National ICT R&D Fund Islamabad

PAKISTAN IT & ITES INDUSTRY SURVEY 2014

Project Introduction (as per RFP)

- Pakistan's IT & ITES lacked authentic and credible data necessary for:
  - evaluation of performance of the industry
  - designing policies and initiatives necessary to help the industry move forward.

- The survey was proposed to have data available for policy making and analysis and would help in identifying trends and in embarking on strategic initiatives that would help the industry and the country.

- The Fund intends also to provide an evidence-based, rather than gut-feel based, basis to the policy recommendations derived from the study enabling the sector stakeholders to focus on the areas of strength and growth in the sector.

The Executing Agency

- RSM was awarded the project after they won the Bid.

- In Pakistan, they operate by the name of AHLN.

- The contract was signed in June 2013 followed by release of Mobilization Advance in the same month.

The Figures

- Total Budget: 3.9 Million
- Start Date: July 2013
- End Date: December 2014

Scope of Work

- Design of survey instrument.
- Determination of sample size and sampling strategy.
- Recruitment & training of enumerators.
- Pilot testing of survey instrument.
- Finalization of instrument.
- Deployment of Field staff to conduct industry survey.
- Data cleaning, compilation and analysis.
- Report writing including conclusion and recommendations.

Pakistan IT ITES 2013—Project Progress

- **Kickoff Meeting**
  - ◦ AHLN provided the brief about survey methods to be used like snowball. They were also explained by the Monitoring Committee about the requirements to be emphasized upon.

- **Development of survey tool, Finalization of sampling, questionnaire and arrangements for field survey**
  - ◦ This was the most hectic task for the Monitoring Committee to monitor as the aim was to cover maximum issues to be inquired during the survey and their alignment with RFP.

- **Field training, testing and Completion of Survey**
  - ◦ Monitoring Committee members visited the training sessions and monitored the standards of training provided to AHLN field staff.

IT ITES 2013—Project Progress-II

- **Field work execution and data transmission, processing and entry**
  - The data was collected and processed by AHLN and submitted to the Fund which was reviewed in detail and accepted the deliverable after suggested changes were incorporated in the revised milestone.
- **Data and industry analysis**
  - In view of the data processing, AHLN analyzed the industry with respect to IT & ITES requirements. This milestone was accepted by the Monitoring Committee after three revisions.
- **Final report**
  - Final Report has been been submitted.

Survey Sample

- To cater for geographical coverage following two approaches were adopted:
  - Purposive selection of cities.
  - Random selection of cities/towns.

Survey Sample

Purposive Selection

- The consultants adopted a purposive selection for the top 6 cities of the country as listed below:
- Karachi
- Lahore
- Peshawar/Islamabad
- Faisalabad
- Multan

Survey Sample

Random Selection

- To have a representation of medium to small towns, AHLN adopted a Stratified Random Selection procedure with population as the stratification criteria:
    i.   Cities & towns with population >0.5 million
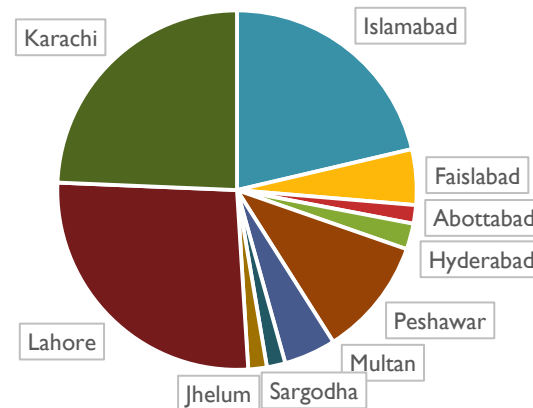   ii.   Cities & towns with population 0.1 and 0.5 million

Sample Survey

- Total 10 cities were selected
  - 6 cities were selected purposively.
  - 4 cities were selected randomly.
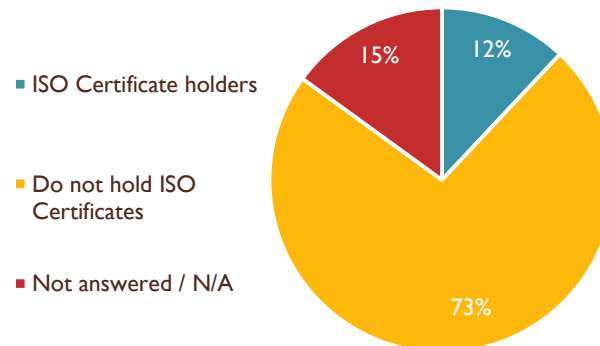
Pakistan IT ITES—Report Highlights-I

- ## Industry Players

Karachi
Islamabad
Faislabad
Abottabad
Hyderabad
Peshawar
Multan
Lahore
Jhelum
Sargodha

