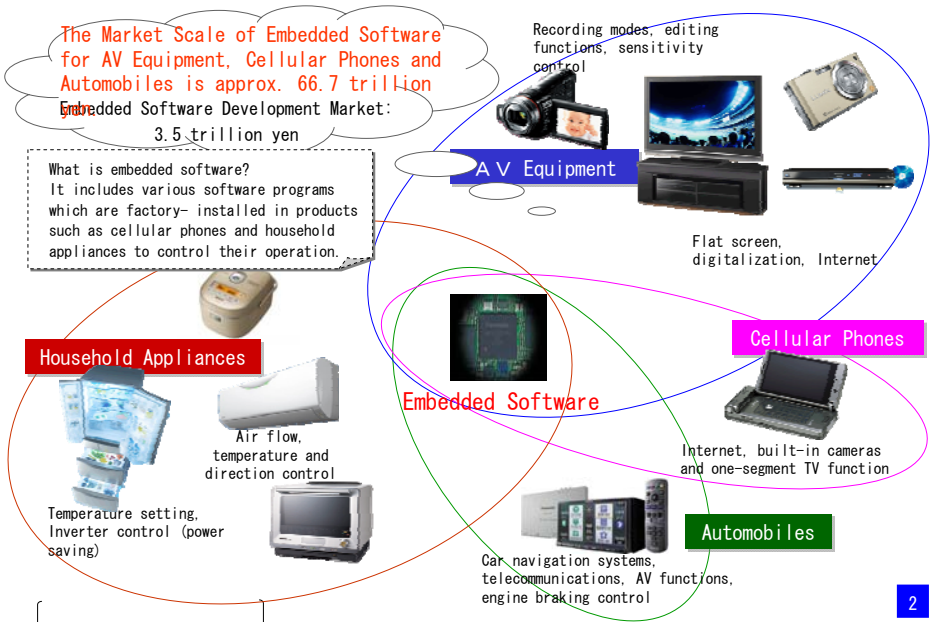
Initiatives for Kansai's Industrial Revitalization

Promotion of the Embedded Software Industry by Industry-Government-Academia Collaboration

October 29, 2008

Yoshiyuki MIYABE,
Leader, Working Group III,
The Committee for the Promotion of Embedded Software Industry

Embedded Software: A Driving Force for Industrial Competitiveness

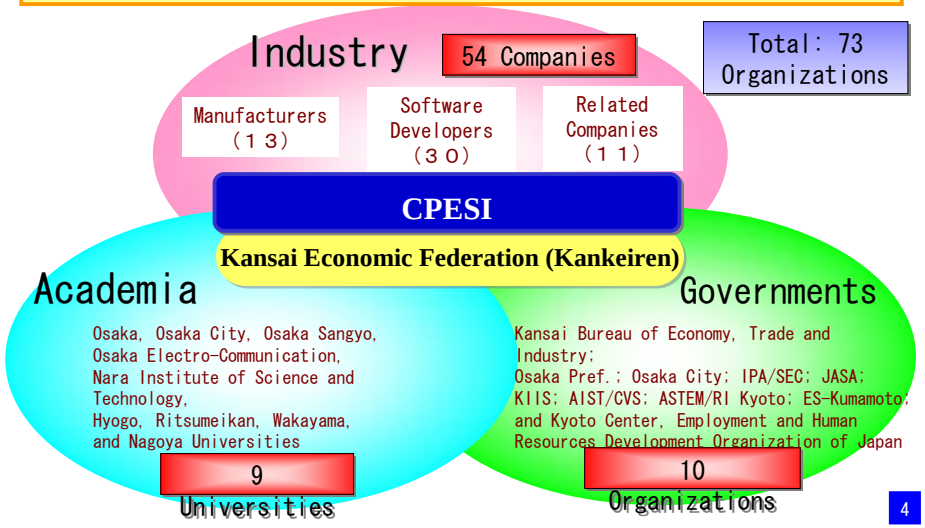


Efforts for Industrial Revitalization in Kansai

- Information appliances and cellular phones have contributed largely to Japan's recent economic growth. The functionality and performance of such products depend on the quality and performance of the programs embedded in them (embedded software) and the need for better embedded software is expected to grow in the future.
- In Kansai, there are many prestigious universities and leading manufacturers and medium and small companies engaged in the information industry. Also since Kansai has deep cultural and industrial relations with Asian countries, it has an advantage in terms of software development.
- Taking full advantage of these strong points, Kansai should accumulate embedded software development resources in addition to its efforts to promote the robotics, biotechnology and information appliance industries. This will enhance Kansai's industrial competitiveness and Japan's

Establishment of the Committee for the Promotion of the Embedded Software Industry (CPESI)

Under Kankeiren's leadership, the industry, government and academia jointly established the Committee for the Promotion of the Embedded Software Industry on August 6, 2007.



Issues for the Embedded Software Industry in Kansai

Human resource development is an urgent issue.

【Manufacturers】
- Employment of excellent students
- Intensified efforts for human resource development
- Product competitiveness enhancement
- Increased productivity in software development
- Cooperation with offshore developers

【Universities】
- Human resource development to meet industrial needs
- Improvement in educational curricula and materials
- Progress in software engineering

【Software Developers】
- Adequate staffing
- Employee education
- Contracts/subcontracts
- Competition with rivals

【Others】
- Multifaceted support system

Human Resource Development by Industry-Academia-Government Collaboration in Kansai

A school for advanced embedded software engineers, "Kumikomi-Tekijuku," was opened in July 2008.

- Nurturing system architects with empirical knowledge and skills as leaders in embedded software development.

Industry

産 Working group members from Daikin Industries, Panasonic and other companies participated in the compilation of a training program.
>Training program which reflects industrial needs

Academia

学 Cooperation of Universities: Osaka (IT Spiral), Hyogo, Nagoya (NEXCESS), Kyushu (QUBE)
>Compilation of a systematic training program

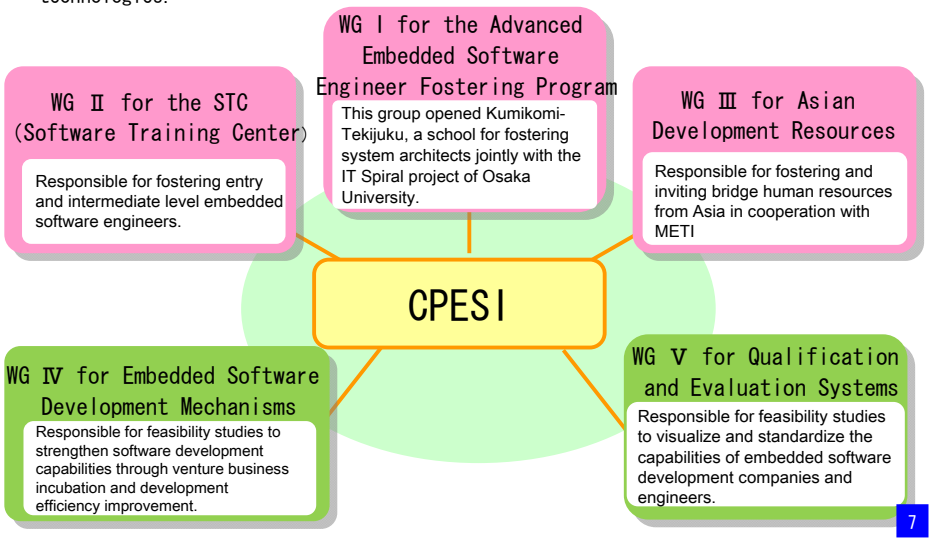
Governments

官 Kansai Center, National Institute of Advanced Industrial Science and Technology (AIST) offered training facilities.
>Industry-Academia-Government Collaboration System

http://www.kansai-kumikomi.net/

Organization of the CPESI

Five working groups started efforts to address various issues for the promotion of the embedded software industry including human resource development, development efficiency improvement, business incubation and *mieruka* (visualization) of technologies.



