



Palestinian  
Information  
Technology  
Association  
of Companies



# Palestinian ICT Market Penetration Study

## Final Report

June 2013



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## 1. ABOUT THIS REPORT

This report discusses the scope of developing the ICT sector in Palestine. It also discusses the challenges and opportunities available for Palestinian ICT sector both in local and international markets

To this effect, the report addresses the following objectives:

- To Identify three international markets that are relevant to the Palestinian ICT companies and a basic engagement strategy for these three markets
- To perform a thorough business development exercise identifying real opportunities within each of the target markets.
- To identify niche subsectors that would be relevant for Palestinian ICT Companies.
- Identify three to five major ICT subsectors the Palestinian companies can serve.
- To define a matrix of opportunities within the local market consisting of Palestinian industries and sectors covering hardware, software and professional services and map the needs based on the Palestinian markets supply side.

The analysis presented in the report is based on our secondary research of materials shared by PITA focus group interviews and a survey conducted between April 2013 and May 2013 and may not reflect the impact of later developments in the social, economic, political and technological situations in Palestine, Middle East or globally.

This report was prepared for Palestinian Information Technology Association of Companies for a project funded by Agence Française de Développement.

### 1.1 ACKNOWLEDGEMENT

This study would not have been possible without the support of PITA and its members' support. Avasant wishes to express gratitude to PITA team especially, Mr. Hussam Joudah who was abundantly helpful and offered invaluable support and guidance. Deepest gratitude are also due to senior members of PITA, Ms. Abeer Hazboun, Mr. Yousef Shaath and Mr. Mohammed Musleh without whose guidance this study would not have been successful. Special thanks also to all PITA members, customers and Palestinian diaspora community members who took out their valuable time to respond to the survey.

In addition, Avasant was ably supported by EnterVentures represented by Laith Kassis who was able to leverage his expertise in local and regional ICT markets in developing insights for this study.

## 2. ABBREVIATIONS AND ACRONYMS

ADSL	Asynchronous Digital Subscriber Line
AFD	Agence Française de Développement
AMT	Amazon Mechanical Turk
APAC	Asia Pacific
ATM	Automated Telling Machines
BFSI	Banking, Financial Services and Insurance
BPO	Business Process Outsourcing
BRICS	Brazil, Russia, India, China, South Africa
CAGR	Compounded Annual Growth Rate
CIO	Chief Information Officer
CIS	Customer Interactive Services
CPC	Central Product Classification
CRM	Customer Relationship Management
CTS	Cognizant Technology Services
ENTEG2	Enabling Technology Sector Growth in Gaza
ERP	Enterprise Resource Planning
F&A	Finance and Accounting
GDP	Gross Domestic Product
GIS	Geographic information system
GSM	Groupe Spéciale Mobile
GSMA	Groupe Spéciale Mobile Association
GSMA	The GSM Association
HRO	Human Resource Outsourcing
HTML	Hyper Text Mark-up Language
IaaS	Infrastructure as a Service
ICT	Information and Communication Technology
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
IT	Information Technology
IVR	Interactive Voice Response
KBM	Knowledge Based Marketing
KPO	Knowledge Process Outsourcing
MENA	Middle East, Europe and Northern Africa
MPLS	Multiprotocol Label Switching
MTIT	Ministry of Telecom and Information Technology
NASSCOM	National Association of Software and Service Companies
NFC	Near Field Communications
NGO	Non-Governmental Organisation
NIST	National Institute of Standards & Technology
OECD	Organisation for Economic Co-operation and Development
OTA	Over the Air

PaaS	Platform as a Service
PaTel	Palestinian Telecommunications Company
PCBS	Palestinian Central Bureau of Statistics
PEI	Palestine Education Initiative
PITA	Palestinian Information Technology Association of Companies
PLC	Palestine Legislative Council
POS	Point of Sales
PTRA	Palestinian Telecommunications Regulatory Authority
QIF	Quality Improvement Fund
R&D	Research and Development
ROI	Return on Investments
SaaS	Software as a Service
SCM	Supply Change Management
SMB	Small and Medium Businesses
SMS	Short Messaging Service
SSA	Sub Saharan Africa
TCP/IP	Transfer Control Protocol/Internet Protocol
TCV	Total Contract Value
TDA	U.S. Trade and Development Agency
UAE	United Arab Emirates
UNDP	U.N. Development Project
UNOPS	United Nations Office for Project Services
USAID	US Agency for International Development
VoIP	Voice over Internet Protocol
WBG	West Bank and Gaza

### 3. EXECUTIVE SUMMARY

Palestinian Information Technology Association of Companies (PITA) engaged Avasant to conduct a study for developing a market penetration strategy aimed towards growth of the Palestinian ICT sector. The objective was to identify key market segments in the local and international markets for the Palestinian ICT sector. The study also aimed to come up with the engagement plan for these market segments.

In order to identify these market segments and the engagement plan Avasant analysed the following areas

- Supply Side
- Domestic Market
- International Market

#### 3.1 SUPPLY SIDE

Avasant conducted a supply side survey to gain understanding of the capabilities of Palestinian ICT companies. This along with the secondary research about the Palestinian ICT sector helped Avasant to understand the supply side of Palestinian ICT sector. Avasant came to following understanding about the supply side of the Palestinian ICT sector

1. There is a diverse skill set available in the market
2. Palestinian ICT sector is highly competitive in terms of cost
3. Palestinian ICT sector has reached certain level of maturity, evolving from sub-dealers of Israeli hardware distributors in 1980s to exporting enterprise solutions to certain sectors like NGOs, Retail Industry etc.
4. English is widely spoken and used in many businesses. This is a competitive advantage over other countries in the region .This is not seen in other regional markets except Jordan
5. Major challenges faced by Palestinian ICT firms are
  - a. Poor ICT Infrastructure
  - b. Lack of regulations
  - c. Lack of funds
  - d. Restrictions on movement of people and goods

#### 3.2 DOMESTIC MARKET

As per the results of domestic demand survey and secondary market research, Avasant evaluated the market segments in the domestic market

Sector	Is It Well Funded?	Do They Have a Compelling Reason to Buy?	Can PITA Member Deliver a Whole Product?	Is there Entrenched Competition in the Sector?	Can We Leverage this Segment to Enter Additional Segments?
Government	No, but PITA can Lobby with Donors and Government for annual	Yes, to automate their services to citizens, increase transparency and revenue from online payments	No, Clustering for Product Development and Integration as well as Quality	No, as donors are not funding these type of projects and hence there are few large MNCs	1. Municipality

Sector	Is It Well Funded?	Do They Have a Compelling Reason to Buy?	Can PITA Member Deliver a Whole Product?	Is there Entrenched Competition in the Sector?	Can We Leverage this Segment to Enter Additional Segments?
	budgets		Management programs are needed		
Municipality	Potentially from GIZ and mostly USAID and also from its own revenues	Yes. As above.	No, As above.	Used to be Free Balance, but not anymore.	1. Other Ministries 2. Professional Services
Tourism	No, but PITA can Lobby with Donors and Industry Associations	Yes, as they all now seek to target individual tourist markets for higher profit margins	No, As above.	No	1. Handicrafts and Artisans as a sub-sector
Professional Services	No	Not clear	Not clear	Not clear	Not Clear
Banking and Financials	Yes	Yes, to comply with PMA regulation	No, As Above.	Yes, from Jordanian companies. PITA can lobby PMA on this issue.	1. Financial Securities 2. Insurance 3. Islamic Banking
Commercial Agribusiness	No	Not Apparent from the Survey and Market Dynamics	Not Clear	No	Not Clear
Higher Education	No	Yes, to automate their business processes and increase their productivity and reach to students online. Also, as part of the QIF	Not Clear	No	Not Clear

Source Avasant Research

**Table 1 Local Opportunity Matrix**

As per the evaluation, Avasant recommends Tourism, Banks, Government and Municipality Sectors. (These industries they have compelling reasons to buy in near future, and with the help of partners, PITA members can deliver a whole product experience to these sectors. Also Avasant came up with following engagement plan for the domestic ICT market of Palestine.

- a) Improve the Supply Side
- b) Improve Local Market Access to Members
- c) Improve Access to Finance Programs

#### d) Improve Situation of Gaza Companies

### 3.3 INTERNATIONAL MARKET

Avasant looked at the various ICT segments and geographies to evaluate them on various parameters. The objective was to find segments that could be a target for the Palestinian ICT industry. Factors on which the segments were evaluated - strength of local companies, demand and trends in the export markets and competition etc.

#### 3.3.1 Key Segments

	Skill Set Availability	Experience	Capabilities	Potential for Growth	Competitive Advantage	Target Segment
Banking Software-Core Banking	Medium	Low	Low	Low	Low	<input type="checkbox"/>
KPO	Low	Low	Low	High	Low	<input type="checkbox"/>
Supply Chain	Low	Low	Low	High	Low	<input type="checkbox"/>
Software Maintenance	Medium	Medium	Medium	Low	Low	<input type="checkbox"/>
Software Development	Medium	Medium	Medium	Low	Low	<input type="checkbox"/>
IT Infrastructure	Medium	Medium	Medium	Low	Low	<input type="checkbox"/>
Finance & Accounting Services	High	High	High	High	Medium	<input checked="" type="checkbox"/>
Mobile Payments	High	Medium	High	High	High	<input checked="" type="checkbox"/>
Mobile Remittances	High	Medium	High	High	High	<input checked="" type="checkbox"/>
Telemedicine	High	Medium	Medium	Medium	Medium	<input checked="" type="checkbox"/>
Banking Software-Islamic Banking	Medium	Medium	Medium	High	Medium	<input checked="" type="checkbox"/>
HR Services	High	High	High	Medium	High	<input checked="" type="checkbox"/>
General BPO	High	Medium	Medium	High	Medium	<input checked="" type="checkbox"/>
ERP	Medium	High	Medium	High	Medium	<input checked="" type="checkbox"/>
Arabic Translation	High	High	High	High	High	<input checked="" type="checkbox"/>
Data Entry	High	High	High	Low	Medium	<input checked="" type="checkbox"/>
IT Projects	High	High	High	Medium	Medium	<input checked="" type="checkbox"/>

Source Avasant Research

Table 2 Market Segment Attractiveness

### 3.3.2 Key Geographies

Avasant evaluated various geographies which Palestinian ICT Sector could target. The parameters were language compatibility for the market, market size and market growth rate, penetrability based on regulations, competition within the market, presence of Palestinian Diaspora and political compatibility with the region

	USA & UK	Continental Europe	MENA	SSA	Central & South America	Asia Pacific
Language Compatibility	High	Low	High	Medium	Low	Low
Market Size	High	High	Medium	Low	Low	Medium
Market Growth Rate	Low	Low	Medium	High	Medium	High
Market Penetrability	High	High	High	Low	Medium	Medium
Competition	High	High	Medium	Medium	Medium	High
Diaspora Presence	High	Medium	High	Medium	Low	Low
Political Compatibility	Medium	Medium	High	High	Medium	Medium
Target Geography	☑	☒	☑	☑	☒	☒

Source: Avasant Research

**Table 3 Geographical Market - Attractiveness**

Based on these parameters, Avasant recommends following three markets to be targeted by the Palestinian ICT Market

1. USA & UK
2. Middle East and North Africa (MENA)
3. Sub Saharan Africa

Looking at the strengths of ICT sector of Palestine and demands in the region of US&UK, MENA and Sub Saharan Africa and US & UK markets the key export segments for Palestine ICT industry could be

- ERP Customization
- Mobile Applications (Specifically more concentration on financial applications)
- Arabic Customization (Should form partnership with IT Service providers outside the Arabic speaking world to help them gain market share)
- Islamic Banking Software
- Telemedicine
- Staff Augmentation- IT Projects
- Data Entry
- HR ,Finance and Accounting Services
- BPO

### 3.3.3 Opportunity Matrix

Based on the survey responses, face to face interviews and the secondary research conducted by Avasant, we could zero in on three geographies and six verticals. These verticals and geographies are the markets where as per Avasant's analysis Palestinian ICT firms can get a foothold.

The three geographies are

1. USA & UK
2. Middle East and North Africa (MENA)
3. Sub Saharan Africa

Within MENA region Iraq and Afghanistan present an immediate opportunity and hence are depicted separately from MENA

The same is depicted in the opportunity matrix below. Green represents segments which could be penetrated in the short term and amber representing segments which could be penetrated in long term.