- ## ISO Certified Companies

3.7 ISO Certified Companies

- ISO Certificate holders
- Do not hold ISO Certificates
- Not answered / N/A

15%   12%

73%

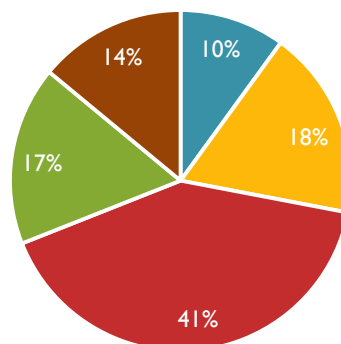| Average Revenue per Company	PKR 5,000,000

Pakistan IT ITES—Report Highlights-II

Average Number of Total Employees	45 / Company

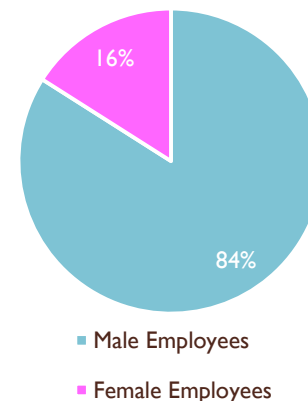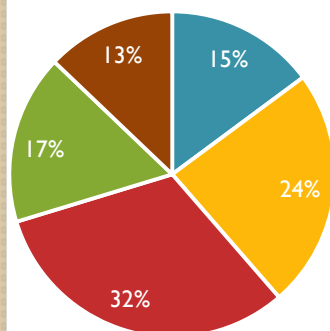## Number of Total Employees

- Less than 5 total employees
- 5 - 10 total employees
- 10 - 25 total employees
- 25 - 50 total employees
- 50 and above total employees

Pie chart values: 10%, 18%, 41%, 17%, 14%

3.22.1 Overall Employees' Gender Segregation

Pie chart values: 16%, 84%

- Male Employees
- Female Employees

Companies with Permanent Employees

- Less than 5 permanent employees
- 5 - 10 permanent employees
- 10 - 25 permanent employees
- 25 - 50 permanent employees
- 50 and bove permanent employees

Pie chart values: 15%, 24%, 32%, 17%, 13%

Companies with Project Based Employees

Category	Percentage
50 and above project based employees	2%
10 - 25 project based employees	6%
5 - 10 project based employees	10%
Less than 5 project based employees	9%

Percentage of Total Companies

Pakistan IT ITES—Report Highlights-III
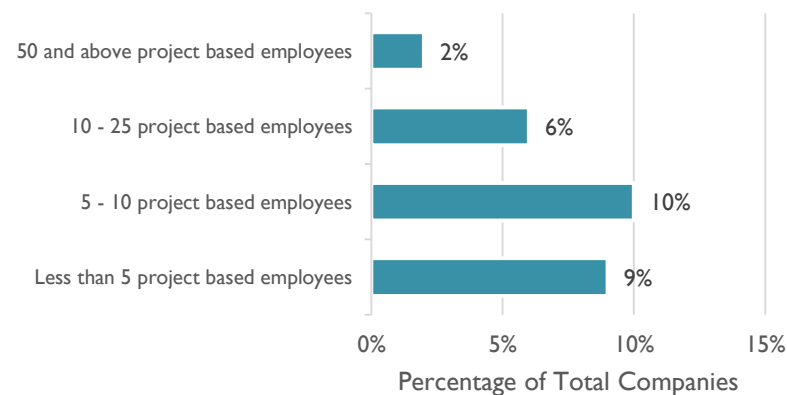
Professionals' Average Years of Experience