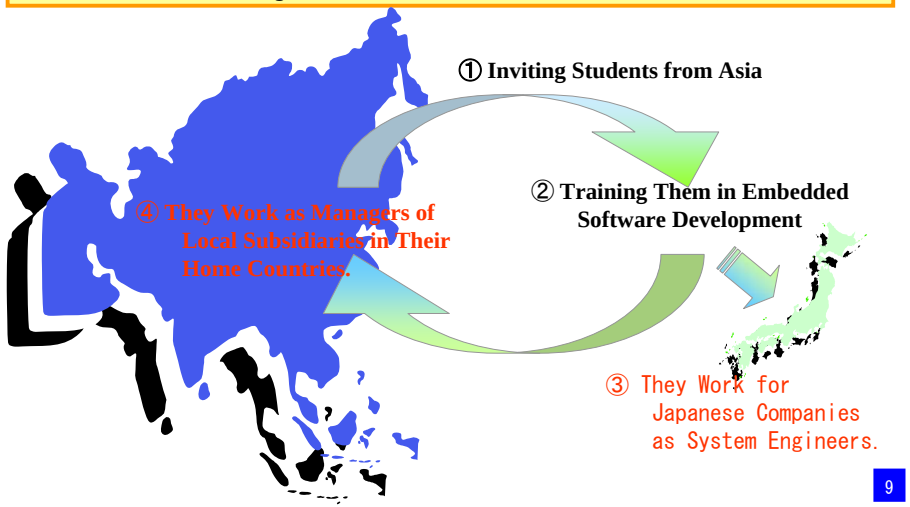
Working Group Ⅲ for Asian Development Resources

The group works for a mechanism which enables Asian students as bridge human resources to take leadership in software development in Japan.

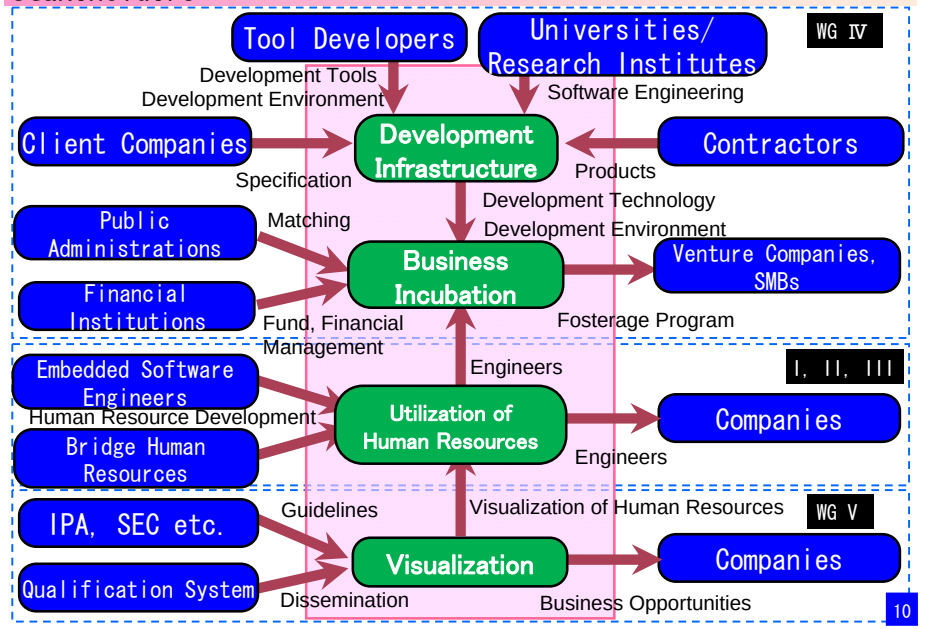
- Overseas Field Research
  - ・Planning and implementation of fields studies in China and Vietnam
  - ・Surveys of the situation of embedded software companies and Japanese language education in Asia
- Cooperation with Ritsumeikan University
  - ・Workshops and internships in cooperation with Ritsumeikan University which promotes the Project of the Development of Highly Specialized Foreign Students under the sponsorship of METI's Asia Human Resource Fund
  - ・Plan to establish a follow-up system after the end of the project
- Surveys for Asian Human Resource Development
  - ・Surveys of websites in Asian countries
  - ・Surveys of the Asian human resource development methods

Promotion of Offshore Software Development by Fostering Bridge Human Resources

・To address the issue of shortage of engineers by inviting excellent students from Asia to Japan and training them as bridge human resources for offshore software development
・To take full advantage of METI's Asia Human Resource Fund (2007-)

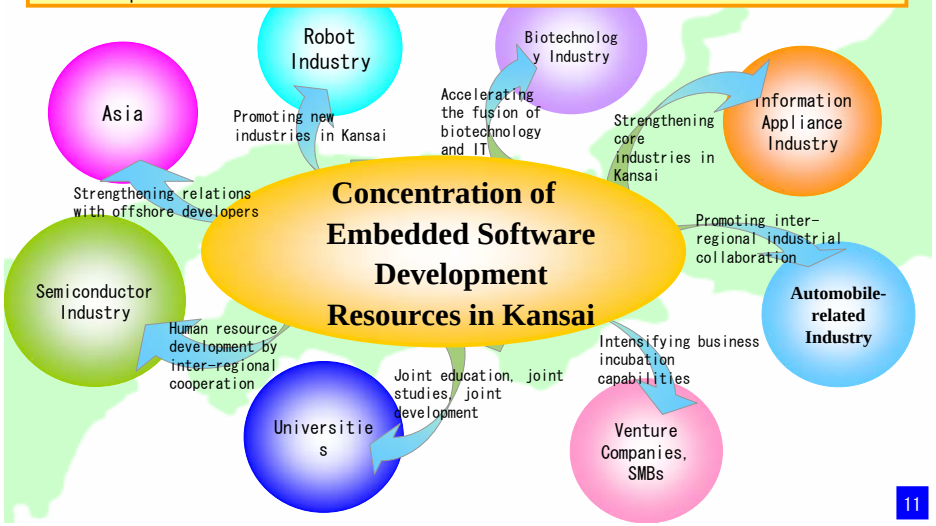


Relations between the CPESI and Stakeholders

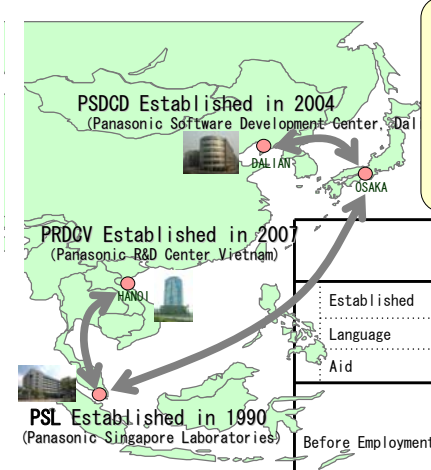


Future Prospects

○ Industrial competitiveness enhancement and industrial revitalization in harmony with Asian economic growth
○ Spread effect on various industries by concentration of embedded software development resources in Kansai



Panasonic (Matsushita) Group's Development Bases and Human Resources Development



【Problems】
・The software training environment in local educational institutions is inadequate.
>Solution: Provision of resources for software development classes at local universities
・Lack of experienced engineers as teachers
>Solution: Support from Japan during the initial period to encourage self-reliant operation
・Prevention of brain drain of engineers
>Solution: Adequate evaluation and remuneration systems, attractive development themes

	PSDCD	PRDCV
	Dalian	Vietnam
Established	2004	2007
Language	Japanese	English
Aid	Japan (now self-reliant)	Singapore
Before Employment	Panasonic Sponsored Class Provision of resources to hold embedded software development classes at local universities	
	Dalian University of Technology etc.	Hanoi University of Technology
After Employment	・OJT at PSDCD (OJT in Japan in the initial period)	OJT at PSL (2 months)
For Promotion to Managers	In-house MOT classes etc.	