Verticals	Geographies				
	East Africa	West Africa	MENA	Iraq & Afghanistan	USA & UK
Banking	Mobile Remittances				
	Mobile Payments(Retail)				
		Islamic Banking			
		Customer Care			
NGO & Development Agencies		Enterprise Applications			Finance & Accounting
		Accounting Software			
	HR, Finance & Accounting				
Health Care	Telemedicine				
	Accounting Services				
Oil & Gas	Enterprise Applications			Enterprise Application	
	Enterprise Applications			Enterprise Application	
			Finance & Accounting		
Road Construction	Enterprise Applications			Enterprise Application	
				Accounting Software	
				Finance & Accounting	
Others				Arabic Translation	
				Finance & Accounting	
				General BPO	
				IT Projects	
Approach	Direct Marketing	Direct Marketing	Direct Marketing	Direct Marketing	Microwork
	Partnerships	Partnerships	Partnerships	Partnerships	
	Subcontracting for Indian, Egyptians and Jordanian Companies	Subcontracting for Indian, Egyptians and Jordanian Companies	Subcontracting for Indian Companies	Subcontracting for Indian, Egyptians and Jordanian Companies	

Source: Avasant Research

Table 4 Opportunity Matrix

Based on the analysis of various opportunities, the suggested engagement plan for Palestine ICT sector is depicted in the table below

Area	Approach	Key Suggested Initiatives
MENA Region	<p>MENA region can be accessed in two ways</p> <ul style="list-style-type: none"> <li>Direct Marketing</li> <li>Through Local Partners</li> <li>Sub-Contracting</li> </ul> <p>Direct marketing is the best approach but also the toughest to pursue. It takes a longer time. In this approach Palestinian companies are pitted directly against local and regional companies that are larger and more formidable.</p> <p>The ideal way for Palestinian companies is to act as local partners for other larger companies who would find access to the</p>	<ul style="list-style-type: none"> <li>We suggest a delegation be organized to India. PITA should participate in some of the NASSCOM events. Indian companies need to be educated about Palestinian companies and the skills and resources available and the role they can play.</li> <li>A consultant can be identified and retained to represent the Palestinian ICT companies' interest in India and that can coordinate and guide PITA to effectively engage Indian ICT firms.</li> </ul> <p>Appropriate marketing material</p>

Area	Approach	Key Suggested Initiatives
	region difficult. Typical in this category would be Indian companies. Indian companies are larger in size and successful and they have challenges in accessing MENA markets as lack of on ground presence leads to lower sales ratio. This scenario offers ideal fit for Palestinian and Indian firms to explore the market jointly	<p>should be developed before participating in such events.</p> <ul style="list-style-type: none"> <li>PITA can ask some NASSCOM representatives to visit Palestine and the visit can be covered in their internal publication.</li> </ul>
Afghanistan and Iraq	Both these countries are building up. Both have aid agencies and donors pledging redevelopment fund. Palestinian companies have experience of working with aid agencies and donors. Both these countries are still seen as no go areas for western companies providing an ideal untapped opportunity for Palestinian companies.	<ul style="list-style-type: none"> <li>PITA should conduct visits to these geographies and build a relationship with the government and donor sector of these companies.</li> <li>Some of the aid work for Iraq may be coordinated in Jordan or elsewhere, so these have to be kept in mind while organizing visits.</li> <li>The ministries, flush with funds are big spenders on ICT as they believe that ICT is a pillar in their redevelopment. Hence relationship building exercise needs to be conducted with the ministries</li> <li>The larger Palestinian companies can also consider opening a representative office or hire a local partner to liaison with the target market segments</li> </ul>
Sub Saharan Africa – East and West Africa	<p>Africa is witnessing rapid growth in pockets of their economy. Telecom has filled in partly the gaps in infrastructure that have existed for so long. Economies have evolved around telecom sector. Palestinian companies have rated Mobile related application work as one of the most preferred areas for them. We see this as possible synergy for Palestinian companies to work in these areas.</p> <p>The best possible approach is to</p>	<ul style="list-style-type: none"> <li>Avasant suggest a delegation be organized to nations in West and East Africa for participating in some of the industry events where Palestinian firms can showcase their capabilities.</li> <li>Such tours should be used to forge local partnerships. Palestinian companies should try to have local partners as their representatives for accessing the regional market</li> <li>The other possible approach is to subcontract for Egyptian and</li> </ul>

Area	Approach	Key Suggested Initiatives
	<p>participate in the market directly or through local partnerships. Other possible approaches are partnering / subcontracting for Egyptian and Jordanian firms and even Indian companies.</p>	<p>Indian firms. Delegations and meetings need to be organized to Egypt and India to convey this message to their respective industry.</p> <ul style="list-style-type: none"> <li>• A consultant needs to be identified and retained that can appropriately guide and effectively coordinate and engage the local industry.</li> </ul>
US and UK	<p>Both of these are the most open markets globally and have immense opportunities, large and small in almost all niches that Palestinian ICT companies want to target. Being open markets, these can be easily targeted. But then the competition is also extreme.</p> <p>The alternative approach is to target micro work projects. These are well supported by aid agencies, where Palestinian companies have strong experience, they are easier to get and would require minimal marketing. These pay lower rates but it is an ideal platform to build experience and capability which many Palestinian companies lack in BPO space.</p>	<ul style="list-style-type: none"> <li>• Palestinian companies should initiate dialogue with micro work companies, names of a few are mentioned in this report. There are few annual conferences attended by micro work companies. We would strongly recommend participating in such events and connecting with the micro work companies.</li> <li>• Palestinian companies have been smart to tap the western markets by using online medium extensively. We would recommend continuing the use of online business and social media platforms to enhance the reach. Using sites such as Elance is recommended for tapping small size IT project work from US and UK markets.</li> </ul>

Table 5 Engagement Plan - International Markets

## 4. INTRODUCTION

### 4.1 BACKGROUND

Avasant conducted a study for developing a market penetration strategy aimed towards growth of the Palestinian ICT sector. This study included identifying opportunities for Palestinian ICT companies in local as well as export markets.

As a part of the final deliverable for the engagement, this report is prepared for submission to PITA. This report along with the kick-off presentation would comprise of

- Current supply side report covering the services, capabilities and gaps of the Palestinian ICT sector
- Three international markets report
- Local Market Report
- Niche subsectors report

### 4.2 OBJECTIVE

PITA and AFD had the objective of supporting growth of the Palestinian ICT sector. Primary objective was to understand areas in the international and local markets that the current Palestinian ICT sector can cater to.

#### **The International Market**

- Identify three international markets that are relevant to the Palestinian ICT companies and a basic engagement plan for these three markets
- Perform a thorough business development exercise identifying real opportunities within each of the target markets.
- Identify niche subsectors that would be relevant for Palestinian ICT companies.
- Identify three to five major ICT subsectors the Palestinian companies can serve.

#### **The Local Market**

- Define a matrix of opportunities within the local market consisting of Palestinian industries and sectors covering hardware, software and professional services and map the needs based on the Palestinian markets supply side.

### 4.3 STUDY APPROACH

To execute against the stated objectives of this engagement, Avasant leveraged its time tested market discovery methods and experience to create a tailored approach which uniquely addresses the specific needs of PITA and AFD in identification of potential markets based on capabilities of West Bank & Gaza (WBG).

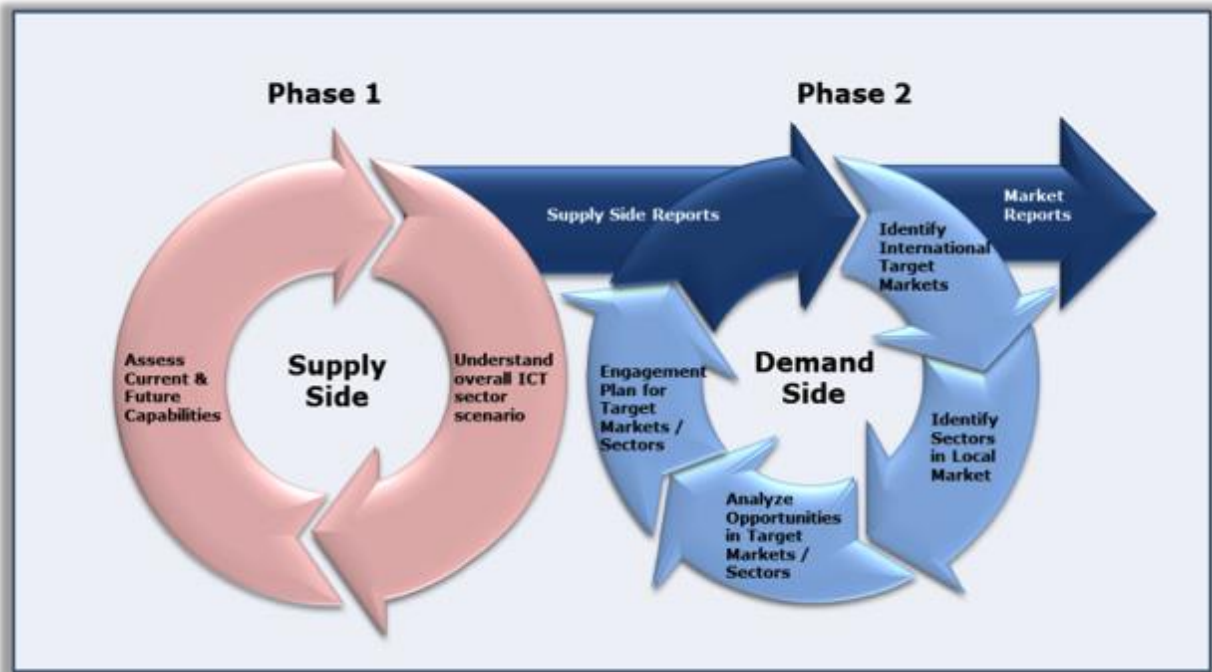


Figure 1 Project Methodology

### Phase I: Supply Side Research

Avasant captured the supply side of the Palestinian ICT market and the overall ICT sector scenario through secondary research and review of the existing material on Palestinian ICT market. Assessed the current and future capabilities including infrastructure, skill set availability, regulatory and general business environment through surveys, interviews and secondary research.

### Phase II: Demand Side Research

Identified key international geographies and the key segments within those geographies as per the Palestinian supply side of technical skills and created an engagement plan. Also, identified major niche subsectors the Palestinian companies can serve and opportunities relevant to the Palestinian ICT companies in the local market.

### Deliverables

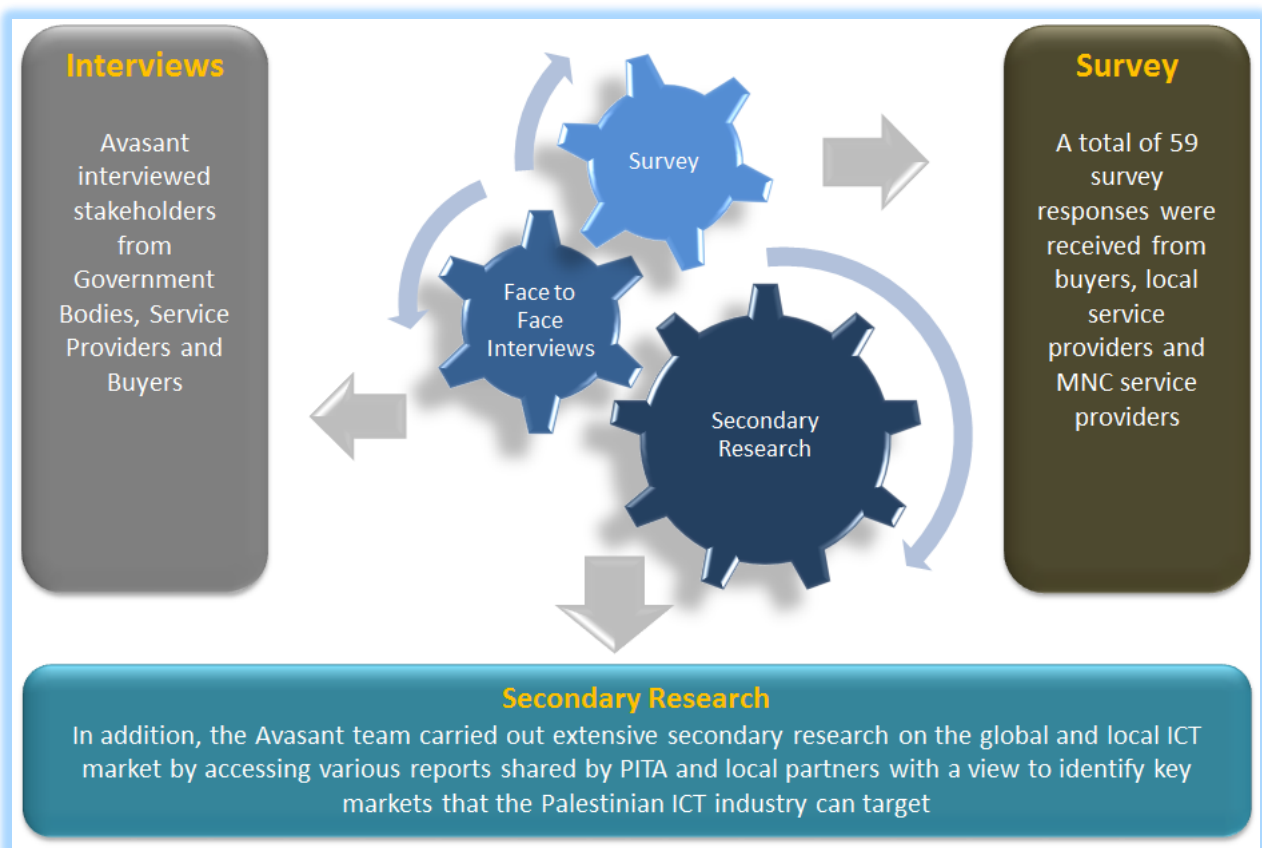
- Current supply side report covering the services, capabilities and gaps of the Palestinian ICT sector
- Three international markets report
- Local Market Report
- Niche subsectors report

#### 4.4 METHODOLOGY

This report is a part of the ICT Market Penetration Study being conducted by Avasant in association with PITA.

In order to achieve the desired outcomes and objectives, this research study provides an insight into the potential ICT markets from the perspective of the Palestinian ICT companies. Avasant, with support of PITA and local partners, reached out to a diverse set of stakeholders in the ICT industry and leveraged a multipronged approach for data collection and best practices gathering through:

- Web-based survey questionnaires
- Primary interviews and discussions
- Secondary research and Avasant experience



**Figure 2 Study Methodology**

Avasant conducted a web-based survey to gather information from various key stakeholders and geographies. A total of 58 responses were received. Respondents included service providers; government ministries, municipalities, departments and agencies; NGOs and donor firms, MNC firms, Diaspora members, buyers representing various private and public sector firms. Avasant followed up the survey with several primary interviews and discussions in the local market with ICT providers and buyers along with other stakeholders in the market. Additionally, Avasant relied on its recent experience in

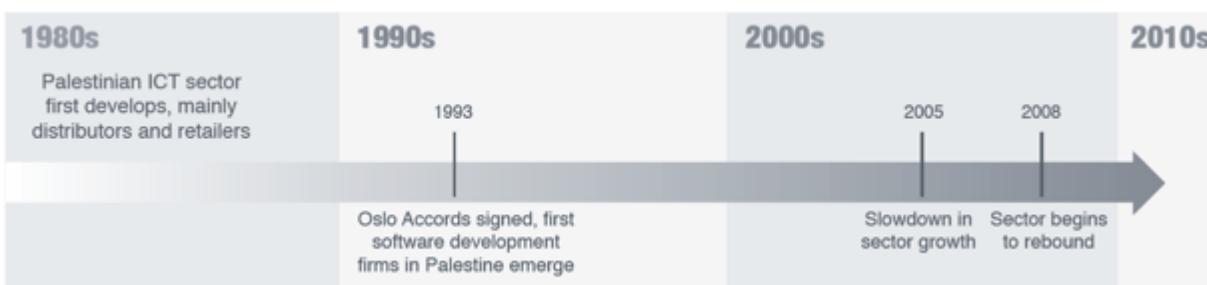
similar situations in emerging economies. Avasant conducted comprehensive secondary research and supplemented this study. The secondary research was done to understand the market potential for the Palestinian ICT industry.