| Average Salary within the Industry | PKR 35,000 |

Pakistan IT ITES—Report Highlights-IV

Professionals' Average Years of Education
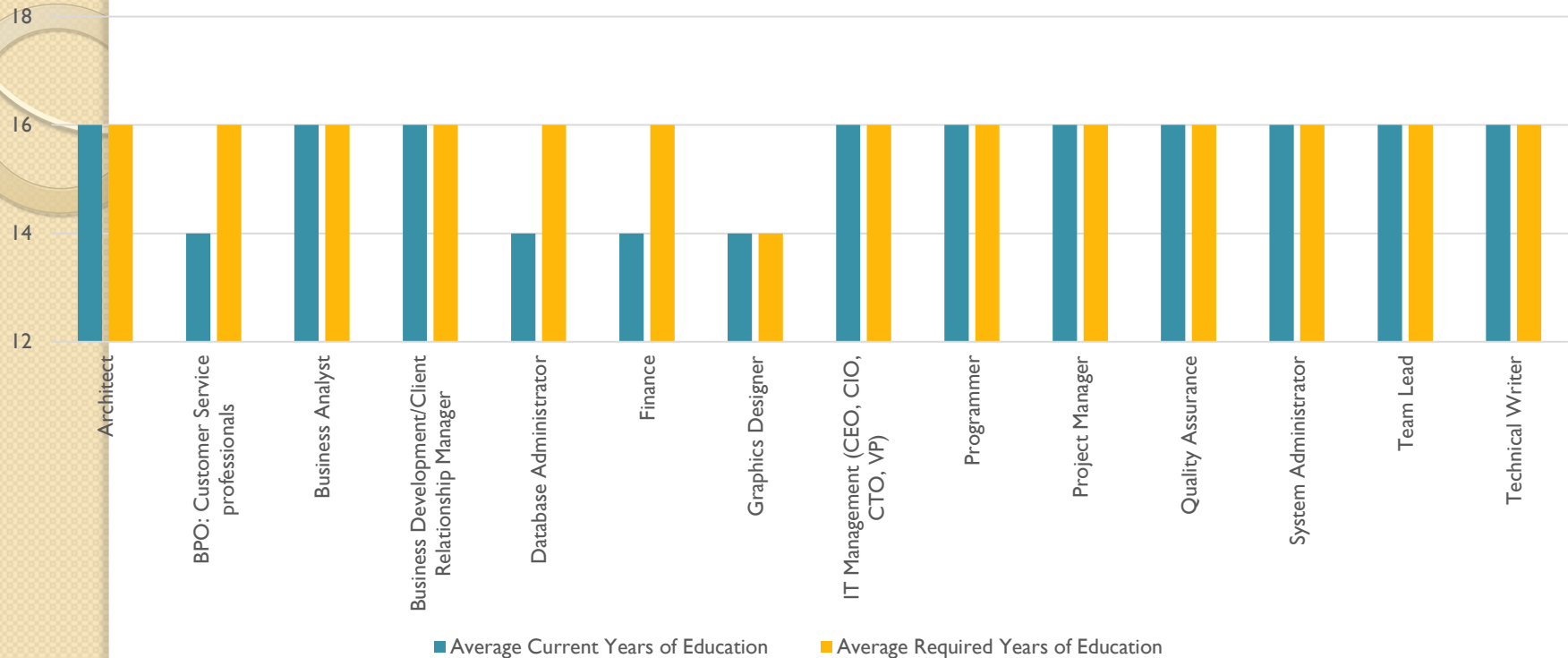

Legend: ■ Average Current Years of Education ■ Average Required Years of Education

The data collected reveals that for most of the professions within the industry, the current common educational level stands at 16 years of education. Architects, Business Analysts, Client Relationship Managers, IT Management, Programmers, Project Managers, Quality Assurance Executives, System Administrators, Teams Leads and Technical Writers within the industry have commonly undergone 16 years of education and are, on average, meeting the requirements of the industry – which requires these professionals to have 16 years of education. Customer Service Professionals, Database Administrators and Finance Professionals within the industry, however, have commonly undergone 14 years of education and are unable to meet the requirement of the industry for 16 years of education. Graphic Designers within the industry commonly hold 14 years of education which is as required by the industry.

Growth in Terms of People, Players and Revenues

Growth in the Number of Employees Over Last 3 Years	20%

Growth in Number of Employees

20% growth over 3 Years

Number of Employees

2012   2014

—— Growth in Number of Employees
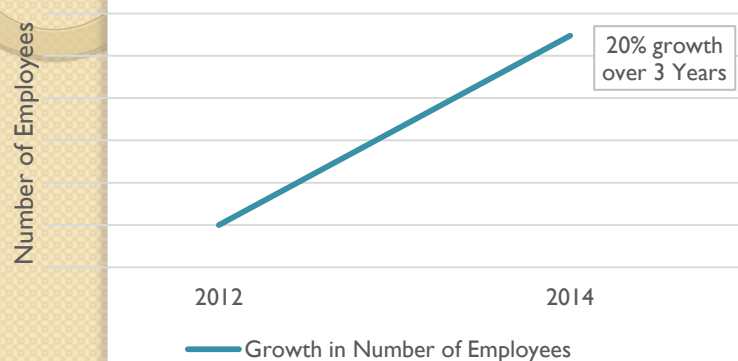
Growth in the number of total employees over the 3 years is 20.4%. The aggregate number of total employees currently within the sample companies stands at 13,191, while the aggregate figure 3 years ago comes down to 10,954.