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/024
Agenda Item: 3.2

Human Capital Development: FPT Software experience

Purpose: Information
Submitted by: Vietnam

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Human Capital Development: FPT Software experience

October 2008

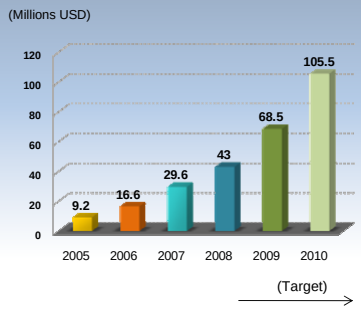
FPT Software Overview

Company Name:	**FPT Software Joint Stock Company**
Established:	A subsidiary of FPT Corporation since 1988
Number Employees:	2,700 (as of Sep 2008)
Headquarters:	HITC building, Hanoi
Businesses:	1. Our key services ▪ Embedded Systems ▪ Quality Assurance & Testing ▪ Application Development ▪ Migration ▪ ERP implementation 2. Revenue: USD 29 million (by September 2008)
Quality Management:	ISO 9001:2000; **CMMi 5; BS7799-2 (ISO 27001)**, CMMi5 ver.1.2 (2009 target)
Presence:	**Vietnam** (Hanoi, Danang, HCMC); **Japan** (Tokyo, Osaka); **APAC** (Singapore, Malaysia) **USA** (California, Oregon, Minnesota) **EU** (Paris) **Australia** (Sydney)

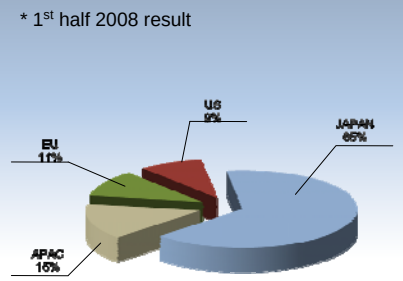
HITC Building

Financial status

- Revenue growth

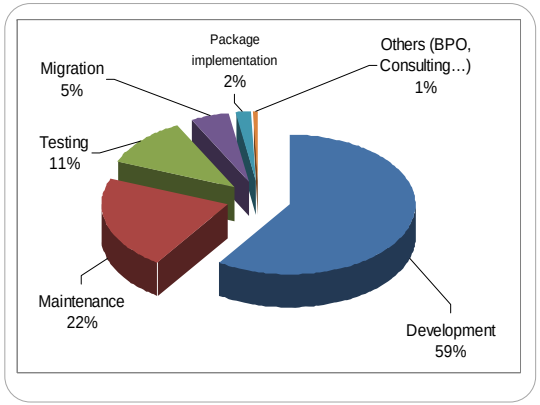


- Revenue by market



Services

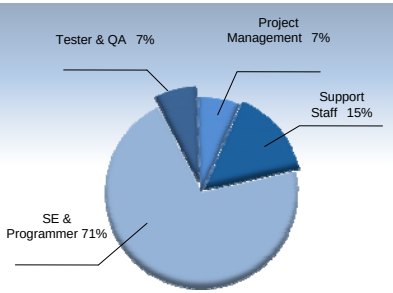
- Development
- Maintenance
- Migration
- QA Testing
- ERP Implementation
- R & D
- Data Center
- BPO
- Other

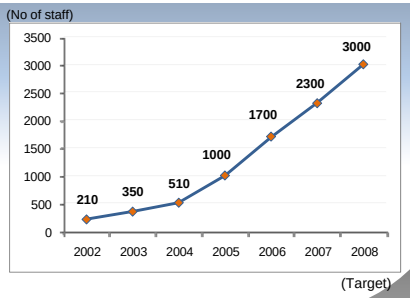


Human Capital Development – The Key to Our Success

Human Capital Development

- In 50 Best Employers Development list in Vietnam (voted by Navigos Group, AC Nielsen)
- Modern structure of HR assurance inside Company
- Largest pool of software engineers in VN (2700+)
- 6 month On-Job training for every staff
- Continuously training process for developer
- Wide-range courses in technology and project management skill
- Good foreign language skills





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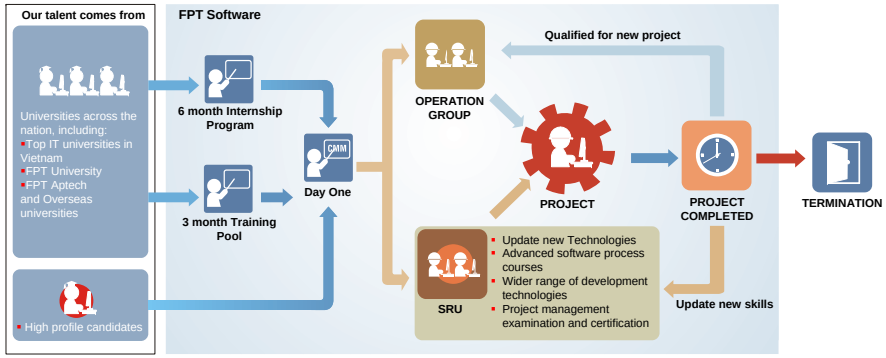
Developing our People



SRU (Strategic Reserved Unit): A strategic unit responsible for managing our human resources and providing training courses to ensure the right quantity and quality of talent for each project

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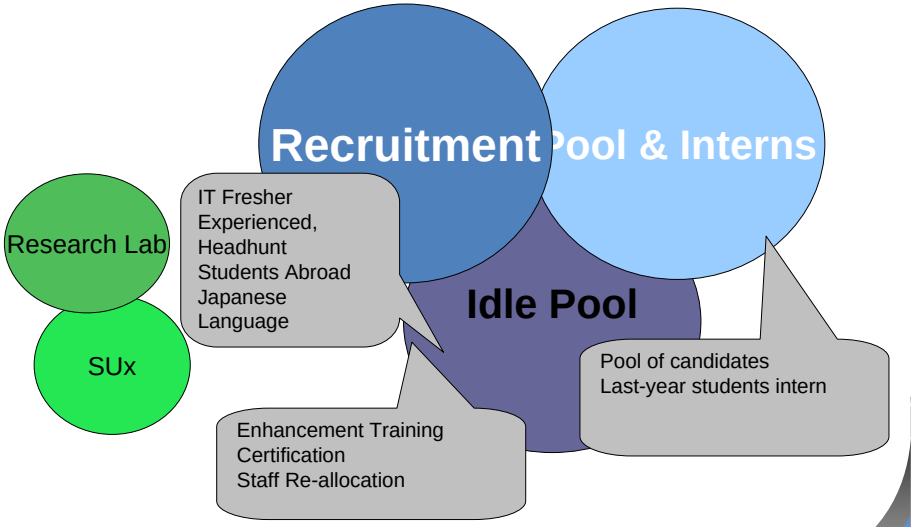
Resource Assurance Structure



To assure human resource for Fsoft quantitatively and qualitatively.