The research focused on identifying horizontals and verticals in the local and external market. This included understanding the supply side competency of Palestinian ICT firms and mapping it to the potential market where the probability of penetration is higher. The survey captured the drivers and challenges that the firms perceive about the Palestinian ICT industry. Survey also tries to gather information about trends and growth direction of Palestinian ICT industry.

## 5. SUPPLY SIDE ANALYSIS

The Information and Communications Technology (ICT) sector plays an important role in the Palestinian economy and its importance is likely to grow further. Many economic experts and outsourcing experts believe that Palestinian ICT sector is highly competitive and is capable to meet the developmental need of Palestinian economy.

ICT sector in Palestine started during the early 1980s with some hardware resellers who worked along with Israeli dealers of large hardware vendors. By mid 1980s, vendors started offering software solutions such as accounting and word-processing. With signing of Oslo accord and formation of Palestine Authority, demand for both hardware and software, especially from Government & NGOs, increased. As more and more people started working on computers at offices the awareness about IT reached common household thus pushing the ICT demand further. To meet this demand wide spectrum of providers started providing their products & services in the Palestinian markets



Source Avasant Research

Figure 3 Evolution of Palestinian ICT Industry

### 5.1 PALESTINE ICT SECTOR

At the advent of the decade of 90s the demand for the ICT services showed an upward movement. After the Oslo accord was signed, the foundation for the Palestinian ICT industry was laid by President Arafat by completely privatising the telecom sector. Today Palestine has a buoyant ICT sector and provides ICT products & services to many countries across the world; many prominent international customers include Intel, Cisco, Siemens and Volvo.

The ICT sector in Palestine has seen phenomenal growth in recent years. As per The Palestinian Central Bureau of Statistics the CAGR of the local IT market is around 12.7% and it was worth \$593.2 million in 2011. In 2011 the sector contributed 6.4% of the GDP of Palestine up from 0.8% in 2008 (A phenomenal 68% CAGR)<sup>1</sup>. Today Palestinian ICT industry employs around 1500 professionals and the 11 universities in Palestine provide for the steady stream of graduates every year. The ICT professionals in the region have very good language skills in Hebrew, Arabic and English. English is the language of instruction in major science based courses and Arabic & Hebrew are the language of the land.

<sup>1</sup> Palestinian Central Bureau of Statistics



The ICT industry in Palestine has multiple stakeholders that are involved in various ways in nurturing and building the sector. The major categories of the stakeholders are:

- Government: Ministry of National Economy, Ministry of Telecommunications and Information Technology
- Private sector: ICT companies (PITA's members and non-members), Training companies
- Associations/unions: PITA, PalTrade, Palestinian Global IT Network
- Donor agencies: GIZ, Oxfam, Mercy Corps, AFD
- Academia: universities and community colleges

Over the course of this study, Avasant interacted with some of the stakeholders to get a finer picture of the current state of the ICT sector in Palestine.

Some Palestinian firms have been able to get a foothold in markets beyond Palestinian borders. They have created reputation for reliability and quality in the Middle East, Europe and North America.

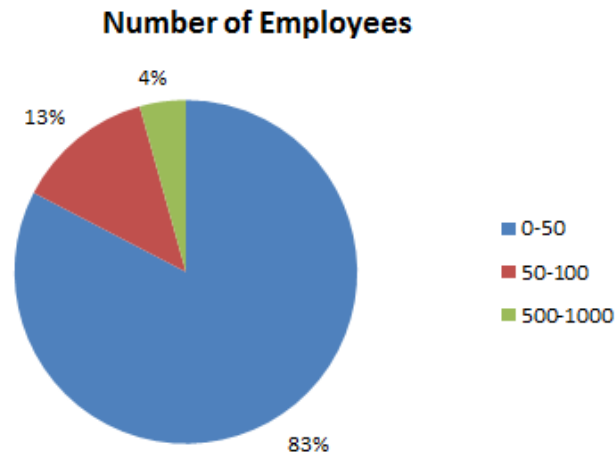
Some of the Palestinian firms have been exporting software for POS and financial services in markets such as Kingdom of Saudi Arabia and United Arab Emirates. In western markets, especially in Canada and Europe some Palestinian firms have customers in the telecommunication sector where they are offering solutions such as mobile recharge and SMS based content management.

A few of the Palestinian ICT firms have also setup subsidiaries in Canada, UAE, Kingdom of Saudi Arabia and Yemen. Apart from this some major western companies such as Intel and Siemens have setup joint ventures with Palestinian ICT firms to do the R&D work from Palestine.

As per Avasant research, Palestinian organisations provide specific advantages as follows:

- Professionals with diverse skill set (Programming languages, Operating Systems, Database) are available in the market
- The language skills help in training and communication with clients
- Low employee turnover rate helps build the trust of customer and consistency in service levels
- Geographical proximity with Middle East, Europe, Northern Africa
- Cultural understanding of the MENA region where Arabic law & customs are followed
- Quality services at substantially lower cost compare to traditional outsourcing destinations (China, India etc.)

On the downside, the Palestine ICT sector is still dotted with small sized firms. Only a few firms have been able to break the size barrier to be formidable for international business.



Source Avasant Research

**Figure 4 Number of employees in the respondent organizations**

In the Demand Side Survey conducted by Avasant 83% of respondents are having less than 50 employees suggesting that the Palestinian ICT market is dominated by small firms. It is also interesting to see that overall Palestine companies expect some growth over the next three years though it seems to be quite modest. The table below describes the growth expected by the respondents in terms of net employee additions over the next three years, presented as per company size.

Size of Company	Average Number of Employees to be added
0-50	10
50-100	13
500-1000	100

Source Avasant Research

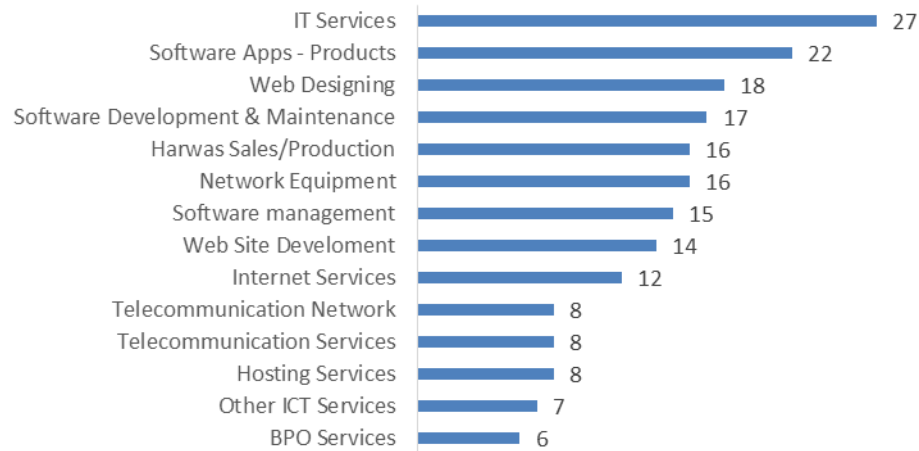
**Table 6 Average growth expected**

For more detailed results of the survey please refer to the Annexure A of this report

#### 5.1.1 Palestine ICT Industry – Products and Services

Numerically, if we exclude Paltel, the Palestinian ICT sector is not large but past surveys suggest that wide set of capabilities exist in the industry. The graph below is the snapshot of products and services offered by Palestinian companies in the ICT domain:

## Palestinian ICT Firms- Products and services



Source Mercy corps<sup>2</sup>

Figure 5 Products and Services offered by Palestinian ICT firms

Specifically within the software and electronic design outsourcing domain, major areas that Palestine companies are present in are depicted in the table below:

#	Area	Services
1	Application Development	Bespoke Development
		Internet Development
		Mobile Apps Development
2	Application Management	Bespoke customization
		Quality control and tracking
		Release management
		Customer support
		Software Maintenance services
3	Web Development	Website design
		Web Content

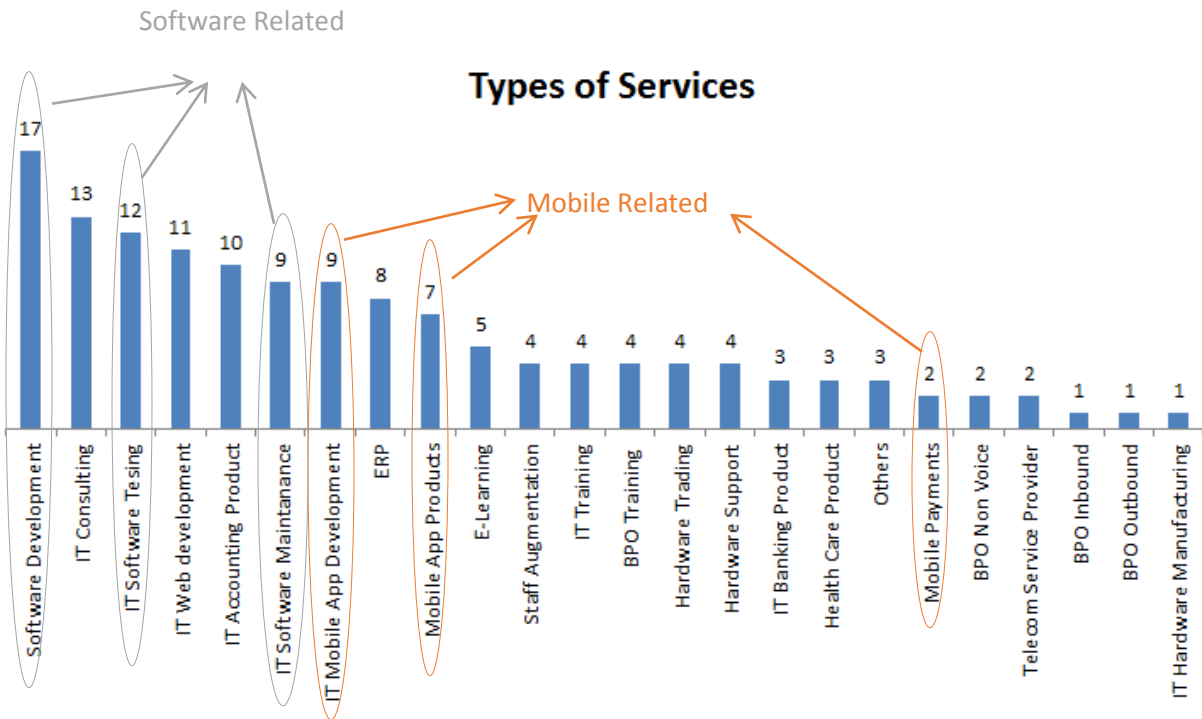
#	Area	Services
		Application Integration
		Website Management
4	Design and Testing	Integration Testing
		Regression Testing
		Acceptance Testing
		Non Functional Software Testing
		Destructive testing
5	Voice BPO Services	Service Desk
		Level 1 technical support
		Level 2 technical support
		Customer Service

Source Mercy Corps<sup>3</sup>

**Table 7 Expertise Area**

Similar results were seen when we conducted the analysis as part of the engagement. From the sample of companies that responded, the following services were offered by companies. The number against the bar represents the number of companies providing that kind of service.

<sup>2,3</sup> ICT Business Development, 2010 Mercy Corps



Source Avasant Research

Figure 6 Types of services offered

- Software development and related services are the most popular service offered by the Palestinian IT Firms
- If we club Mobile App Development, Mobile Payments and Mobile App Products , we see that most Palestinian firms have mobile development capabilities

### 5.1.2 Education and Skill Set Availability

#### **State of Education**

ICT related courses command high interest among the students. As per the Ministry of Education and Higher Education, among all the new enrolments in science stream, computer sciences accounted for 36.39% in 2011, however this would be 3.74% of the total enrolments across all subjects.

As ICT Industry is a knowledge driven industry, education plays a vital role in the growth and sustainability of ICT industry. Education is the single most important input to the ICT industry.