Growth in Number of Employees over Past 3 Years

Category	Percentage
Less than 5%	1%
5% - 10%	1%
10% - 20%	5%
20% - 30%	6%
30% - 40%	5%
40% - 50%	4%
50% and above	44%
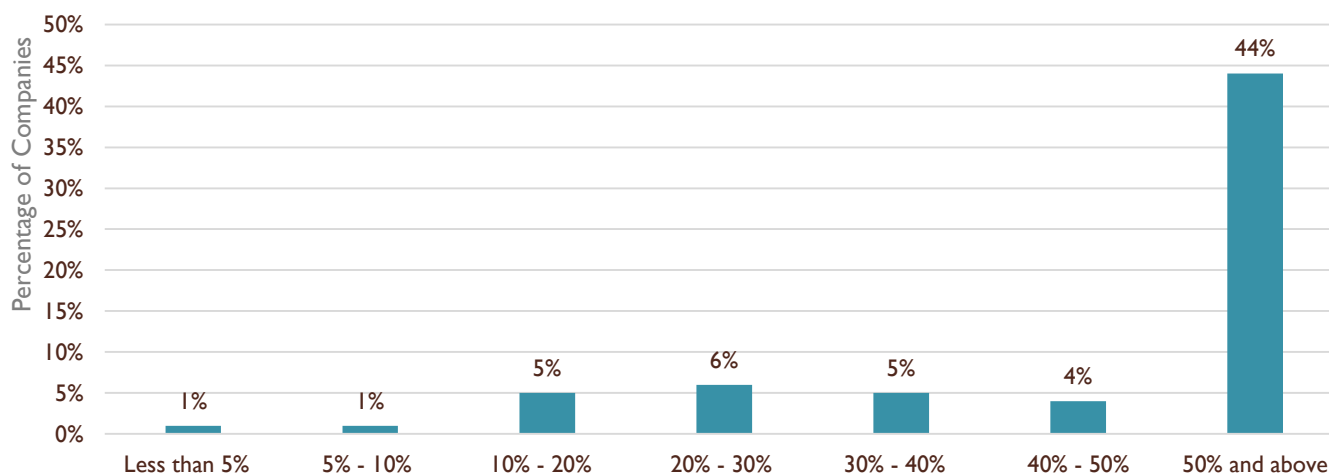
Growth in the Number of Companies Over Last 3 Years — **23%** Annex IX

Average Revenue Generation

Percentage of Companies

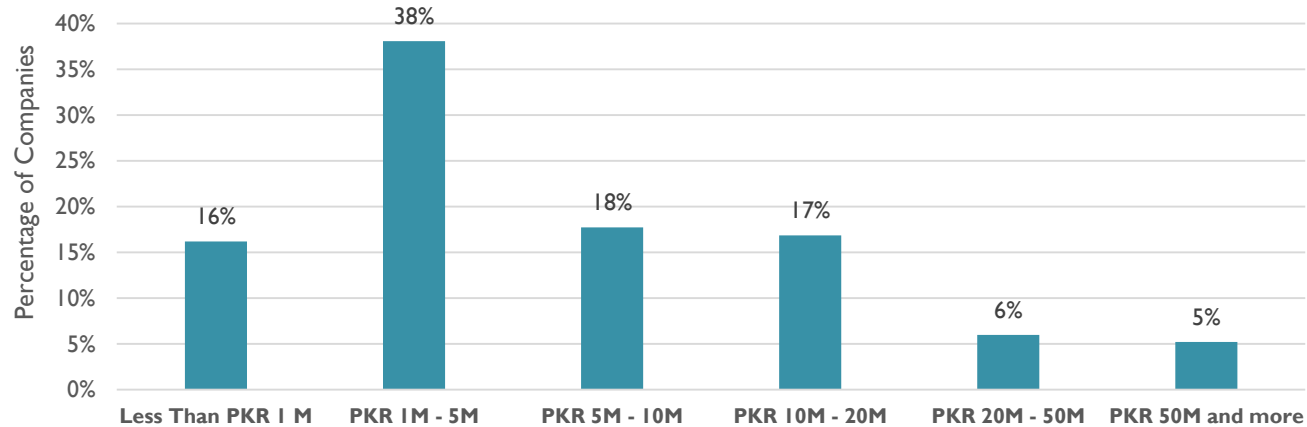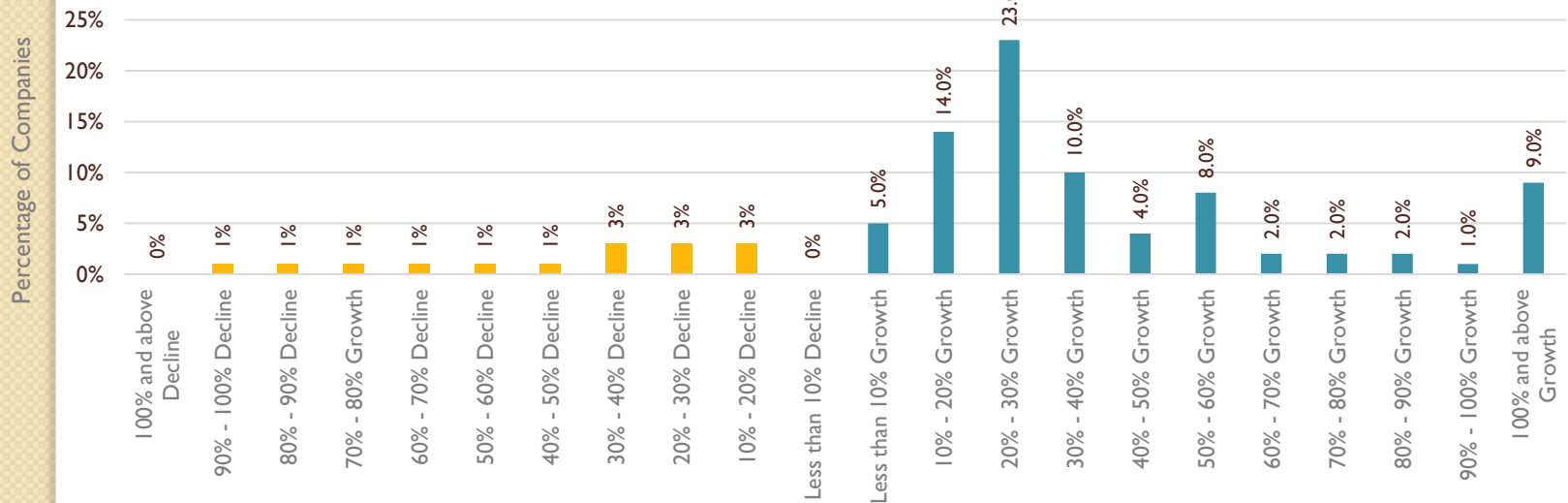| Category	Value
Less Than PKR 1 M	16%
PKR 1M - 5M	38%
PKR 5M - 10M	18%
PKR 10M - 20M	17%
PKR 20M - 50M	6%
PKR 50M and more	5%