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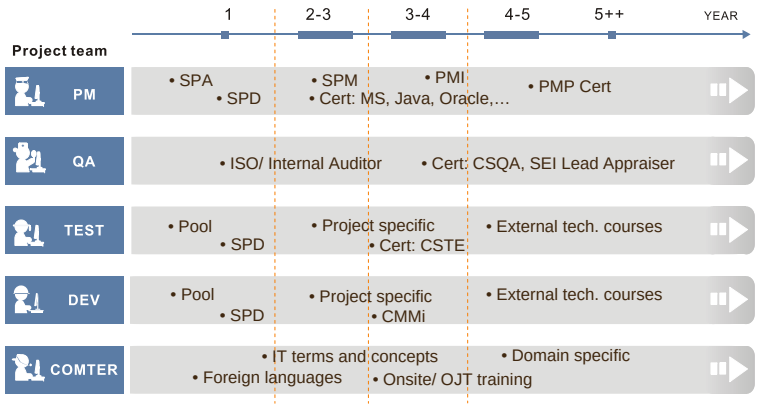
Competency Development

- All project members of different roles could take suitable courses to improve soft-skills, foreign languages, basic management …



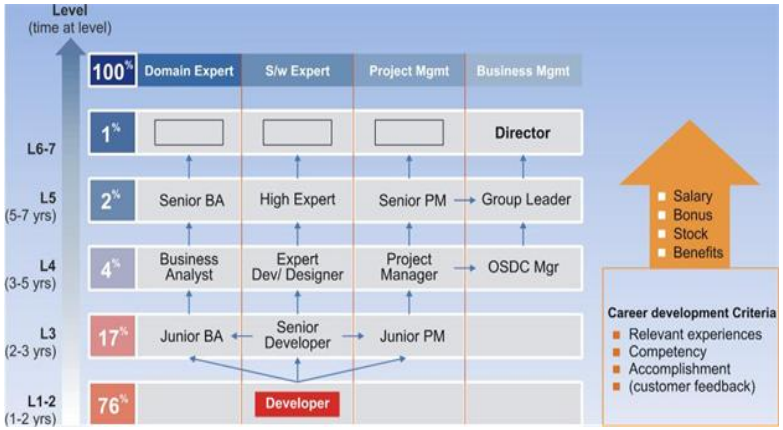
HR Development for Japanese Market

- **Language**
  - Training for technical staff
    - Developer: 3-kuy, 4-kuy
    - Bidge rSE/DM: 1-kuy, 2-kuy
  - Training for comtor
    - Free talk training
    - Translation training
  - Language training for Managers
    - Free talk training

- **Technical**
  - IT training for comtor
  - Bridge SE, AOTS, on customer-site training
  - Customer platform training

- **Soft-skill and Japanese Cultural**
  - Orientation for Onsiter
  - Japanese culture for staff
- **Japanese Association**
  - Comtor Association
  - Seminar and Japanese cultural activities (Movie, party, etc)

Career Path and Retention



FPT University

A reliable source of IT personnel

Established:	In 2006
Current enrolment:	**2,000**
Training program:	4-year course; **conducted in English and Japanese**
Certificate:	Bachelor of Software Engineering
Co-operation:	IBM, Microsoft, Carnegie Mellon University (USA), Keio University (Japan), Kyushu Institute of Technology (Japan), Swinburne Technology University (Australia), Southern Cross University (Australia)
Future plan:	▪ 5,000 students (in 2009); Finish 1st phase of building Main Campus in Hoa Lac Hi-Tech Park (HHTP) ▪ 40,000 students (in 2015) Finish the master plan in Hoa Lac Hi-Tech Park

Modern facility

FPT University Area in HHTP

Corporate Culture

The Key Factor of Staff's Motivation & Connection

- **15 favorite clubs:**
  - Swimming, Vovinam, Beauty, Photograph, Movie, Guitar, Nihongo, Dancing, Badminton…
- **Monthly and quarterly events with particular topics:**
  - 13th Sep Festival, Tour de Hanoi, Water games, music-show
- **Special Days:**
  - Parents' day, Men's day, "Hoi Lang" day
- **Internal information channels:**
  - Weekly Corporate newspaper - the "Chung ta";
  - Fortnightly bulletin - "The Cucumber"; Around FSoft;
  - Intranet; Forums; Corporate blog (2 million hits and counting)
  - Mini radio station – The VOF (Voice of FPT Software)

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THANK YOU!

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/025
Agenda Item: 5.2

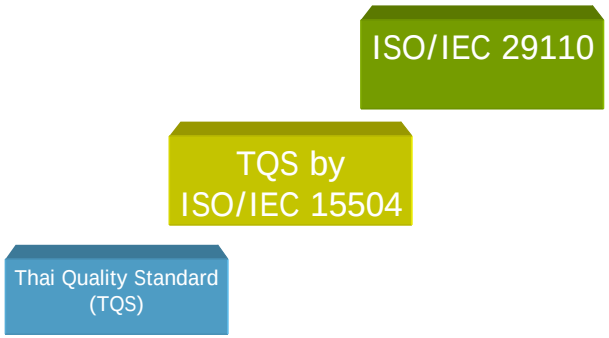
International Software Engineering Standard for Very Small Enterprise

Purpose: Information
Submitted by: Thailand

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Software Engineering Standard for Very Small Enterprise: A Case Study of Thailand Local Quality to the International Standard.

Software Engineering is one of the assurance focuses for the software development and IT outsourcing services quality in the recent years. Software Engineer and Quality Measurement are usually suitable for the medium to large scale organizations handling long and complex projects. However, these types of operation only accounted for less than 10% population of software development community. This neglected the small organizations or even small and simple project management in nowhere lands until this gone up into a certain degrees. And, this may be too complex to handle within the rim of sustainable quality management. For the past few years, Working Group 24 under Subcommittee 7 of ISO/IEC with team members from Belgium, Canada, Columbia, Finland, Ireland, Japan, Luxemburg, Mexico, South Africa, Span, UK, US spearheaded by Thailand has been working on the new modeling of the first international Software Engineering Standard for very small enterprises (VSE) targeted particularly for software organizations (with 25 peoples and less). This new proposed model will officially announced in 2009 as a new ISO29110. This allows small organizations to be able to gradually evolve their quality development along with their business commitment for Excellency.



International Software Engineering Standard for Very Small Enterprise

Thailand Industrial Standards Institute (TISI)

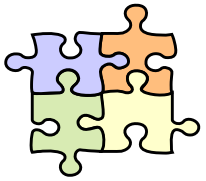
Mr. Anukul Tamprasirt

Contents

Very Small Enterprise (VSE)

- 90% of Software Communities are “very small”.
- Very Small Enterprises (VSE) are defined as 1 to 25 number of employees.
- Is this too late for Quality when they ’re large?