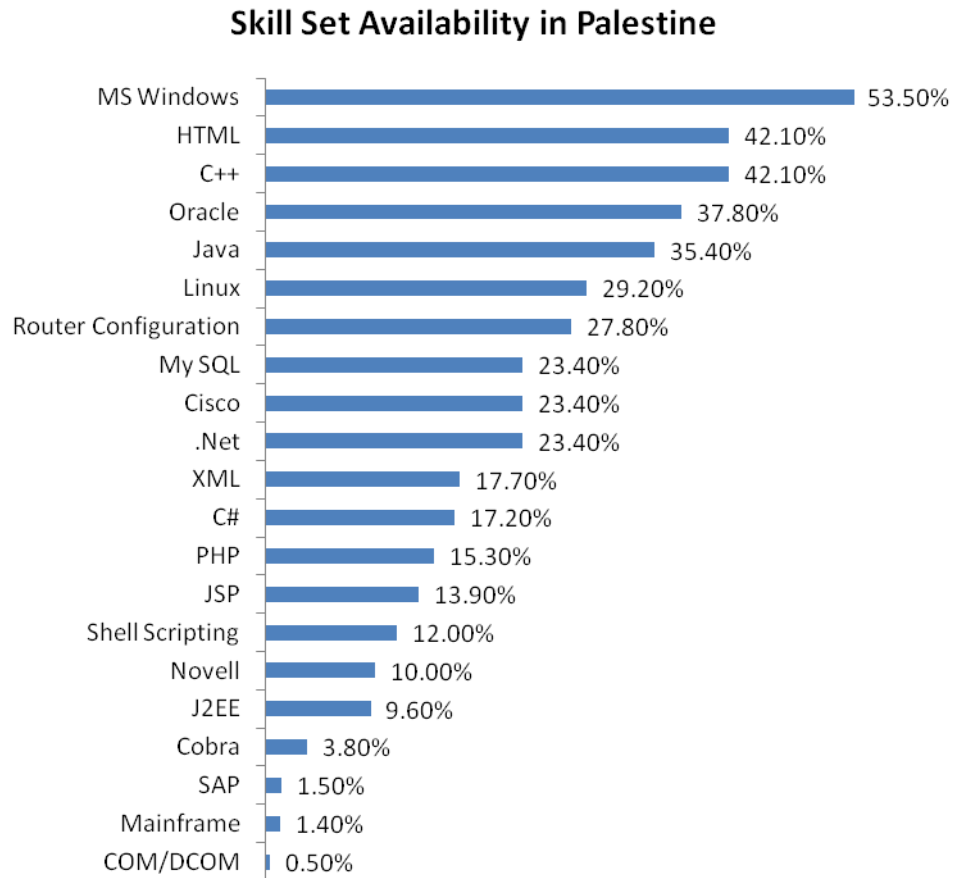
In the secondary school the enrolment and passing percentage in the science related stream has been falling. This is leading to fall in number of student enrolment in sciences in general and computer sciences in particular and this also leads to deficiency in the talent availability needed for development of the ICT sector. Owing to the factors above there is a shortage of quality workforce for the ICT industry in Palestine. The problem can be broadly classified into two areas

- 1) Gap between the fresh graduates' skill level and practical hands-on experience needed in the job market.
- 2) Lack of specialization needed in the market

Due to these reasons companies need to train fresh graduates in order to make them job ready.

## Skill set Availability

As per the Assessment of the Palestinian ICT Workforce, Palestinian Enterprise Development Project-A USAID Project, there are diverse set of skills available within Palestinian ICT specialists



Source Impact Consulting Inc.<sup>4</sup>

**Figure 7 Skillset Availability in Palestine**

From the graph above we can understand that Palestine has a diverse skill set availability which provides an edge to Palestine ICT industry as such diverse skills are not found in any small emerging location such as Palestine. The challenge before the industry is to utilise these skills and take it to the next level. This would enable the sector to realize true potential of resources available within Palestinian territories

However for the Palestinian ICT sector to grow these skill sets need to be augmented with newer skills as per the current market requirements. It is essential that the education institutions play a key role in achieving this goal and thus helping increase the skill set availability in the Palestinian Territories.

<sup>4</sup>[http://www.lacs.ps/documentsShow.aspx?ATT\\_ID=2181](http://www.lacs.ps/documentsShow.aspx?ATT_ID=2181)

### 5.1.3 ICT Infrastructure

The ICT sector in Palestine has been growing since the Oslo accord was signed and privatization of telecom sector which led to the formation of Palestine Telecommunication Company (PalTel). Paltel had an exclusive license to provide internet and communication services in the Palestinian territories, however a second mobile services company has been given license to operate recently.

The internet penetration in the Palestinian territories exceeds that of post-conflict regions such as, Iraq and Afghanistan<sup>5</sup> at around 7%. The ADSL subscribers have been increasing at a feverish pace of around 300% since 2005. As such, the WBG is still considered an emerging market when it comes to internet broadband access and services. However, there are many hindrances in the growth of this important input of ICT industry.

The telecom network in Palestinian territories is owned and operated by Palestinian operators, but to comply with the Oslo accord, the interconnect to the outer world has to happen through Israeli telecommunication operators. PalTel owns and operates the internet network, but it must buy its bandwidth from Israeli telecommunication operators, and then resell this capacity to its Palestinian customers (Both to ISPs and end consumers), which results in expensive connectivity costs.

Other major issue is the restrictions put in by Israeli Authorities on importing telecommunication equipment by Palestinian telecom providers and ISP. This also puts additional pressure on assimilation of internet and increasing of bandwidth within Palestinian Territories.

Apart from this, Palestinian mobile services companies, both Jawwal (a subsidiary of PalTel) and Wataniya are choked for bandwidth by Israeli authorities. This is evident as Wataniya, which has license to operate both 2G and 3G services, is only operating 2G services. This leads to loss of business for Palestinian service providers as Israeli service providers who have license to run 3G services outside the Palestinian territory , serve the need of the consumer of faster mobile internet .This lack of faster internet creates a huge problem for the software industry which completely depends on the ICT infrastructure. Following factors substantially affect the ICT industry in general

- As the advanced network capabilities are not available the workforce which specializes in such technology would not be available, thus affecting the skill set availability
- Lack of faster network hinders the delivery as all delivery channels would be constrained by the network bandwidth
- Due to the lack of faster network, software companies which develop software for companies outside Palestinian territories need to test the application in a location where high speed network is available. This drives the cost for the software development companies higher

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<sup>5</sup> ICT Sector in Palestine, Palestinian Economic Policy Research Institute (MAS)



Overall we can see that though there is a huge demand for developing the ICT infrastructure in Palestinian territories the basic challenge is more political rather than technical or related to availability of finances.

#### **5.1.4 Regulations and Business Environment**

Palestinian Telecommunications Regulatory Authority (PTRA) was established in 2009 as per the legislation signed by President Assad. However this has not been brought into practice till date. Hence, the Ministry of Telecom and Information Technology is also playing the role of the industry regulator as well. This leads to ministry being over pressed for resources to improve the ICT infrastructure in Palestinian territories along with dealing with pricing, licensing and operational issues of the telecom sector. The lack of regulation or no clear regulation creates a negative environment for investment and thus affects the medium and long term growth prospects of ICT Industry. Major challenges faced by the local ICT Industry in the area of regulations and general business environments are

##### **Lack of ICT regulation**

As the ICT regulatory body which was envisaged by the PLC is not yet formed, the MTIT is more involved in day to day operative issues instead of concentrating on the policies and the growth of the sector.

##### **Restrictions on movement of people**

As there is a restriction on free movement of people, customers/partners of local Palestinian companies are not able to visit the offices in Palestinian territories. If the customers/partners are able to visit their counterpart in Palestinian territories it will build the customer's /partner's confidence in their counterpart's operation

##### **Overall Political Environment**

Due to the political turmoil in the region, the buyers of ICT services are wary of giving business to a Palestinian firm as there is a doubt whether the firm would be able to meet the deadlines due to the frequent conflicts, especially in the West Bank region.

### 5.1.5 Palestine ICT Sector Challenges

While there are sparks of successes witnessed in the Palestine ICT sector and the high overall GDP growth seen in the last decade, the ICT sector in Palestine still faces some challenges. Our survey indicated that the local players suggest some of their top challenges as below. While Palestine has some structural, environmental and apolitical challenges that affect business in general, from the ICT sector perspective, it seems that the skill availability is a bigger challenge than anything else.

#### Palestinina ICT Sector Challenges



Source Avasant Research

Figure 8 Palestinian ICT sector challenges

### 5.1.6 SWOT Review

Over the last couple of years, there have been quite a few analysis and studies covering the ICT sector in Palestine. Upon review of these reports and based on findings of the survey conducted as part of this study, we summarized the SWOT for Palestine ICT sector in the table below

Strengths	Weakness
<b>Skill Set</b> <ul style="list-style-type: none"> <li>Well-educated population with high literacy rate and proficient language skills</li> <li>Availability of relatively large labor force entrant pool (approximately 2000/year)</li> <li>High achievement levels in education in relation to the MENA region (at basic and secondary levels)</li> <li>Existence of potential fill-gap training entities (Bir Zeit University's center of excellence, log life learning center + private sector training industry)</li> </ul>	<b>Skill Set</b> <ul style="list-style-type: none"> <li>Lack of professional readiness in labor force entrants</li> <li>Inadequate encouragement of critical-thinking, problem-solving and high-order learning in basic, secondary and tertiary education</li> <li>Infrastructural conditions in basic and secondary education limit enrolment in ICT-related fields in tertiary education</li> <li>Inability to attract high-quality teachers and professors in secondary and tertiary education</li> </ul>

<p><b>Industrial Strength</b></p> <ul style="list-style-type: none"> <li>• ICT companies have demonstrated capabilities by exporting to international markets</li> <li>• Established and proven foundation of business relations with Israeli ICT Companies</li> <li>• Low cost base</li> <li>• Formal and informal sector leaders/experts with progressive ideas</li> </ul> <p><b>Government Support/Regulations/Business Environment</b></p> <ul style="list-style-type: none"> <li>• Diminishment of government-induced monopoly in telecommunications and increase in competition</li> <li>• Governmental commitment to the liberalization of telecommunications industry</li> <li>• MTIT's pursuance of ICT sector priorities</li> <li>• Well-regulated banking system</li> <li>• Strong impetus to public sector, private sector and civil society agents to achieve the knowledge Economy</li> <li>• Investor-friendly financial environment</li> <li>• Expatriate Palestinians with exposure to international markets</li> <li>• Availability of funds for ICT Companies in Palestine</li> <li>• Development assistance from US and EU with real interest in change</li> <li>• Positive growth rate despite the political situation</li> <li>• Advanced and accessible basic telecom infrastructure including ADSL, ISDN and leased lines</li> <li>• ICT has officially been recognized in strategic government economic planning as future economic pillar</li> </ul> <p><b>Demand Side</b></p> <ul style="list-style-type: none"> <li>• Increasing rate of penetration of ICT products and services (via the provision of low-cost, low-spec computers, internet and mobile devices)</li> <li>• Consumer responsiveness to changing trends in contemporary ICT markets</li> </ul>	<p><b>Industrial Weakness</b></p> <ul style="list-style-type: none"> <li>• Absence of leadership and coordination in private sector coalitions</li> <li>• Only a small fraction of firms in the private sector involved in large scale growth</li> <li>• Lack of scale in most firms</li> <li>• Limited access to 'real'/external markets for most ICT firms</li> <li>• Companies' readiness or slow evolution from entrepreneurial stage: business skills necessary to take their companies to the next level</li> <li>• Insufficient organic growth—i.e. the production of ICT goods and services according to the specific needs of the domestic market in Palestine</li> <li>• Gross insufficiencies in innovation and creativity in the development of ICT products and services</li> <li>• International Marketing / Business development is a weakness due to perceptions on development and security</li> <li>• Lack of International exposure/experience</li> </ul> <p><b>Government Support/Regulations/Business Environment</b></p> <ul style="list-style-type: none"> <li>• Shortcomings in advocacy and policy development in PITA</li> <li>• Weak financial and organizational connections between the public and private sector</li> <li>• Lack of capacity for the MTIT to affect change on the ground</li> <li>• Low level of commitment to new ICT initiatives amongst most ministries</li> <li>• Underdeveloped legal and regulatory structures in telecommunications and IT markets—e.g. absence of Intellectual Property Rights and Corporate legislation</li> <li>• Insufficient provision of domestic credit (venture capital, loans) for ICT firms by Palestinian banks</li> <li>• Lack of alternative network provider to provide redundancy support</li> </ul> <p><b>Demand Side</b></p> <ul style="list-style-type: none"> <li>• ICT penetration occurring to a superficial extent—i.e. without substantial penetration in business, education and government functions</li> <li>• Outdated conceptualization of ICT in practice and rhetoric for many sector organizations</li> <li>• Potential integration problems between Gaza and the West Bank</li> <li>• Higher Telecom cost due to lack of competition</li> </ul>
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Opportunities	Threats
<p><b>Skill Set</b></p> <ul style="list-style-type: none"> <li>Development of educational, governmental, civil society and private partnerships to generate links that improve efficiency in ICT production.</li> <li>Availability of skilled and trained workforce</li> </ul> <p><b>Industrial Strength</b></p> <ul style="list-style-type: none"> <li>Presence of multinational firms in domestic ICT initiatives</li> <li>Initiation of e-commerce, e-governance and e-post initiatives via the domestic private sector</li> <li>Strong demand for IT Outsourcing (ITO) with trend to outsource to smaller tier 2 best of breed destinations</li> <li>Untapped BPO and outsourcing capabilities</li> </ul> <p><b>Government Support/Regulations/Business Environment</b></p> <ul style="list-style-type: none"> <li>Utilization of the Palestinian Diaspora</li> <li>Continued financial interest of the international donor community</li> <li>Current economic climate suggests firms will be looking to lower their cost base</li> <li>Cultural and geographic proximity to Arab and European markets creates potential for outsourcing</li> <li>Significant donor projects can help jumpstart industry if proper policy is there</li> </ul> <p><b>Demand Side</b></p> <ul style="list-style-type: none"> <li>Expansion of multi-lingual digital content and mobile software technology</li> <li>Growing Arabic industry with limited outsourcing players</li> <li>Potential for benefiting from national initiatives such as eGov, PEI, NERN projects and the liberalization of the telecom market</li> </ul>	<p><b>Skill Set</b></p> <ul style="list-style-type: none"> <li>Loss of highly-qualified individuals to markets abroad, i.e. 'brain drain'</li> <li>Low prioritization of the creation of the knowledge economy by governmental bodies</li> <li>Continued disparity between educational output and human development needs in Palestine</li> </ul> <p><b>Industrial Weakness</b></p> <ul style="list-style-type: none"> <li>Continued unlicensed operation of Israeli mobile operators in the West Bank</li> <li>Major IT Companies not operational to any great extent</li> </ul> <p><b>Government Support/Regulations/Business Environment</b></p> <ul style="list-style-type: none"> <li>Deteriorating political environment—restrictions of movement of goods and people, decreases in foreign investment, geographical discontinuity etc.</li> <li>Segregated relationship between the West Bank and Gaza (in the exchange of ICT goods, services and information and in infrastructural cooperation)</li> <li>Israeli control of telecommunications infrastructure, e.g. 3G access, international gateways)</li> <li>Economic downturn due to financial crisis</li> <li>Competition from neighboring countries</li> <li>Political instability of the region (Arabic spring, threat of war)</li> <li>Less seriousness to legislate and enforce IPR protection</li> </ul> <p><b>Demand Side</b></p> <ul style="list-style-type: none"> <li>Commoditization as the Palestinian firms are competing for the same services which are increasingly becoming generic and standardized</li> <li>Highly price sensitive local market</li> </ul>

Table 8 SWOT Analysis - Review

With a greater understanding of the ICT market in Palestine, its capabilities, its strengths and weaknesses, the report in the following two sections, identifies local and external markets that the Palestinian ICT industry should focus on.