Average Estimated Revenue Growth within the Industry Over Last 3 Years — **29%** Annex VIII

Percentage Growth / Decline in Businesses

Percentage of Companies

Category	Value
100% and above Decline	0%
90% - 100% Decline	1%
80% - 90% Decline	1%
70% - 80% Growth	1%
60% - 70% Decline	1%
50% - 60% Decline	1%
40% - 50% Decline	1%
30% - 40% Decline	3%
20% - 30% Decline	3%
10% - 20% Decline	3%
Less than 10% Decline	0%
Less than 10% Growth	5.0%
10% - 20% Growth	14.0%
20% - 30% Growth	23.0%
30% - 40% Growth	10.0%
40% - 50% Growth	4.0%
50% - 60% Growth	8.0%
60% - 70% Growth	2.0%
70% - 80% Growth	2.0%
80% - 90% Growth	2.0%
90% - 100% Growth	1.0%
100% and above Growth	9.0%

Industry Outlook-I

Market with Higher Growth Potential: International or Domestic?

- Domestic Market
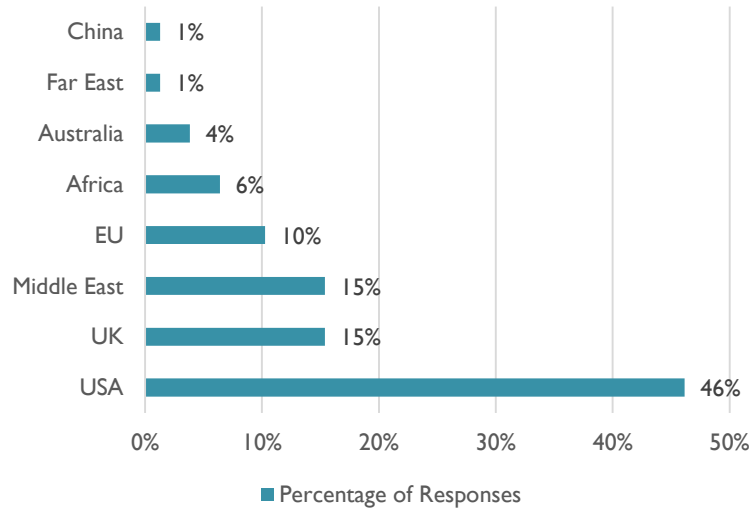- International Market
- Not Answered
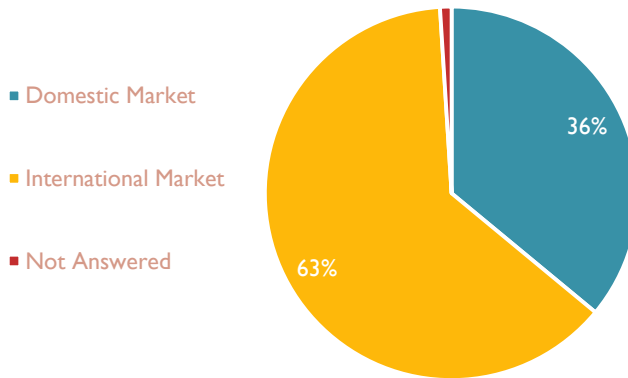
The respondents were asked which market (domestic or international) they saw growing faster. 36% of the respondents saw the domestic market growing faster, whereas 63% said otherwise. 1% of the respondents did not answer.