New Trends for ISO



- Standard in Used
- Benefit to Developing Communities
  - Assembly of other international standards are organized for usage
  - Surveyed VSE over 30 countries with more than 430 responses

Setting Up WG 24 in ISO/IEC SC7

2004 A group of ISO/IEC SC7 member countries met at the *Interim* meeting in **Australia** to initiate WG 24 work

2005 A group of experts met in **Thailand** to continue WG 24 Work

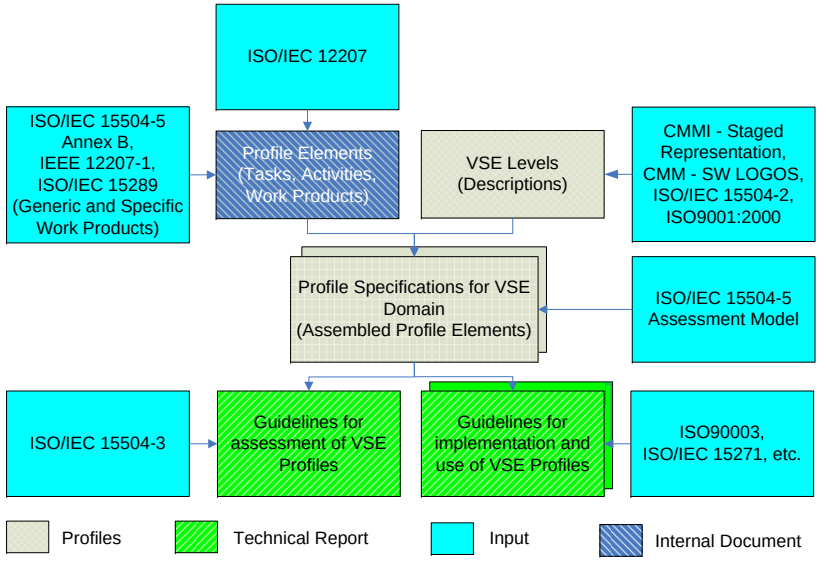
New Work Item was proposed at the **Finland** *Plenary* Meeting

A group of experts met again in **Thailand** to continue WG24 Work

2005 ISO/IEC SC7 - WG 24 met "Officially" for the first time at the *Interim* meeting in **Italy**

Mr. Tanin Utayanaka
WG24 - Convener

ISO/IEC 29110 Architecture



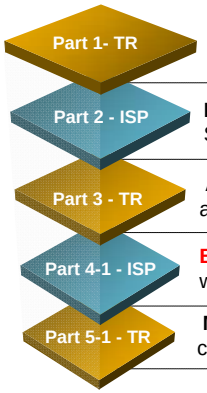
Standard IS 29110 (alpha Version)

Coverage

ISO 9001:2000	92%
ISO/IEC12207	95%
CMM-I Level 2	77%
ISO/IEC 15504-2	100%
PMBOK	90%

ISO 29110 Coverage

ISO/IEC 29110



Overview contains overview of the ISO/IEC 29110 set of documents – Part 1 to Part 5

Framework and Taxonomy contains usage of International Standardized Profiles (ISP) for creation of documents

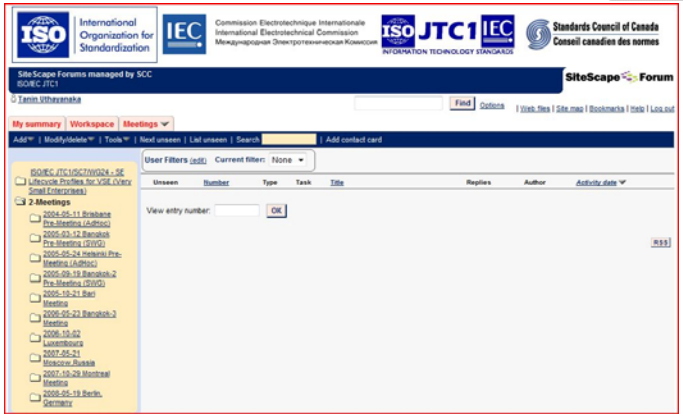
Assessment Guide contains guideline for performing an assessment for VSE

Basic Profile Specification contains *basic* processes and work products aligned to existing international standards

Management & Engineering Guide for Basic Profile contains guideline for using *basic* processes with templates

Progress

A website is used to maintain WG24 work



(https://int.scc.ca/forums/int/dispatch.cgi/JTC1-SC7-WG24)

ISO/IEC 29110 Tasks

PRIMARY Life Cycle Processes

Supply Process Group (SPL)

SPL.1 Supplier tendering
SPL.3 Product acceptance support

Engineering Process Group (ENG)

ENG.4 Software requirements analysis
ENG.5 Software design
ENG.6 Software construction

ORGANIZATIONAL Life Cycle Processes

Management Process Group (MAN)

MAN.3 Project management

SUPPORTING Life Cycle Processes

Support Process Group (SUP)

SUP.2 Verification
SUP.3 Validation
SUP.10 Change request management

Chosen ISO/IEC 12207 processes for Federation of Thai Industries to pilot of ISO/IEC 29110

Global VSE Support Centers

10+ ISO/IEC 15504 Trained Lead Assessors

50+ Participating VSE Companies in 2008

300 Targeted participating VSE companies 2009 and beyond

Becoming Our Members

The Institution of Software Promotion for Industries

anukul@thaicom.biz, anukul@thaicom.tv

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/026
Agenda Item: 6.4

Fostering ICT Based SMEs through SME Innovation Center

Purpose: Information
Submitted by: Indonesia

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Fostering ICT based SMEs through SME Innovation Center

By Agus Widodo[1]

Abstract:

SMEs (Small and Medium Enterprises) play significant role in the Indonesian economy. Although the role of SMEs is very important, some indicators related to innovation or technology are contradictorily low. Some studies also show, that interaction between three components of innovation i.e. industry, research institute and government is weak. Meanwhile The opportunity of SMEs to contribute in the ICT (Information and Communication Technology) market is quite promising even though there are several weakneness in the environment of software industry. Several regulations to support the software industries are still under development, and there have been initiatives to prepare skilled workforce for software industry.

To facilitate the growth of software industries, there have been attempts to create a specialized area where the software developers could highly interact. In order to integrate and coordinate programs from several institutions to strengthen the existing SMEs and to promote new entrepreneurs, an Innovation Center for SMEs is initiated by Coordinating Ministry of Economic in collaboration with the Agency for the Assessment and Application of Technology (BPPT), Ministry of Cooperatives and SMEs, Department of Industry and several other institutions. The SME Innovation Center could enhance the ICT based SMEs by promoting them into the potenstial market, enhancing the SME's human resources, helping to access financial market, and linking to the research institutions. In addition, this Center also promotes the use of ICT to support their business, for the back office, production or marketing.

Keywords: SMEs, Innovation Center, Software, ICT

1. Overview of SMEs in Indonesia

SMEs (Small and Medium Enterprises) play significant role in the Indonesian economy. In 2007, SMEs which accounts for 99.99 percent of business units and 97.3 percent of labor force contribute about 53,6 percent of the total Indonesian GDP[2]. Small and Medium Enterprises (SMEs) in Indonesia play a significant role on social and economic growth. The importance of the SMEs is well illustrated in their contributions on the number of employment, establishment and contribution of SMEs to GDP. The number of employment of SMEs in 2006 was 85.42 million peoples or equal to 96.18% of the whole workforce in Indonesia. The economic growth of Indonesia in 2006 was 5.48%, whereas contribution of SMEs is equal to 3.06%.