## 6. LOCAL MARKET ANALYSIS

### 6.1 CURRENT STATE OF THE MARKET

As per the World Bank, the GDP of the Palestine in 2012 was USD 5.3 Billion and the economy is considered to be a service economy. The service sector contributed highest to the GDP as compared to other sectors, it also witnessed maximum growth in the first 3 quarters of 2012 (10.2% ) compared to same period in 2011, this along with employment growth of about 2.9%.

The Palestine Authority has been preparing for a Trade-in-Services project supported by the EU, which is addressing the promotion of exports of services. These services include the tourism sector, the financial and insurance sector, the professional services sector such as engineering, etc. and the ICT sector.

Palestine is pilgrimage destination for three major religions namely Christianity, Islam and Judaism. This is a major competitive advantage for the tourism sector. The tourism sector's competitiveness could be enhanced by ICT solutions. More will be elaborated on the opportunities in the value chain e.g. virtual visits and mobile apps, booking and reservation systems, tablet application to control the quality of staff working in this industry.

The Trade-in-Services project has identified other Services Sectors that has export potential such as the Financial & Professional Services and the tourism sector. The ICT linkages with these services sector are also presented in this report.

It is assessed that there is huge potential for growth of the government IT market as the penetration of IT in Palestinian Government is very less due to very low IT Budget. The upcoming government procurement opportunities will largely be supported and sponsored by the donor community such as for the Ministry of Economy, Ministry of Education and the e-Municipality initiative.

The Palestine Central Bureau of Statistics(PCBS<sup>6</sup>) shows the shallow extent to which ICT sector penetration has actually occurred in the Palestinian economy with less than 20% of those surveyed by PCBS using the Internet for work purposes, less than 5% for both financial services and e-commerce, and almost 80% using the Internet for entertainment purposes. Computer usage, even in 2011, is largely limited to social exercises, with marginal levels of intra-sector and professional penetration. One of the more telling figures regards e-commerce, in which only 3.4% of those surveyed reported using the Internet for e-commerce.

#### 6.1.1 Product/Services in Demand

Outsourcing is a strong element in the ICT sector; many companies are successfully developing other services and products. Palestinian ICT Firms have engagements in the following additional areas: back office support; data cleaning; consulting; geographical information systems (GIS); provision of training;

<sup>6</sup>PCBS 'Press Release on the Main Findings of Household Survey on ICT, 2011, pg. 19 and 24  
[http://www.pcbs.gov.ps/Portals/\\_pcbs/PressRelease/HouseholdICT2011\\_E.pdf](http://www.pcbs.gov.ps/Portals/_pcbs/PressRelease/HouseholdICT2011_E.pdf)

turnkey solutions; mobile applications; and quality assurance and testing. Some of these other areas of operations could offer new opportunities for strengthening capacities and relationships in Palestinian ICT firms, which would in turn increase resilience and economic benefits from this sectoral ecosystem.

## 6.2 DEMAND ANALYSIS FOR ICT SERVICES

A market analysis was conducted through qualitative interviews with key donors, stakeholders and individuals who have acted as expert consultant to the Services Diagnostic Study commissioned by PalTrade. Furthermore, this section provides individual survey analysis to highlight a cluster of opportunities per sector. Based on the trade in services following sectors were evaluated by Avasant through a qualitative interview

1. Higher Education Sector
2. Government & Municipalities Sector
3. Tourism Sector
4. Commercial Agribusiness
5. Banking and Financial Services
6. Other Professional Services

### Higher Educational Sector

Higher education sector is looking to buy varied ICT services and products .The table below depicts products and services that the Palestinian ICT consumers from Higher Education sector are planning to buy in the near future

Gaza University	Islamic University	Birzeit University	Islamic University
Enterprise Resource Planning (ERP)	Content Management System	Fundraising Management System	e-Learning Systems
Document Management System	Mobile Applications	Vehicle/Fleet Management System	VoIP Solutions
Budgeting System	Multimedia Authoring Tools	Dynamic Workflow Systems	Network Solutions
Staff Attendance	Servers	Telecommunications Solutions	-
Mobile Applications	Storage	Servers	-
-	New Network Solutions	Storage	-
-	Broadband Internet	Network Solutions	-
-	Databases	Broadband Internet	-

Source Avasant Research

Table 9 Education Sector Application Requirements

It is also advised that PITA staff should also follow what the Palestine Education Initiative (PEI) publishes in local newspapers when tendering - as they have recently tendered for a portal and educational gaming.

Last but not the least, Ministry of Education Quality Improvement Fund (QIF), which is funded by the World Bank is also preparing for the Graduate Tracking System as part of the Ministry of Education Education-to-Work Transition Project.

### *Government and Municipalities*

With the interviews conducted with various stakeholders in World Bank it came out that the following solutions would be sponsored by World Bank

1. Automation of Government to Business services
2. e-Services
3. GIS Mapping
4. Solid Waste Management program

On the other hand UNOPS sponsored programs are listed in the table below

Police Department	Ministry of Local Governance	Ministry of Interior
Microwave Network Links	Document Management System	GIS applications
Wireless Radio System	Integrating of different software	Document management System
GIS Maps	Cloud computing solutions	Storage
Business Intelligence		
New labs for forensics and evidence management		

Source Avasant Research

**Table 10 Government Applications - World Bank Sponsoring**

Major challenges faced by both World Bank and UNOPS have been the quality and reliability of the vendors delivering the services. The World Bank has pulled out of ICT implementation for municipal corporations across Palestine. This will cause lack of funding for such further projects. The local IT minister felt that the areas where ICT intervention can help in government sectors are

- eServices (Web, Mobile and IVR)
- Content Manage System
- Online Payment Infrastructure
- ERP
- Governance: Risk, Compliance, Reporting, Performance Tracking, Notifications, Emergency Response and Preparedness

The major obstacles and hindrances in the development of products addressing these areas are:



- Political Driver to Outsource to local IT Companies
- Assigning Budget to Buy Locally
- Realizing the Government Procurement for IT can be for Consultancy Services, IT Infrastructure and Applications

On the other hand the solution which may be needed by the Palestinian Municipal Governments as per the interviews conducted are listed in the table below

Department	Areas of ICT Intervention
Health Department	City Beautification Management: Parks, Cemetery, other Real Estate
	Solid Waste Management
	Monitoring and Evaluation: Markets, Butchery,
	Project and Awareness: Schools, Institutions, Local Society and Campaigns
Culture Management	Library System
	Real estate Management
	Youth Council and Neighborhood Committees, Kids Council
	Program and Activities: Culture and Society Programs and Events
	Document Management System and Archiving
Public Relations	Media: CRM
	Fundraising Management
	Marketing and Promotion Management: Document Management and Archiving System , Films, Web Site, Tourist information Center
	International Relations: CRM, Tours, Event / Meeting Management
Administrative Management	Human Resources including Recruitment Application
	One Stop Shop
	Support Services: Insurance, Document Management and Archiving System , Inventory, Service Agreement
	Vehicle/Fleet Control Management: Vehicle Control, Mileage Metering, Security, Routes
e-Services	e-Procurement
	Online Complaints
	Online Self-Service including Tracking of Application Status including Citizen Access Management
Others	Land Registry
	Project Management
	GIS Integration
	Asset Management
	Governance: Risk, Compliance, Reporting, Performance Tracking, Notifications, Emergency Response and Preparedness.
	Dynamic Workflow System
	Phone Directory System

Source Avasant Research

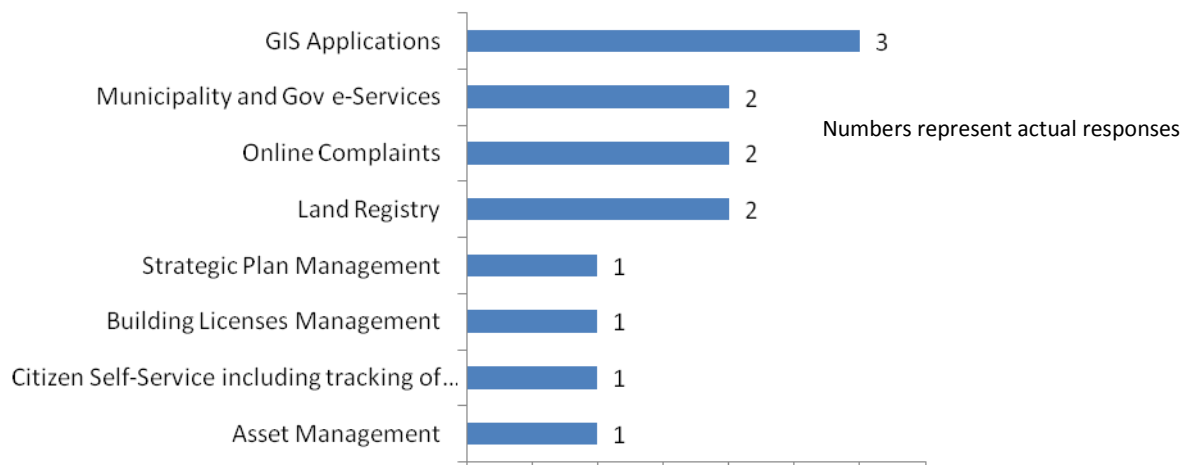
**Table 11 Municipality Applications**

The survey conducted had respondents from the Government sector - ICT Ministry, Ministry of Education, Municipal government of Ramallah and many other government agencies. GIS applications,

public service delivery systems, land registry are some of the areas which are already digitized and the Palestine Authority has invested in the ICT applications for these areas.

Government is looking to invest more on the local self-government, asset management, GIS applications in coming few years; the focus of the Government is to enhance the public to Government interface using the use of ICT. This will generate huge demand for ICT services in coming years and is a promising sector for growth of the Palestinian ICT.

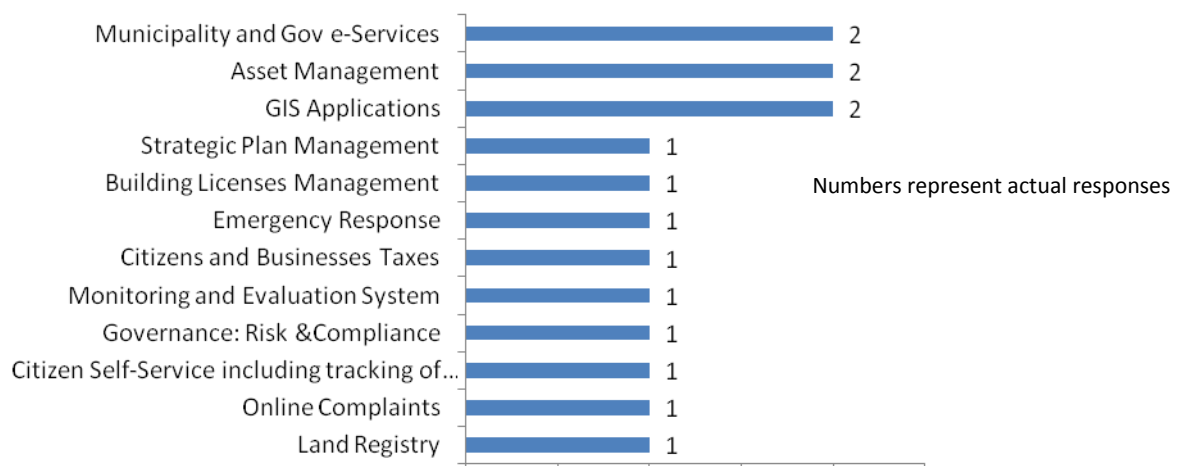
### Government Specific Application



Source Avasant Research

Figure 9 Government specific applications installed

### Plans to Buy - Government Applications



Source Avasant Research

Figure 10 Sector Specific Application Planned - Government

### *Tourism Sector*

Tourism sector is one of the sectors identified in the EU's Trade-In-Services project and also strategic to Palestine as it is evident with increase in the number of hotel rooms and occupation rate increase in the West Bank region in the first three quarters of 2012 as compared to the same period of the year 2011.