It appears that there exists a higher potential for increasing the industry's revenue share from the international market and this element of our survey shows that the industry recognizes this potential

Fastest Growing Domestic Sector

Sector	Percentage
IT Industry	31%
Education	6%
Service Sector	6%
Telecommunication	6%
Wholesale and Retail Trade	4%
Media / Advertising	4%
Banking	3%
Manufacturing	2%
Transportation (Railways, Airlines, etc.)	2%
Textile	2%
Power Generation	2%
Real Estate	2%
Chemicals and Pharmaceuticals	1%
NGO/Social Services	1%
SME	1%
FMCG	1%
Automotive	1%
Healthcare	1%

Industry Outlook-II

Fastest Growing International Market

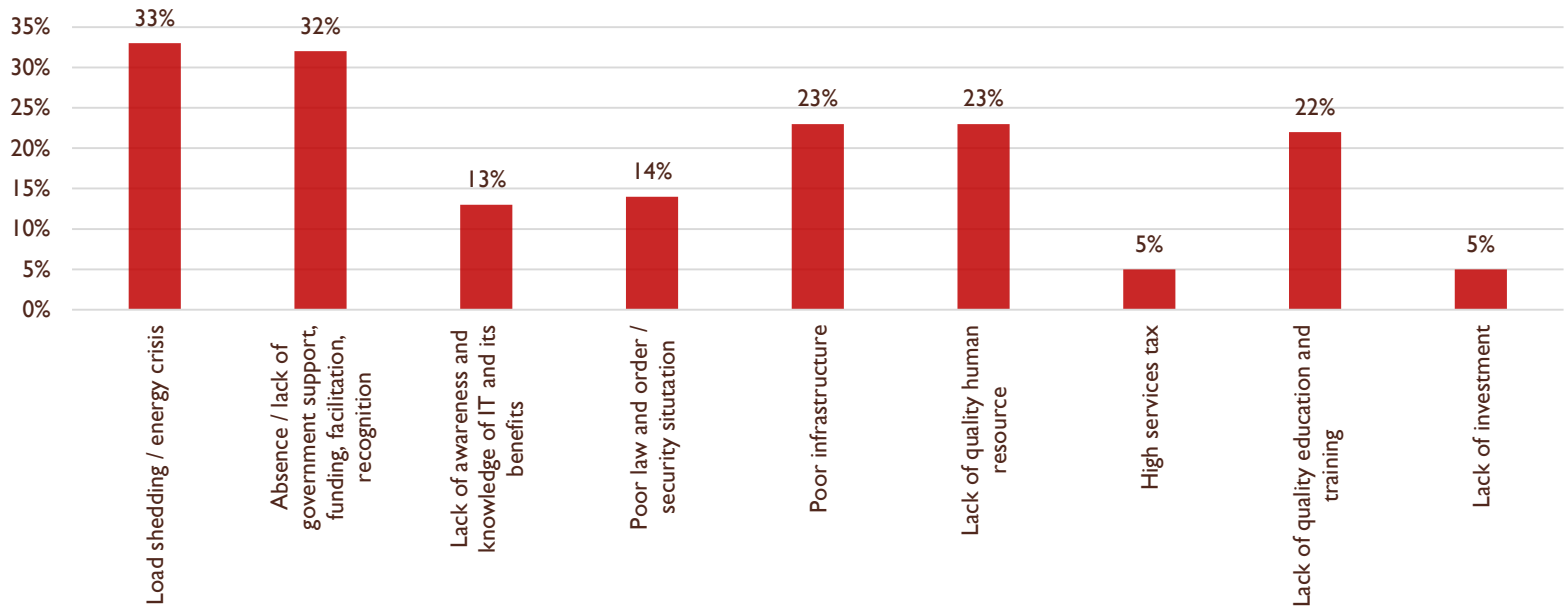| Market	Percentage of Responses
China	1%
Far East	1%
Australia	4%
Africa	6%
EU	10%
Middle East	15%
UK	15%
USA	46%

Respondents operating within the international market were questioned regarding their views on the fastest growing international market. 46% of the respondents believed that USA was the fastest growing market, followed by UK (15%), Middle East (15%), EU (10%), Africa (6%) and Australia (4%). China and Far East were considered to be the fastest growing by a mere 1% of the respondents.

Fastest Growing Domestic Sector

Sector	Percentage of Responses
IT Industry	31%
Education	6%
Service Sector	6%
Telecommunication	6%
Wholesale and Retail Trade	4%
Media / Advertising	4%
Banking	3%
Manufacturing	2%
Transportation (Railways, Airlines, etc.)	2%
Textile	2%
Power Generation	2%
Real Estate	2%
Chemicals and Pharmaceuticals	1%
NGO/Social Services	1%
SME	1%
FMCG	1%
Automotive	1%
Healthcare	1%

# Pakistan IT ITES—Key Challenges-I

Key Challenges Faced by the Industry

The industry is facing countless challenges that currently impede growth. Given the open ended structure of the question a large number of responses were received. The significant issues have been categorized and depicted in the illustration above. Over 30% of the respondents have identified the prevailing energy crisis as the key challenge that obstructs day to day operations of their business. Another equally problematic factor is the lack of any support by the Government. This encompasses lack or absence of funding, facilitation and recognition. Other key issues include lack of awareness with regard to IT and its benefits within the domestic market; the poor law and order situation; the underdeveloped infrastructure, which includes the unavailability of good quality internet across most of the country; lack of good quality human resource; and lack of education and training relevant to this sector.