Although the role of SMEs is very important, some indicators related to innovation or

[1] Working at BPPT (Agency for the Assessment and Application of Technology), currently the Group Leader of Networking dan Database on SME Innovation Center

[2] Beurau of Statistics, 2007

technology are contradictorily low, e.g. Technology Achievement Index, Innovative Capacity Index, Human Development Index, and Growth Competitiveness Index. For example according to UNDP's Technology Achievement Index in 2001, Indonesia was in the category dynamic adaptor or in the rank of 60 out of 75 countries.

Some studies also show, that interaction between three components of innovation i.e. industry, research institute and government is weak. There are indications that some research institute is inward orientated, and industries depend too much on their foreign principal. Furthermore, there are shortage of science and technology resources on some aspects such as the number researcher, research funding, and research facilities. Improvement can be done by managing the correlation between research and industry in a better way.

Furthermore, Indonesia is a very big country with around 17,500 islands, with a total of population almost 240 millions. Condition of the daily life also varies from a very traditional to a modern living especially in big cities. Availability of electricity, telephone and internet are also different from one places to other. The economic condition in a region influences their infrastructure facilities due to the economic of scale. The resources for development e.g. research institute or university also varies among regions.

Most of science and technology research activities in Indonesia are carried out by public research institutions and public universities, whereas private institutions play a minor role. The public R&D institutions consist of two groups namely under departments (Departmental Research Institutes-DRI) and under non-departmental (Non-Departmental Research Institute-NDRI). Although programs for DRI and NDRI refer to the National Mid-term Development Plan (NMDP) 2004-2009, their activities in detail can be different in perspective and substantive, which often there is no relation to each other.

SME development in Indonesia is also supported by different organizations such as Business Technology Center, Incubator organization, Non-Government Organization (foreign and national). Coordination between them, however, is still limited and their activities focus in some regions or some fields of technology only.

Cooperatives and small and medium enterprises are considered to be the engine of economic growth. Therefore, the empowerment of SME is mandatory to be done by solving their handicaps i.e. low productivity, limited access to productive sources and unconducive business environments.

2. Overview of ICT Sectors in Indonesia

Meanwhile The opportunity of SMEs to contribute in the ICT (Information and Communication Technology) market is quite promising. IDC Reports in 2006 shows that ICT sector in Indonesia provides 81,000 jobs and creates 1,100 new ICT based entrepreneurs. Total number of Software Developer is about 56,000 units in 2006 and 63,000 units in 2007. Thus, from the 13.5 billion professional developer in the world, Indonesia shares about 0.5 percent. The greatest share is from India (10.5%) and the USA (18.9%). In addition, the number of Software House or Independent Software Vendor (ISV) is 250 units in 2006 and is projected to become 500 units within the next 5 years. In term of supply, Asia Pacific region has the largest number developers (29.2%), but its demand accounts only 50% of that

from North America Region. In Indonesia, The market share of the local software, however, is still about 16% of the total Indonesian software market share of around USD 60 billion.

The prominent ICT Research Centres are mostly conducted by Government Research Institutes and Universities.

Table 1. ICT Excellence Research Centres

Institution's Type	Institution	Capability
Government	Center for ICT at the Agency for Assessment and Application of Technology (BPPT)	Data Link for Disaster System, Embedded System, O pen Source, EGovernment, Data Mining, Grid Computing, Next Generation Network, Set Top Box, Digital Broadcast, Medical Electronics, Navigation Radar
	Indonesian Institute of Sciences (LIPI)	Grid Computing, Electronic Telecommunication, Intelligent Robot, Radar
Universities	Bandung Institute of Technology (ITB)	Rural Telecommunication technology, Microelectronics, Ubiquitous application
	Indonesia University (UI)	E-Learning, Digital Library, Grid Computing, Next Generation Network
	Gajah Mada University (UGM)	Embedded System
	Surabaya Institute of Technology (ITS)	Electronics Telecommunication, Intelligent Robot

However, there are still several problems that hinder the software industry in Indonesia. First, the is still lack of comprehensive potency mapping in term of human resources and software enterprises. Second, the law to protect the Intellectual Property Right for software is still under development while the piracy rate is still high. Third, the number of business incubator to promote the new entrepreneurs is still limited. Fourth, the information infrastructure is not evenly distributed across the country. Fifth, the lack of coordination among the professional software developer which reduce the strength to capture the market. Sixth, the scarcity of venture capital to support financing the new entrepreneurs.

Up to now, the regulation to support the software industries is still under development. First, there would be Capability Maturity Model in Indonesia which will help categorizing the capability of software industries. Second, there is an IPR Act No 19/2002 about Copyright Law, which could be applied to software, but extra effort is still needed to implement it.

To standardize the competency of human resources in ICT, some software professionals in Indonesia usually try to comply with International standards, such as ISACA for ICT audit, CISCO for networking, and several others. In term of human resources, there have been initiatives to provide skilled workforce, both the human resources who can

skillfully use the ICT product as well as the human resources that capable of producing the ICT products. Those initiatives are Higher Education on ICT, High School specialized on ICT by the Government, School Program 2000 initiated by Association of Internet Services (APJII), etc.

3. Initiatives to strengthen software industry

To facilitate the growth of software industries, there have been attempts to create a specialized area where the software developers could highly interact. Based on the diagnostic study in 2006 by Department of Industry, Bandung city (at West java provinces, about 300 km from the capital city, Jakarta) and its surrounding is designated as a region to develop ICT industrial cluster. The location of the ICT industrial cluster would be build around Telkom High School of Communication and PT INTI at Bandung. The working group to facilitate the cluster comprised of representatives from industry, academics, government, and supporting institutions. The identified champion of this cluster, which named as "KlariTi", is PT. INTI (an electronic industries). Starting the year 2008, the facilitator should give intensive advocacy to the member of the cluster. By clustering software enterprises within the nearby area, the enterprises could get several benefits, such as: easier access to ICT infrastructure, common/supporting facilities, and faster interaction among them.

Other initiatives which involves more private sectors in the development also carried by other institutions, such as Bandung High Tech Valley, Bogor Cyber Park, Solo Technopark, Jababeka Region, and the others, which would integrate between supply and demand of the software industries. Bandung High Tech Valley is the predecessor of the ICT based industrial cluster in Bandung initiated by the Government, whereas Bali Camp is one of the prominent outsourcing software house initiated by private sector. At one time, it could get order from International Finance Corporation to develop financial Software with International scope. But, due to some difficulties such as human resources management, market orientation, etc., this Bali Camp is relocated to a place in nearby the Capital city.

Not all initiatives are fruitful, but the attempt to develop an integrated environment for software industries, which certainly involves SMEs, never stop. Lessons are learned, and better support from government institutions is still needed to strengthen the linkage between technology supplier and its market.

Gu and Ho & Luban indicate that the difficulties of innovation system in developing countries is caused by two factors namely transition from agriculture era to industrial era so that technology depends on foreigner and also R & D activities are not highly prioritized. Secondly, the S&T actors stand alone and it is not integrated in an innovation system. Technology is generally accepted to make changes both in manufacturing and services sectors. In most developing economies, much of technology creation is developed at government research institute and universities. Consequently, linkage between research institute and industry are very important.

4. SME Innovation Center

The improvement of the SME capability is essential since small leverage of SME will

give a high impact for Indonesia. Therefore, Indonesia has to manage the technology and innovation especially for the SME.