The needs of the sector which comes out of the interviews conducted are

1. Online Payment Gateway
2. Mobile Applications
3. Online Reservation Solutions
4. Awareness about the industry specific ICT Solutions
5. Refresh of the legacy application being used
6. Search Engine Optimization
7. Multimedia websites for promoting tourism destinations
8. Content Management Solution
9. Social Media - Networking and Marketing
10. CRM and ERP Systems

The major challenges in such products to be deployed are

1. High investment costs & low ROI
2. Instable political situation
3. Absence of regulatory framework for e-transactions
4. Resistance to change by the tourism industry towards automation

### *Commercial Agribusiness*

In the interviews conducted by Avasant it came out that, the ICT interventions in the Commercial Agribusiness would be financially supported in the following areas

1. ICT solutions that increases efficiencies and compliance to international quality requirement and standards
2. Traceability software package for farmers – already has started
3. Packaging technology
4. e-Procurement and Inventory
5. Human Resource Management System
6. Budgeting System
7. Staff Attendance

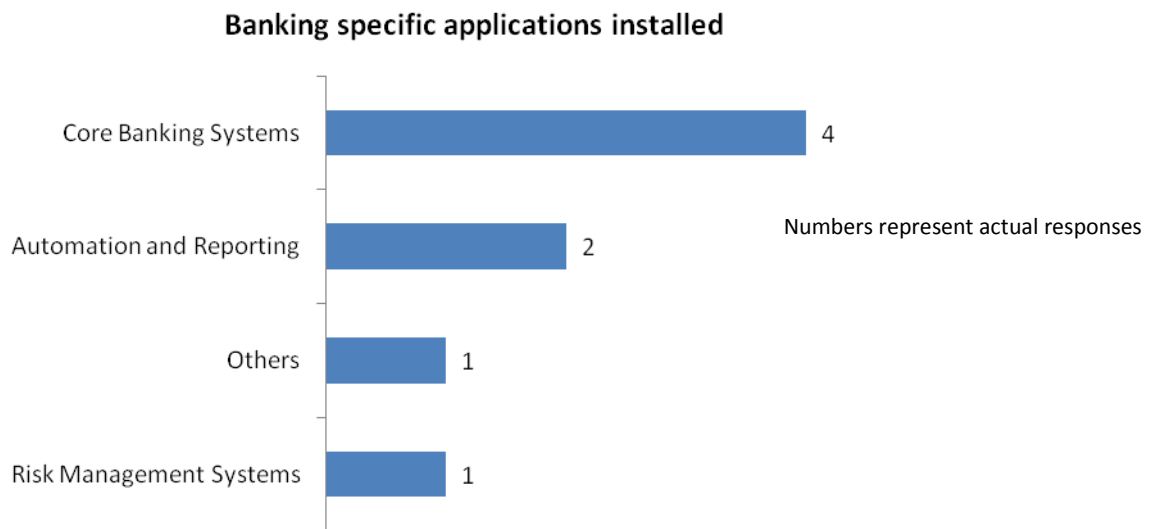
### *Banking and Financial Services*

The Banking and Financial services play a key role in development of any economy. Banks play the role of exchanger of money where it supplies the money to the businesses to invest and grow and thus is a very critical enabler of economic growth in any country. In today's world ICT plays an important role in conducting of banking business, as is the case in Palestine as well.

In the interviews conducted by Avasant with the local Palestinian Banking Sector professionals following ICT solutions were needed

1. ATM Solutions
2. ERP/CRM Solutions
3. Online Payment Gateway
4. Governance , Risk and Compliance Solutions for Banks
5. Business Process Automation (Loan Origination and Loan Management Systems)
6. Business Intelligence and Reporting
7. Project Management
8. e-Procurement and Inventory
9. Document Management and Archiving System
10. Dynamic Workflow System Builder and Notifications
11. Mobile Applications
12. KBM
13. Servers
14. Storage

Major Challenge in capturing the local banking market is that most of the procurement is centralized from Jordan; hence local companies are at a disadvantage



Source Avasant Research

**Figure 11 Industry Specific Applications Installed - Banking**

## Plans to buy banking specific applications



Source Avasant Research

Figure 12 Industry Specific Applications Planned to Install - Government

Core banking systems along with reporting and Risk Management systems are most popularly used in Palestinian banks. However we see that one respondent from banking industry is looking to buy the Core Banking System, but looking at the limited responses received we can deduce that the banking industry in Palestinian Territories has not moved beyond traditional banking as there is no demand for other traditional banking systems such as Forex trading , Bonds , Fund accounting and Hedge fund .

These banks commit to buy from their approved list of vendors, which also calls for PITA. PITA can take business development initiatives to ensure that their qualified members become listed as approved vendors at these banks.

It also came out that the opportunities exist to create financial software in Arabic language and an e-transaction portal

### Other Professional Services

The table below gives the information which comes out of the interviews conducted with some professionals in the Professional services sector

Target Sector Linkages	IT Solutions/Services	Obstacles
Finance & Accounting	<ul style="list-style-type: none"> <li>– ERP Solutions</li> <li>– Due diligence /application processing</li> <li>– Document Management Solution</li> <li>– CRM Solutions</li> </ul>	<ol style="list-style-type: none"> <li>1. High Investment Cost</li> <li>2. Low Return on Investment in the near future</li> <li>3. Instability of Political Situation</li> <li>4. Small Sized Accounting Companies have little funding capability to pay for solutions individually</li> </ol>

Target Sector Linkages	IT Solutions/Services	Obstacles
Legal Practices Professional Sector	<ul style="list-style-type: none"> <li>– Document Management Solution</li> <li>– ERP Solutions</li> <li>– Due diligence/application processing</li> <li>– Speech to Text Conversion</li> </ul>	As Above
Auditors Offices	<ul style="list-style-type: none"> <li>– Linkages with IT Audit Experts</li> <li>– IT Audit Consultation</li> <li>– IT Security Consultation</li> <li>– Due diligence/ application processing</li> </ul>	As Above
Design Houses and Engineers	<ul style="list-style-type: none"> <li>– Graphic Design</li> <li>– GIS Applications</li> <li>– Drawing Applications</li> <li>– Auto Cad Designs</li> </ul>	As Above
Public Polling	<ul style="list-style-type: none"> <li>– Mobile Apps for Survey Informatics, Data Collection and Analysis</li> <li>– Access to Trade Information and Business Opportunities in Foreign Markets</li> </ul>	As Above

Sources Avasant Research

**Table 12 Other professional services - Palestine**

### 6.2.1 Local Market target Matrix

Avasant evaluated the segments based on factors such as the funding of the sector, compelling reasons within sectors to buy ICT service, delivery capability of Palestinian ICT firms for such ICT services, competition and possibility of cross selling other services. Based on these factors Avasant was able to shortlist “Niche Segments”

Sector	Is It Well Funded?	Do They Have a Compelling Reason to Buy?	Can PITA Member Deliver a Whole Product?	Is there Entrenched Competition in the Sector?	Can We Leverage this Segment to Enter Additional Segments?
Government	No, but PITA can Lobby with Donors and Government for annual budgets	Yes, to automate their services to citizens, increase transparency and revenue from online payments	No, Clustering for Product Development and Integration as well as Quality Management programs are needed	No, as donors are not funding these type of projects and hence there are few large MNCs	1. Municipality
Municipality	Potentially from GIZ and mostly USAID and also from its own revenues	Yes. As above.	No, As above.	Used to be Free Balance, but not anymore.	3. Other Ministries 4. Professional Services
Tourism	No, but PITA can Lobby with	Yes, as they all now seek to target	No, As above.	No	1. Handicrafts and Artisans as a

	Donors and Industry Associations	individual tourist markets for higher profit margins			sub-sector
Professional Services	No	Not clear	Not clear	Not clear	Not Clear
Banking and Financials	Yes	Yes, to comply with PMA regulation	No, As Above.	Yes, from Jordanian companies. PITA can lobby PMA on this issue.	1. Financial Securities 2. Insurance 3. Islamic Banking
Commercial Agribusiness	No	Not Apparent from the Survey and Market Dynamics	Not Clear	No	Not Clear
Higher Education	No	Yes, to automate their business processes and increase their productivity and reach to students online. Also, as part of the QIF	Not Clear	No	Not Clear

Source Avasant Research

**Table 13 Local Opportunity Matrix**

### Conclusion:

Looking at the matrix we recommend :Tourism, Banks, Government and Municipality Sectors (with more advocacy required for the Tourism and Government including Municipalities to assign budget for ICT projects) as they have compelling reasons to buy in near future , and with the help of partners and PITA members can deliver a whole product experience to these sectors.

The important questions which need to be answered for the target sectors

1. Is there any entrenched competition that could prevent Palestinian ICT firms from getting a fair shot at this business?
  - Tourism: No fierce competition. However, it is expected that fierce competition will take place for the tendering of the reservation and booking system to be published by USAID
  - Banks: Yes, fierce competition from Jordanian and international suppliers.
  - Government and Municipality: No fierce competition.
2. Would the sector present an opportunity for any cross selling?
  - Tourism: Additional segment will be handicraft and artisans as well as content providers
  - Banks: Additional segment will be financial brokerage houses, insurance
  - Government and Municipality: Yes, IT solutions for both sectors are interchangeable whether the model is Government to Citizen Services, Government to Business Services or Government to Government Services.

3. Apart from the education sector, as apparent in the Survey, there is no market evidence that different economic sectors in Gaza will purchase IT products, especially software. Realistically, there is no sufficient organic market growth for IT in Gaza. Gaza companies have to look outside of Gaza for business opportunities. This is also confirmed by many studies including the EnteG baseline study done by PallInvest, which described the economy of Gaza as in “survival mode” as a result of the long siege.
4. Overall, the local market is not well funded to substantiate growth for the local ICT sector especially software development. There is a shortage of funds to invest in ICT solutions in most economic sectors.
5. In general, PITA members will have challenges in meeting the market needs. A strong perception from respondents is that local vendors do not provide a whole product experience and many of them do not know what local companies can offer. As such, the market does not really know the capability of the local vendors.
6. There is competition from foreign companies in the Banking sector and on projects that are sponsored by donors in the municipality sector.

### *Engagement Plan and Strategy*

The recommended strategy for PITA is

1. To prioritize the niche markets it wants to focus on as the market segments
2. To develop a cooperation model based on trust, as a good practice, with the industry association of these sectors such Hotel and Tour Association or Banking Association, etc. A win-win relationship has to be kept in mind for the best interests of both parties.
3. Requires PITA advocacy and lobbying to increase the local market share. For example, advocacy and lobbying of PITA with the World Bank to sponsor big projects in Palestine similar to what the Bank is doing in Afghanistan where they are rolling a US\$50Million ICT project with major component in developing government mobile applications, capacity building for 50,000 IT professionals and developing ICT infrastructure projects<sup>7</sup>. Moreover, it requires building a relationship with World Bank staff that travel regionally to assist in identifying opportunities to share with PITA. This market qualitative interview has also collected information that PITA members can also tap into World Bank regional tenders such as neighbouring Jordan, which is not known to PITA members. PITA need to liaison with the staff of the World Bank to be able to access this World Bank regional tender info for dissemination. Last but not the least, the Staff of the World Bank is also exposed to multinational company presence in the region who express interest to come and invest in the local market. PITA can also liaison on the best options and scenarios. In other words, PITA needs to convert many key individuals to become business development ambassadors for the IT sector based on developing personal relationships.

Accordingly, the Engagement Plan for PITA is

<sup>7</sup> <http://www.worldbank.org/projects/P121755/afghanistan-ict-sector-development-project?lang=en>



**A. Improve the Supply Side**

1. To develop technical assistance programs to improve members' value proposition offerings to these market segments
2. To improve the quality of members' products and after sales service to be delivered to these market segments with more focus on quality and high standards for the products and services

**B. Improve Local Market Access to Members**

1. To develop awareness campaigns on the benefits of ICT solution in these identified niche markets
2. To develop advocacy and lobbying with the decision makers to influence more budgets and increase the market size for ICT solutions: Donors, Government, Industry Associations, etc.
3. To develop technical assistance programs that will capture client functional and technical requirements to accelerate tendering processes
4. To develop technical assistance programs to help PITA companies prepare their product Demos and train them on how to present them to potential clients
5. To plan and organize Demo Days and other matchmaking type events (whether during or outside of Expotech) whereby companies will have the opportunity to present their products to decision makers buyers in the identified market segments
6. To plan and organize follow-up Business-2-Business meetings with the buyers in these market segments
7. To conduct market research on ICT tender opportunities an on-going bases to share with members through emails

**C. Improve Access to Finance Programs**

1. Develop Grant Mechanism for Companies that attempt to develop new products
2. Fundraise for the above-mentioned programs for the direct benefit of the PITA companies

**D. Improve Situation to Gaza Companies**

1. Clustering and branding of Gaza companies as a lower-cost-based production house with West Bank companies
2. PITA to assist Gaza companies to access West Bank market
3. PITA to assist Gaza companies to access regional and international markets in BPO in particular as the potential to hire more people is greater
4. PITA to brand the Gaza companies and communicate the value proposition statement

### *Key Success Factors*

1. Members buy-in to the above Engagement Plan and Soliciting their feedback
2. Stakeholders buy-in to the above Engagement Plan and Soliciting their feedback
3. Availability of resources to manage the Engagement Plan
4. Availability of Experts to provide the technical assistance to PITA companies e.g. quality assurance, marketing assistance, etc.
5. Availability of Experts to provide the niche market segments with technical assistance to complete their functional and technical requirements
6. Availability of funds and budgets to plan and organize Demo Days events and matchmaking meetings

## 7. International ICT Market

In this section we have analysed the international markets to identify the key geographical markets and ICT segments which Palestinian ICT companies could target

### 7.1 ICT PRODUCTS AND SERVICE CATEGORIES

ICT stands for Information and Communication Technology .As per OECD “ICT Products must primarily be intended to fulfill or enable the function of information processing and communication by electronic means, including transmission and display’. Here ICT Products refers to both physical goods and services.

As per the central product classification (CPC) of OECD the ICT Products are

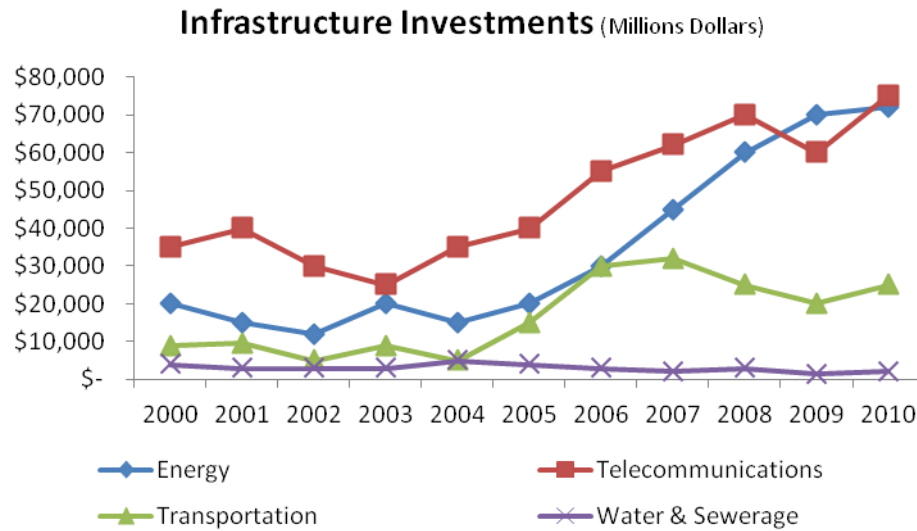
- Component and peripheral equipment(Computer Hardware)
- Communication Equipment (Telecom Hardware)
- Consumer electronic equipment (E.g. Television, Radio etc.)
- Miscellaneous ICT components and goods
- Manufacturing services for ICT equipment
- Business and productivity software and licensing services (Software Products)
- Information technology consultancy and services
- Telecommunications Services
- Leasing or rental services for ICT equipment
- Other ICT services

### 7.2 GLOBAL ICT TRENDS

Today the traditional way of using ICT in the business is changing drastically when compared to the last decade i.e. with the increase in usage of Internet and the IP network across the world, the way people use telephony is changing with greater adaption of VOIP network. Also, with the penetration of mobile networks rising along with the increase in mobile internet bandwidth, the delivery channels of software applications has become more complex. This also enables services such as mobile computing, mobile payments to the remotest of locations where traditional way of computing is either not feasible or cost is too prohibitive for end users.