Pakistan IT ITES—Key Challenges-II

Most Serious Key Challenges: First, Second and Third Highest Ranking
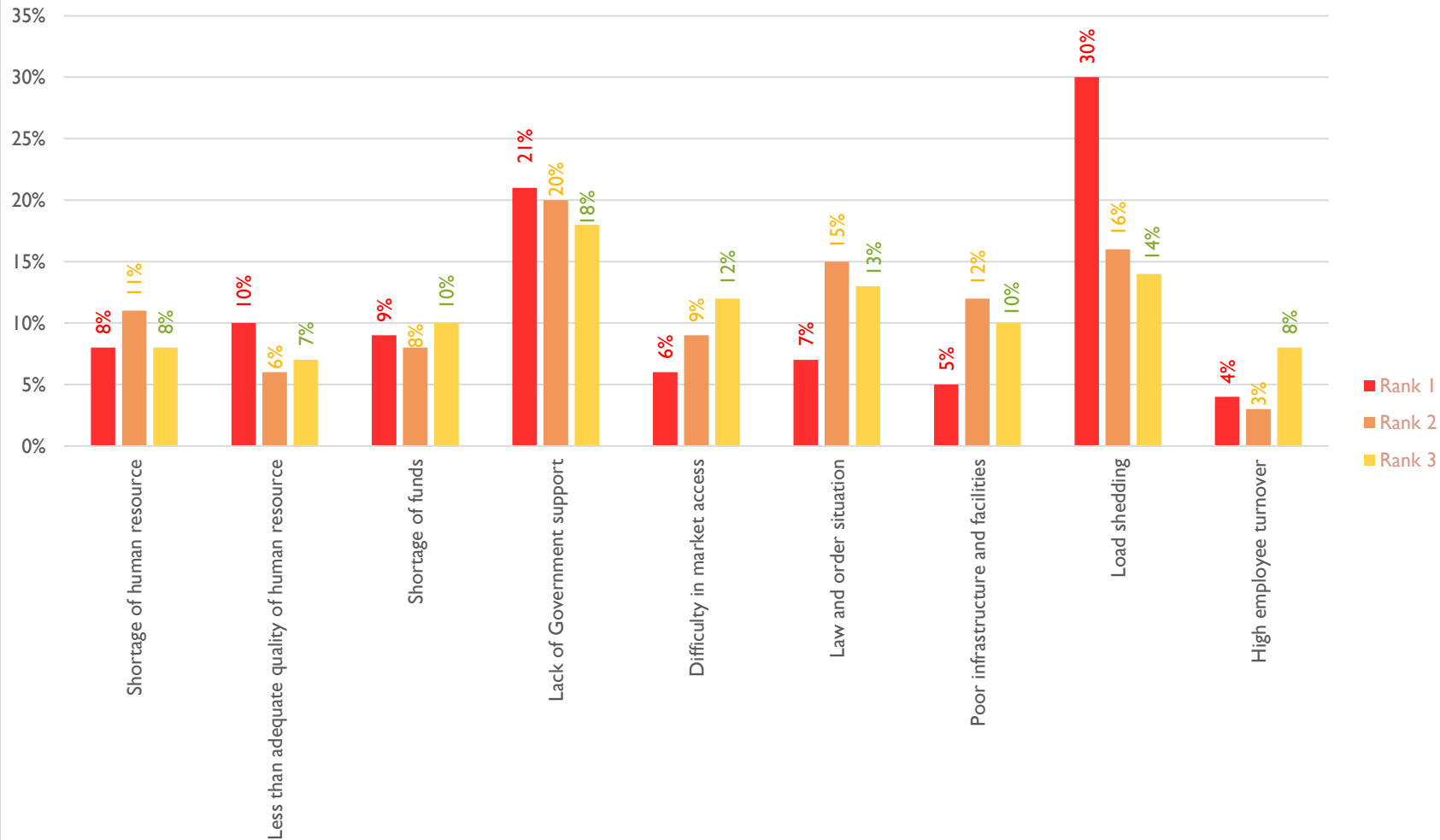
Pakistan IT ITES—Suggestions-I

Rectification of shortage of human resource:
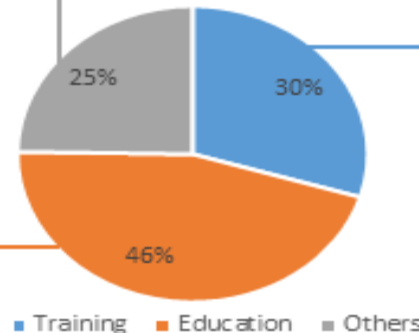
Suggestions for Rectification of HR Shortage

Other factors:

- Spread of awareness of IT sector
- Increase in industry remuneration
- Make available high caliber and competent human resource

25%

30%

46%

■ Training ■ Education ■ Others

Training factors:

- Training according to industry requirements
- Training programmes in IT colleges and universities
- Internship programmes for graduates (such as that by PSEB)

Educational factors:

- Improvement in IT sector education
- Promotion in IT technical institutes by the government
- Improvement / updating of study curriculum
- Reduction in gap between industry and academia

Pakistan IT ITES—Suggestions-II

Rectification of shortage of human resource:

Suggestions for Rectification of HR Shortage

Other factors:

- Spread of awareness of IT sector
- Increase in industry remuneration
- Make available high caliber and competent human resource

25%

30%

46%

■ Training ■ Education ■ Others

Training factors:

- Training according to industry requirements
- Training programmes in IT colleges and universities
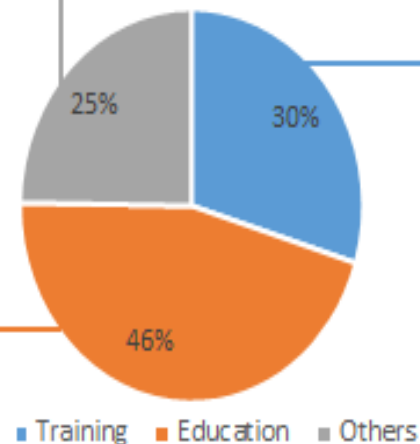- Internship programmes for graduates (such as that by PSEB)

Educational factors:

- Improvement in IT sector education
- Promotion in IT technical institutes by the government
- Improvement / updating of study curriculum
- Reduction in gap between industry and academia

Pakistan IT ITES—Suggestions-III

Rectification of inadequacy of human resource:

Suggestions for Rectification of HR Inadequacy

Other factors:

- Spread of awareness of IT sector
- Increase in industry remuneration
- Make available high caliber and competent human resource

26%   24%   51%

Training   Education   Others

Training factors:

- Training according to industry requirements
- Training programmes in IT colleges and universities
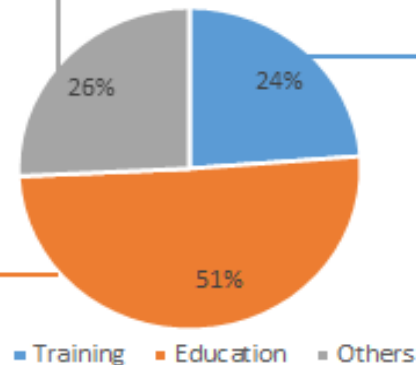- Internship programmes for graduates (such as that by PSEB)
- Mandatory practical experience requirements for graduates
- Provision of education and training to staff by companies

Educational factors:

- Improvement in IT sector education
- Promotion in IT technical institutes by the government
- Improvement / updating of study curriculum
- Reduction in gap between industry and academia
- Introduction of project based education in collaboration with the industry
- Introduction of government IT institutes providing relevant education at reasonable cost

23

Pakistan IT ITES—Recommendations

- A government apex body, to oversee and regulate the IT & ITES industry of Pakistan.

- Issues with regard to opening of merchant accounts with renowned payment gateways such as PayPal and World-Pay must be resolved

- Expatriates appointed at notable positions, working with world renowned IT powerhouses should be given incentives in order to encourage them to invest their expertise for the betterment of Pakistan's IT & ITES industry.

- IT software houses should invest in research and development departments in top tier universities. The apex body should regulate these developments, which could in turn produce higher caliber human resource for the IT & ITES industry.

- Various platforms should be provided where students can exhibit their skills in software development and other IT related sectors to people who might be interested in such ideas and would materialize them in reality by investing in them.

Pakistan IT ITES--Sample

Sr. No	City	Universe	Field Activity	Sample
1	Rawalpindi / Islamabad	874	64	70
2	Karachi	862	73	70
3	Lahore	819	80	70
4	Peshawar	97	32	30
5	Faisalabad	20	16	15
6	Multan	12	13	10
7	Gujranwala	10	0	5
8	Abbottabad	7	5	5
9	Sialkot	7	0	5
10	Hyderabad	7	7	5
11	Sargodha	2	5	5
12	Jhelum	1	5	5
13	Sukkur	1	0	5
		2719	300	300

Pakistan IT ITES-Average Salary

Employee Category	Number in Sample Companies	Common Salary Bracket Midpoint	Aggregate Salaries
Architect	98	40,000	3,920,000
BPO: Customer Service professionals	85	22,500	1,912,500
Business Analyst	103	40,000	4,120,000
Business Development/Client Relationship Manager	182	22,500	4,095,000
Database Administrator	125	40,000	5000000
Graphics Designer	165	22,500	3712500
Helpdesk	101	22,500	2,272,500
HR	143	22,500	3,217,500
IT Management (CEO, CIO, CTO, VP)	223	60,000	13,380,000
Programmer	214	40,000	8,560,000
Project Manager	148	40,000	5,920,000
Quality Assurance	105	40,000	4,200,000
System Administrator	98	17,500	1,715,000
Team Lead	125	40,000	5,000,000
Technical Writer	58	22,500	1,305,000
TOTAL	1,973		68,330,000
Average Salary	68,330,000 / 1,973		PKR 34,633