In order to integrate and coordinate programs from several institutions to strengthen the existing SMEs and to promote new entrepreneurs, starting this fiscal year (2008), an Innovation Center for SMEs is initiated by Coordinating Ministry of Economic in collaboration with the Agency for the Assessment and Application of Technology (BPPT), Ministry of Cooperatives and SMEs, Department of Industry and several other institutions. The Coordinator minister for economic is also regulated a package policies for empowering SME, including marketing, regulation, human resources development, and funding.

This innovation center is an organization or an organizational unit which acts as a node, hub or gateway from partnership network which provides integrated services to develop innovative SMEs. It is expected to be the solution for some critical issues faced bu SMEs. The most important role of SME Innovation Center is to be the platform for coordination and synergy of the three components of innovation namely research institute, industry and government including different organizations working in Indonesia and also to provide database needed by SME. Some research institutes and universities should be appointed to be the center of excellent in a special field of S&T. Their tasks are to develop S&T needed by SMEs and industries, in a relation technology push, market driven and the combination of both.

The target of SME Innovation Center is to improve existing enterprises and to generate new enterprises. By improving of technology, quality, network, information etc., it can empower the SME to be more competitive in process, products, and their services. Therefore, hopefully SME can be the engine of the economic growth of Indonesia.

4.1 Organizational Structure

To manage the SME Innovation Center, there is a national team which should guide the policy, coordinate the network, and facilitate required budget (Figure 1). The institution which interact directly and provide services to SMEs would be the nodes, which is called Intermediation Institution. Several nodes will be establihed across the region, mostly by empowering existing institutions to provide predefined roles, so that they can be categorized as SME Innovation Center. To become an Innovation Center, an institution should have at least 2 years experience, have selected services, have a network of expertise, and is committed to achieve the stated goals.

The nodes of SME Innovation Center should play some of roles as follow:

- Business development : consultant for productivity improvement, financial
- Technology development : prototyping, licensing of technology
- Incubation technology and business : new enterprises development
- Human resources development : training and entrepreneurship development
- Access facility : providing facilities offices, measurement, standards, testing and quality (MSTQ)
- Access expertise : technical assistance, expert

- Access information : database information on technical aspects, market, funding, IPR
- Legitimating : accreditation and certification
- Intermediaries : technology brokering, financial aspects, market
- Network : synergy between business and technology, research cooperation.

Among those many roles, the Innovation center at least must provide: (1) technology-based services, (2) human resources development, (3) business intermediation/networking, and (4) facilitating financial access.

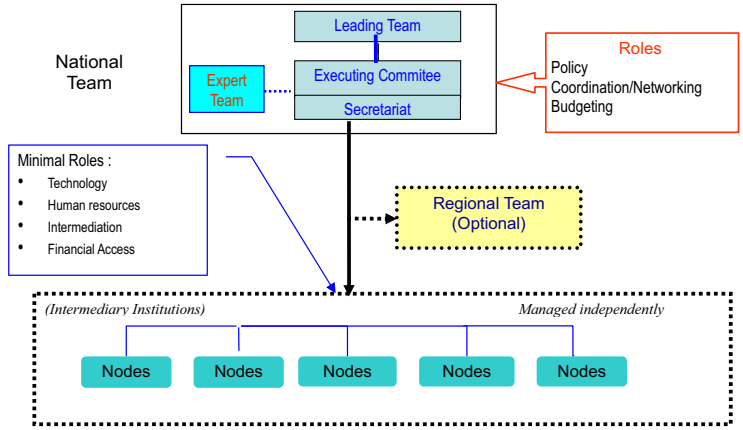


Figure 1. Organizational Structure of SME Innovation Center

The SME Innovation Center could enhance the ICT based SMEs by promoting them into the potential market, enhancing the SME's human resources, helping to access financial market, and linking to the research institutions. In addition, this Center also promotes the use of ICT to support their business, for the back office, production or marketing.

4.2 Action Plan

The short term action plan of the Innovation Center for SMEs can be categorized into: (1) strengthening the institutions of Innovation Center; (2) strengthening the networking and database; (3) intermediation; and (4) promotion of innovation. The activities of the action plan are as follows:

Table 1. Activities of the action plan

Institutional development	Networking and database	Intermediation	Promotion of innovation
– Development of intermediary nodes – Development of outsourcing area – Mapping availability of the certification body – Education of techno-preneurship	– Website development – Database of technology – Database of expired patent – Strengthening the IPR clinics – Technology foresight	– Mapping of SMEs – Academic paper on venture capital – Strengthening business incubators	– Virtual marketplace – Innovation store – Commercialization of R&D product – Innovation reward

The midterm and long-term action plan would be looking for the best practices and creating replicas of nodes of SMEs' Innovation Center in other locations based on the specificity of the regions.

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Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/027
Agenda Item: 1.2

Role of Innovation in Outsourced Projects

Purpose: Information
Submitted by: India

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

TATA CONSULTANCY SERVICES

Role of Innovation in Outsourced Projects

R.Venkatesh (Venky)

October 24, 2008

Experience certainty. IT Services Business Solutions Outsourcing

Talk Outline

- Credibility
  - About TCS
- Outsourcing
  - Expectations
  - Downsides
- Role of Innovation
- TCS Case Studies

TCS an Overview

- TCS was established in 1968
- FY 2008 revenue of USD 5.7 billion (↑ from USD 4.3 billion in FY 2007)
- Over 1,21,610* employees
- 1st Company in the world to be assessed at Level 5 for integrated enterprise-wide CMMI and PCMM
- Global presence - 160 offices in 42 countries
- First and Largest
  - Software R&D centre in India
  - Software exporter in India

* Excluding Subsidiaries, 1,17,921 Associates inclusive of subsidiaries

As on 30th Sep 2008

Outsourcing

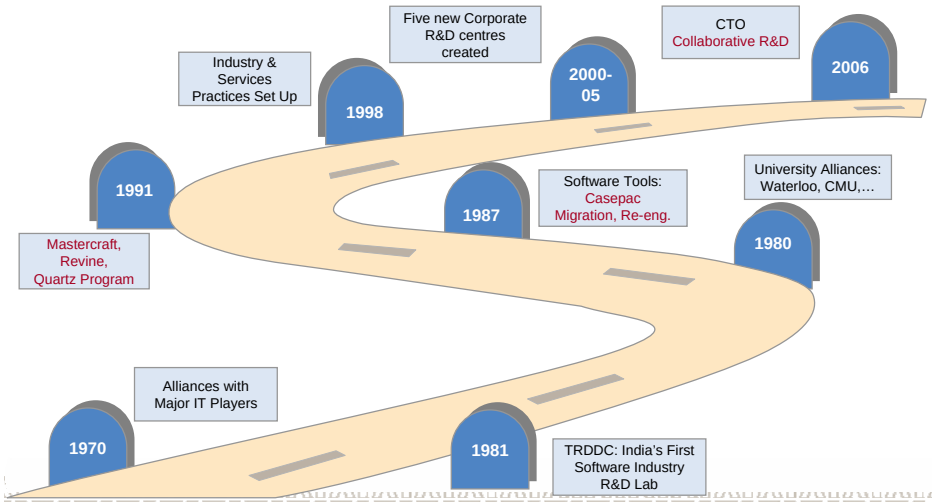
Expectations	• **Cost reduction** • Access to talent • Parent company can focus on new ideas
Challenges	• Culture • Geographically dispersed teams • Language