Social network is changing how businesses approach marketing and is playing a prominent role in getting the pulse of the market by observing trends on websites such as Facebook, Twitter & Google Plus. These websites have rapidly transformed the social structure and hence the way of doing business

Telecommunication is the most important infrastructure required for the growth of the overall ICT sector. Looking at the investments done in the Telecommunication sector in recent years we find it is one of the most invested sectors along with other basic infrastructure sectors such as energy and transport



Source Government of Japan<sup>8</sup>

Figure 13 Infrastructure Investments Worldwide

### 7.2.1 Global IT-BPO Spending Trends

While the worldwide economic growth is showing upward turn the global IT –BPO spending recorded a steady growth rate of almost 4.8% in 2012 with total business value of almost USD 1.9 trillion.



Source Nasscom<sup>9</sup>

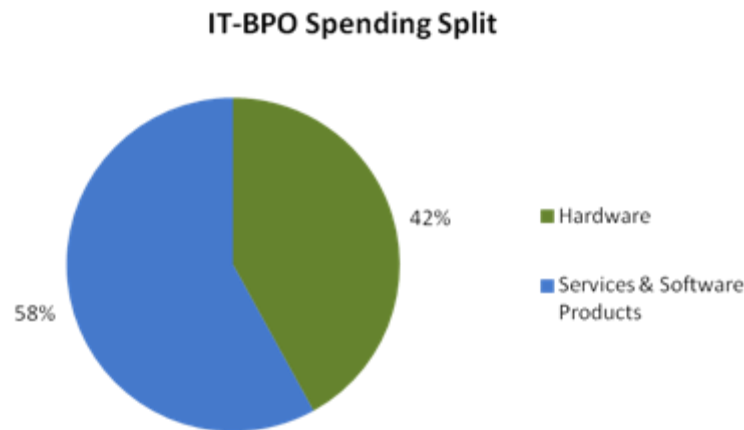
Figure 14 Global IT-BPO Spending

BPO (Business Process Outsourcing) market grew by 4.9 % followed by IT software and software products market grew by 3.3% each. IT Services, BPO Services and Software products constitute the

<sup>8</sup> 2012 White Paper Information and Communications in Japan

<sup>9</sup> Nasscom Strategic Review -2013

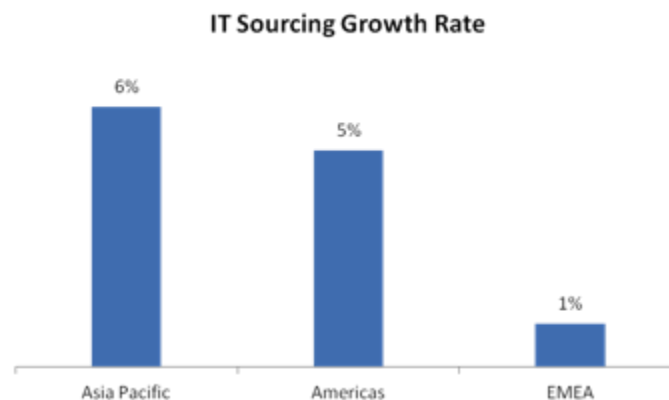
biggest chunk of total IT spend (Just over USD 1 trillion- 58% of total IT spend) and at USD 797 Billion hardware sales constitute the remaining 42% of IT spending.



Source Nasscom<sup>10</sup>

Figure 15 IT Spending Split

The global IT sourcing markets grew to approximately USD 130 billion, the growth rate of sourcing spends was slower and almost stable in matured markets as compared to the Asia Pacific where growth was almost 6%



Source Nasscom<sup>11</sup>

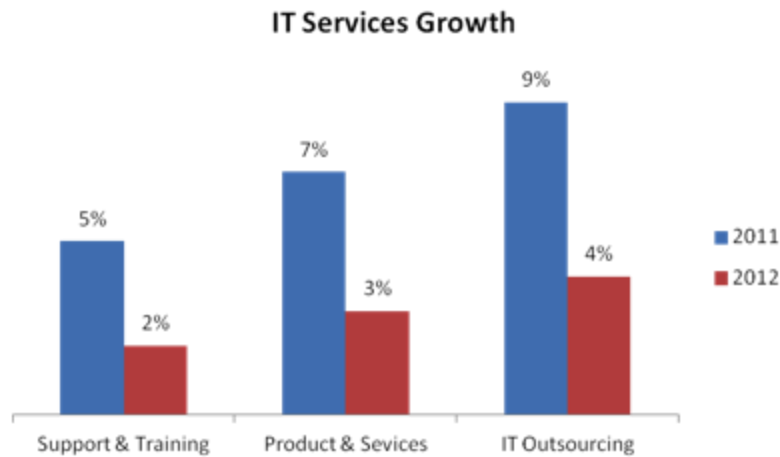
Figure 16 IT Sourcing Growth Rate 2012

The concerns about the global economy affected the contracts and the sheer number of contracts declined by almost 30%. At the same time, Average Contract Value was stable at USD 21 billion (Mainly due to some very large deals in the BPO segment). Within geographies APAC was the only market which registered a growth over 2011 (almost 55% in terms of value) on the other hand EMEA and Americas

<sup>10</sup> Nasscom Strategic Review -2013

<sup>11</sup> Nasscom Strategic Review -2013

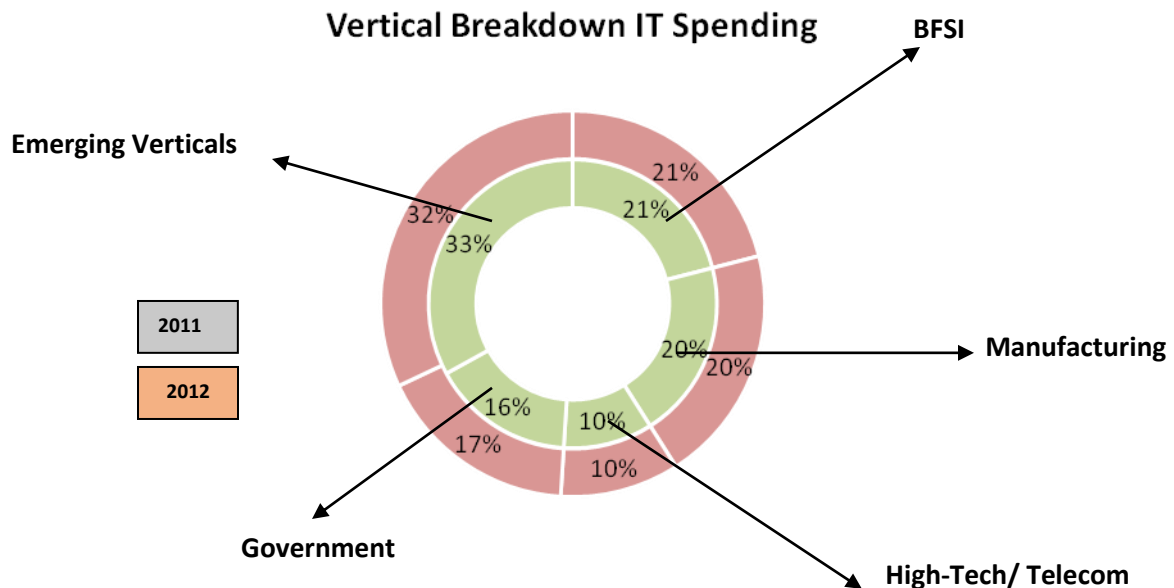
declined by 13% and 2.5% respectively. Looking at the IT Services growth figure we see that the 2012 saw a lower growth as compared to 2011. Highest growth was seen in the IT outsourcing segment.



Source Nasscom<sup>12</sup>

Figure 17 Growth in IT Services

While BFSI and manufacturing segment remained the two largest verticals in terms of total share in IT spending with more than ~40 per cent share, emerging verticals such as healthcare, retail, government and utilities contributed ~30 per cent of total IT spend in 2012.

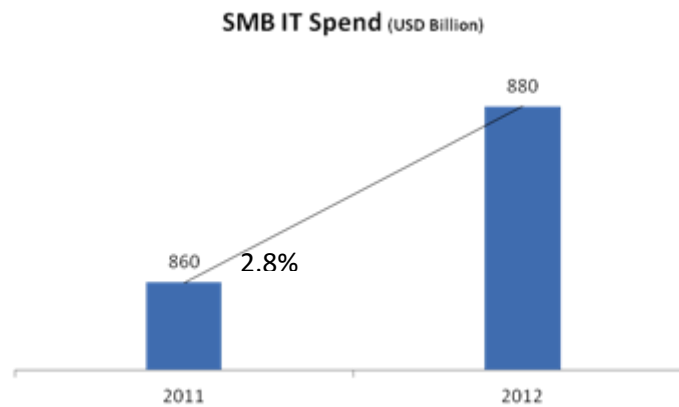


Source Nasscom<sup>13</sup>

Figure 18 Vertical wise breakdown of IT Spending

<sup>13</sup> Nasscom Strategic Review 2013

Worldwide the IT spending of SMBs (Small and Medium Businesses) increased 2.8% in 2012 over 2011. SMB accounts for almost 44% of total IT spend globally. Another more important trend to observe is that in the coming year nearly 40% SMBs would be spending 30% of their IT budget on cloud and managed IT infrastructure



Source Nasscom<sup>14</sup>

Figure 19 SMB IT Spend

## 7.2.2 Gartner Hype Cycle

Each year, Gartner's Emerging Technologies Hype Cycle helps businesses identify the emerging and embryonic trends they should examine and adapt in order to gain competitive advantage.

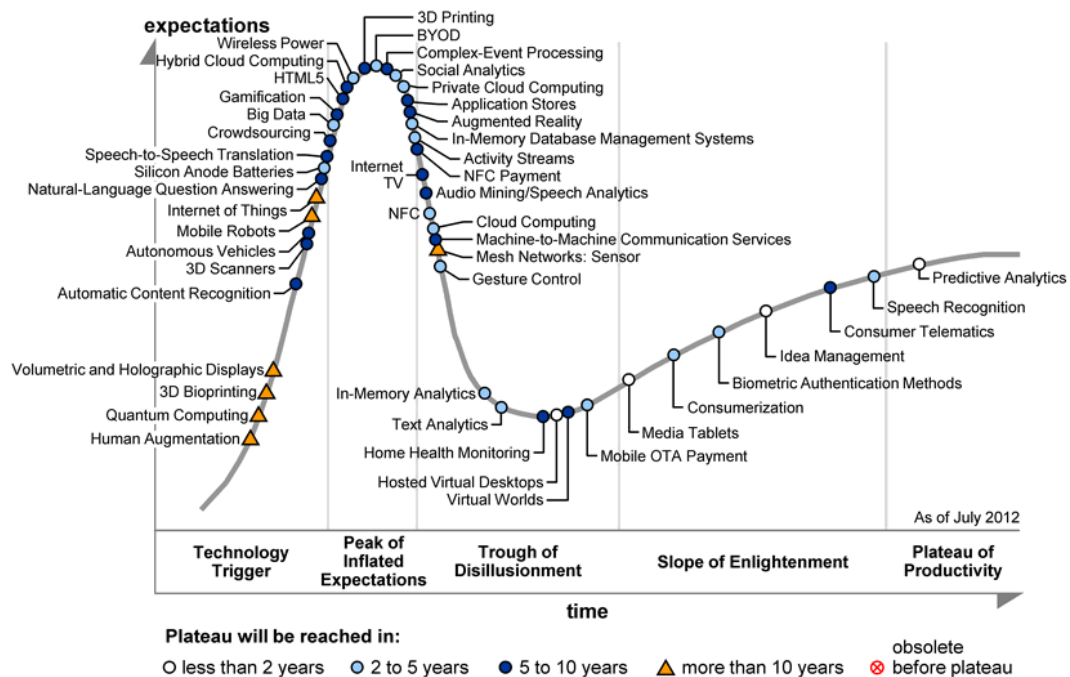


Figure 20 Gartner's Hype Cycle -2012

<sup>14</sup> Nasscom Strategic Review 2013

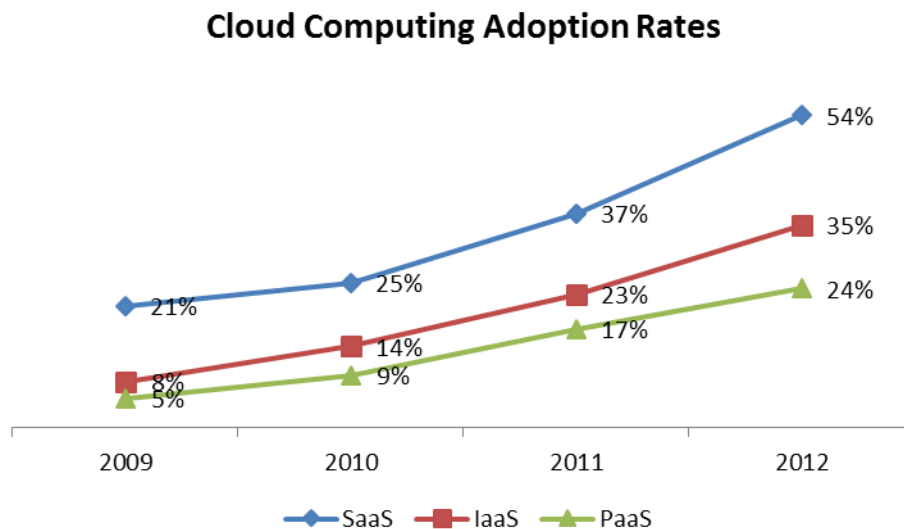
Looking at the Gartner's Hype Cycle of 2012 and also through various other general trends in the market, the key trends in technology to watch for are Mobile Payments, NFC, and Cloud Computing especially in the developing economies. All these technologies are in the Trough of Disillusionment and would be reaching the Plateau of Productivity in next 2 to 5 years.