Cost Reduction

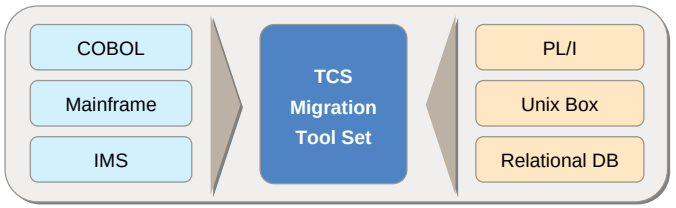
Savings	• Salary – rising • Easy to set up and dismantle teams
Additional Costs Incurred	• Management • Communication • Travel • Process
Process Maturity	• ISO, CMM … • Specific processes – different kinds of projects • domains • life cycle phase – different nature of clients – maturity level
Process Automation	• Tools

TCS Case Studies

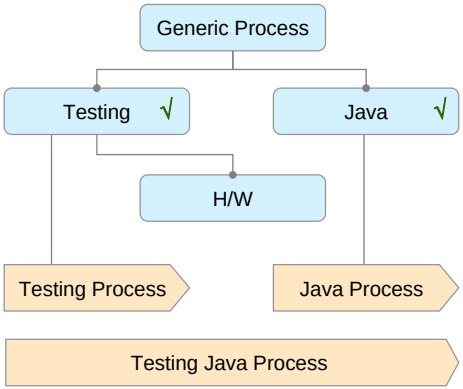
TCS Innovation Path



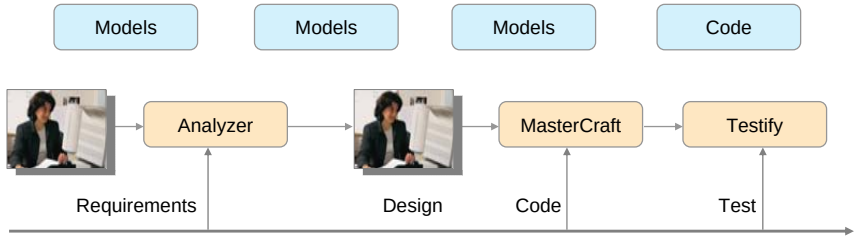
LP Tools



MAP - Process Innovation



TCS - Software Foundry



Meta - Tools

Automation of Assembly Line Installation

Productivity

Productivity - 25 FP/m
Industry Average - 10 FP/m
Defect Density - 0.05 defects/FP
Industry Average - 0.33 d/FP

MasterCraft™

Maintenance - Extraction of specifications

Manual (without tool)
Project 1 - **110** LOC/pers day
Project 2 - **200** LOC/pers day

Using Revine
Project 3 - **1250** LOC/pers day
Project 4 - **1000** LOC/pers day

Summary

- Innovation necessary
  - Reduce costs
  - Add value
- Small technical team focused on innovation
  - Process innovation
  - Process automation
  - Technology expertise

Asia-Pacific
Economic Cooperation

2008/SMEWG/SYM/028
Agenda Item: 6.1

Outsourcing Opportunities and Challenges

Purpose: Information
Submitted by: India

APEC Symposium on Improving Market Access for ICT Outsource SMEs
Hanoi, Vietnam
27–29 October 2008

Outsourcing

Opportunities and Challenges

A User Perspective

Lalit Sawhney, *INDIA*

28 Oct 2008

Agenda

- Why Outsource ?
- What to Outsource ?
- Destination Organisation, Road Map
- Steps in Outsourcing
- Outsourcing Models
- Challenges
- Retained Organisation
- Learning from other parts of business
- Benefit Realisation
- Future Opportunities

IT Services, not BPO, KPO

- *Related, but much wider areas*

Why Outsource ?

- Opportunities
- Prioritisation
- Business case
- Motivation of CXO / CIO
- What can be enabled by Outsourcing
  - Can't be done otherwise
- Cost

What to Outsource ?

- High Return vs. Low-hanging fruit
- Ease of implementation

- What outsourcing is not
  - Abdication of Responsibility
  - Staff Augmentation

- What should not be outsourced
  - You can not outsource what you don't understand well
  - ERP is well understood, while Business Intelligence is probably not!
  - IT Governance, budgeting, Application portfolio, Architecture, ...

What to Outsource… ?

- Possible Areas for a Corporate
  - Application Help Desks, support
  - ERP Implementation, Roll-outs, User Training
  - Custom Application Development and Maintenance
  - Application Management
  - Software Upgrades, Migration, Patch Management
  - Website Development, Intranet, Extranet
  - …

…what to outsource ?

- Some more possible areas for a Corporate
  - Remote Infrastructure Management, Desktops, Network
  - Facilities Management
  - Data Centre, Hosting Applications
  - Server, Storage, Database Monitoring, Admin.
  - Disaster Recovery
  - Server, Storage Capacity Planning, Migration
  - Service Desk, Incident Management
  - Technology Refresh
  - Asset Management
  - Leasing Hardware Assets
  - Network Monitoring, Management, Support
- Offshore Product Development
  - Concept, Design, Development, Testing, Support
- Engineering Services

Destination Organisation, Road Map

- Big bang vs. step by step approach
- How much to retain?
- Accountability with Retained Organisation
- Good business knowledge from low level Helpdesk resources
  - can be used during implementation
  - while Service Partner brings in domain knowledge

Steps in Outsourcing

- Pre-requisites
  - standard process, changes in IT organisation
- RFI to 6-8 vendors, Detailed RFP to 2-3 potential partners
- Choice of vendors
  - Domain knowledge, ability to scale up
  - Checking references
- Commercial-end Contract management
  - Service providers are more expert in protecting their interest (have a lot of legal support)
- Execution – without affecting business
- SLAs

Outsourcing Models

- Right-sourcing, not full outsourcing
- Co-Sourcing
  - One vendor or mix of best-of-breed service partners
  - Multi-vendor alliance, can the vendors work co-operatively ?
  - Competitive vendor marketplace, greater service level, contract flexibility
- Offshoring - Managed Outsourcing
  - Meeting business goals
  - Pay by No. of customers
- Offshoring to a Captive IT Shared Service Centre
  - Typical of MNCs
- 3 – 5 years, no more
  - The world, business is changing too fast
- Creating a smart IT organisation

Challenges

- Pitfalls of outsourcing
- Retained organisation
- SLA, measurement
  - you get what you measure!
- No base line data
- Prose not standardised
  - starting from wrong base
- Lack of documentation
- Speed of response
- Outsourcing something structured is easy
  - New things more difficult
- Innovation in outsourced environment
  - Does outsourcing inhibit innovation?

Retained Organisation

- Competencies for running outsourced organisation is different
- Business knowledge inside is more
- Implementation requires more people and effort
  - while motivation of in-house people is low
- Lack of motivation among existing staff
  - “you transfer knowledge and then become redundant”

Learning from other parts of business

- Marketing has been using ad agencies for long time
  - out source lot of work!
- 3rd Party manufacturing is a well-oiled discipline
  - All kinds of pricing
  - Service levels
  - Flexibility
  - Long-term contracts

Benefit Realization

- Measuring benefits
  - tangible and intangible
- Productivity improvements
- Continuous improvement
- Ensuring service
- Customer Satisfaction Surveys

Future opportunities

- Shared Services
- Reaching out to customers – one to one
- Remote facilities management
- Innovation / Design

- What the CEO should look for in right-sourcing?

Thank you

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