### 7.2.3 Cloud Computing

In the near future Cloud Computing is likely to be the most important change that will dominate the ICT market. National institute of Standards and Technology defines Cloud Computing as

“Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or Service provider interaction. “

As per NIST, cloud model promotes availability and is composed of five essential characteristics, three delivery models, and four deployment models.



Source Forrsights Software Surveys

Figure 21 Cloud Computing Adaption Rates

Cloud Computing has potential to simplify several aspects of the business and lower the Total Cost of Ownership and as the billing is on the pay-per-use model helps improve the cash flow of the users of business .This has a drastic effect of how the business use ICT resources .Cloud Computing enables business to concentrate more on their core competency rather than worrying about technology implementations.

As per a survey conducted by Forrester Research in 2012 the SaaS was being used in the 54% of the organizations. At the same time the PaaS and IaaS were used in 24% and 35% of organizations respectively

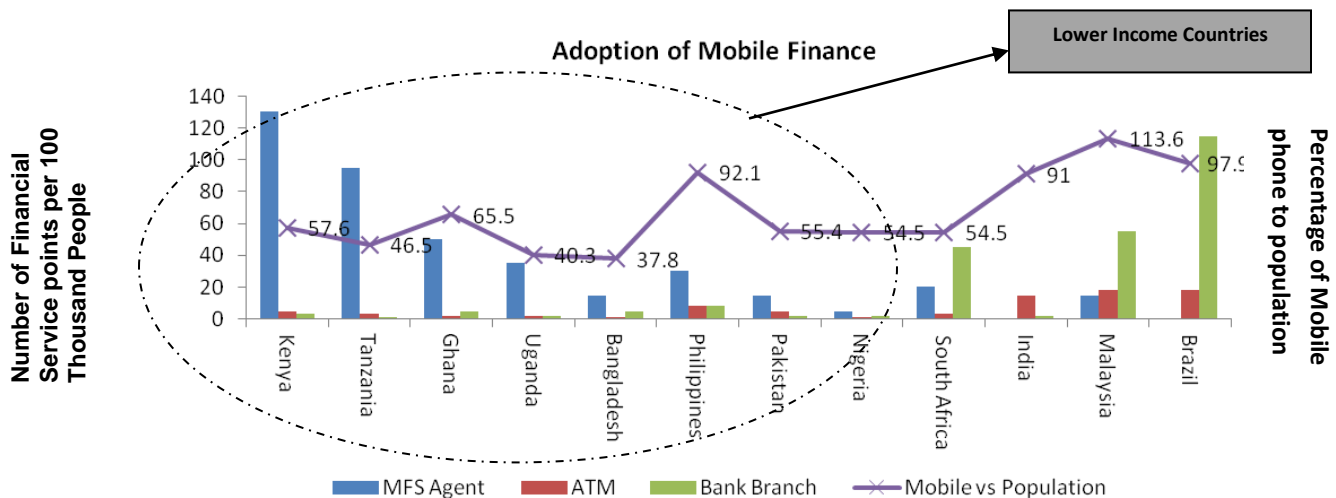


#### 7.2.4 Future of Mobile Finance

With most financial institutions wanting to achieve the cashless economy, the transactions would be mostly electronic and technologies on this year's hype cycle such as Near Field Communication (NFC) Payment, Mobile over the air (OTA) Payment, and Biometric Authentication will enable it. NFC moves towards the Trough of Disillusionment, however, and will not be widely adopted for mobile payment scenarios until smartphones with NFC chip become more in circulation

In addition, two technologies that aim to turn the smartphone into a wallet, NFC payment and mobile over the air (OTA) payment still face consumer and merchant adoption challenges. The level of success of these technologies will be country-specific. So, unlike other limiting factors, success and failure will be local.

Around 2.5 billion people all over the world do not have access to the formal banking system<sup>9</sup> which makes it very difficult for them to access basic financial services in order to save, borrow or transact. Increasingly more and more apex banks in the developing world are using the mobile platforms to reach out to this section of the society and the mobile penetration is helping the cause. GSMA, London has brought all its members, wider mobile industry and the development community to drive commercial mobile services for underserved people in emerging markets in a program called Mobile for Development.



Source: The World Bank, Key Indicators

Figure 22 Adoption of Mobile Finance

When we look at the figures of adoption of mobile finance we find in the low income countries the number of Mobile Finance Service agents per capita is much larger than other financial services point as compared to higher income countries.

In contrast to these changes, the existing ICT adoptions where a huge amount of capital has been invested, the changes would be difficult to come rapidly in the areas such as the traditional telephony , ERP systems, Core Banking systems , all having considerable amount of money invested .

In summary, the ICT market continues to evolve and change, driven by factors such as technology advancement, new models of delivery and changes in the need of the consumers and thus creating opportunities for outsourcing over the medium to long term

### 7.3 ICT SEGMENTS ANALYZED

In this section we would be analysing the various ICT Segments covered within this study

#### 7.3.1 Computer Hardware

As per report “Computer Hardware: Global Industry Guide” the global computer hardware market grew by 6.8% in 2011 to reach a value of \$176 billion. It is forecasted to reach a value of \$225 billion in 2016 an increase of 27.8% since 2011. USA is the biggest user of computer hardware contributing to the 50.8% of the market share.

#### 7.3.2 Software Products

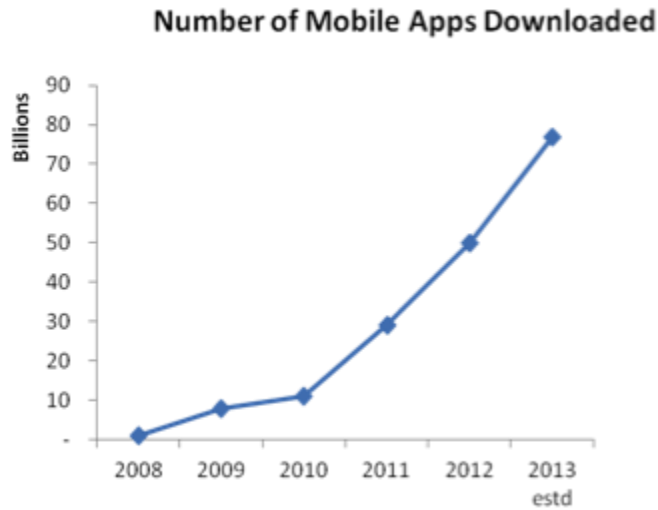
A software product is typically a single application or suite of applications built by a software company to be used by \*many\* customers, businesses or consumers. Some of the most popular type of software products are

- Office Productivity e.g. Open Office, Star Office, Microsoft Office
- ERP e.g. Oracle Enterprise, SAP
- CRM e.g. Siebel , Salesforce.com , Microsoft Dynamics
- Mobile Applications
- Accounting Packages e.g. Sage, Tally
- Core Banking e.g. Finacle, Banks, FlexCube

#### Mobile Computing

With the introduction of smartphones by players such as RIM (Blackberry), Apple (iPhone) and Google (Android Operating System used by many handset manufacturers) and the ecosystem created by them (iPhone App Store –July 2008, Blackberry World –April 2009, Google Play –October 2008) the Application for mobiles called Apps have been promoted. Mobile apps range from simple games, reminder apps to high end computing where they use the technology such as Remote Desktop Protocol to get the screen of the servers, also apps which enable mobile banking, payments and mobile commerce.

The apps are getting very popular and there has been an exponential growth in the number of apps downloaded for these platforms



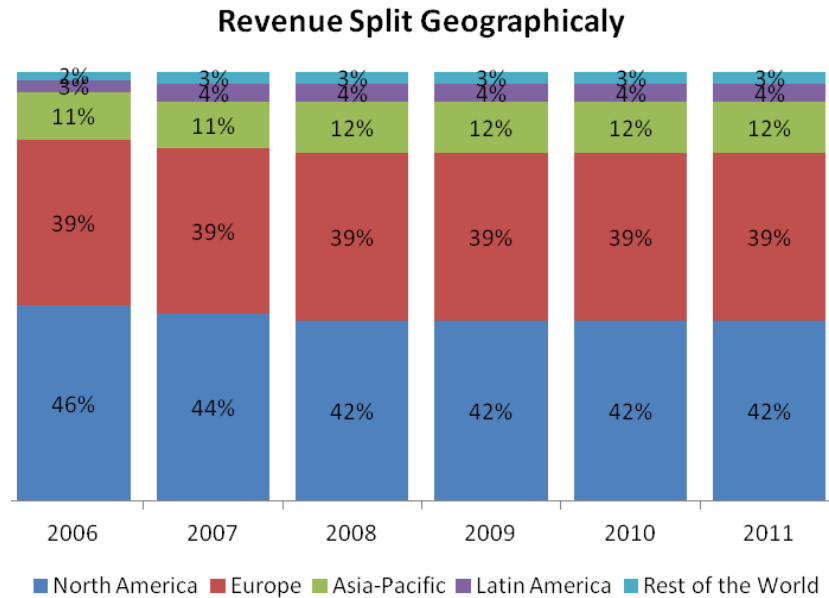
Source ITU

Figure 23 Mobile Apps Downloaded World Wide

Some of the Palestinian ICT firms also offer Software products, especially in the Accounting and ERP Space for certain sectors such as, NGO, Government etc. Palestinian ICT firms are also building some proprietary software for mobiles (apps) as well. This is one of the most promising areas for Palestinian ICT firms as per the survey conducted by Avasant. For more details of the survey kindly refer to Annexure A & B

## ERP

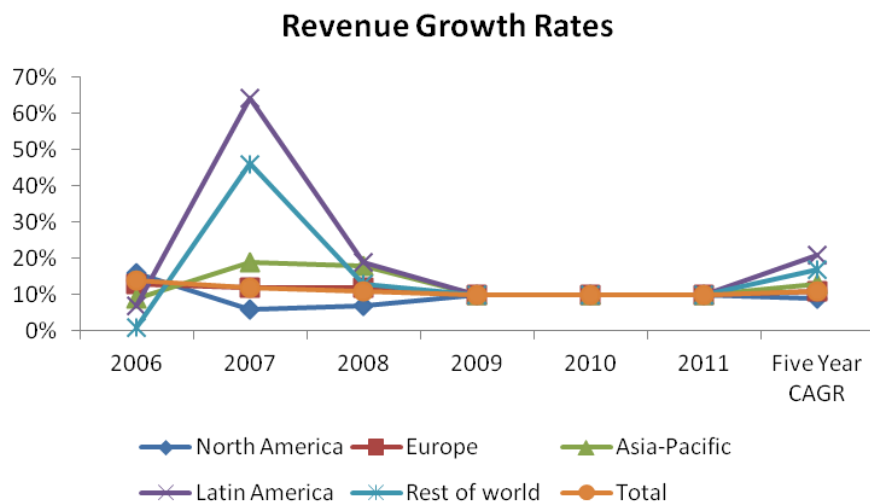
Looking at the current state of usage of ERP packages in Africa and Middle East Combined we see companies in the region are spending almost 3% of Global ERP market



Source AMR Research<sup>15</sup>

Figure 24 ERP Revenue Split by Geography

On the other hand Africa and Middle East show the high rate of revenue growth



Source AMR Research<sup>16</sup>

Figure 25 Revenue Growth Region Wise

The demand of ERP systems is growing in the region and Palestinian firms could target this segment. While this is a lucrative business , it is highly competitive and with many established players in the market, Palestinian ICT firms should get into partnership with ERP solutions providers for Small and

<sup>15</sup> The ERP Market Sizing Report, 2006–2011

<sup>16</sup> The ERP Market Sizing Report, 2006–2011

Medium businesses so that they could leverage the support from them and thus leverage on the marketing and R&D of the principal company. This could be achieved in the medium term.

### 7.3.3 IT Outsourcing

Information technology outsourcing or ITO is a company's outsourcing of computer or Internet related work, such as programming, to other companies. ITO could be further subdivided into broad categories based on the type of services offered .Some of the subcategories could be

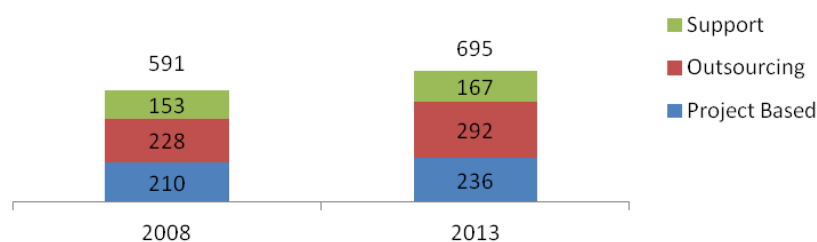
- a. IT Infrastructure Outsourcing
- b. IT Application Development
- c. IT Application Maintenance
- d. IT Application Testing
- e. IT Product Development Outsourcing
- f. Product Customization
- g. ERP Implementation
- h. Mobile Custom Development

Worldwide IT outsourcing (ITO) revenue totaled \$246.6 billion in 2011, a 7.8 percent increase from 2010 revenue of \$228.7 billion, according to Gartner, Inc. Indian-based IT services providers and providers rooted in cloud-based services delivered the highest growth rates in 2011.

In 2008 IDC –Nasscom projected that the Worldwide IT Services spending would grow from 591 Billion to 695 Billion, a CAGR of 3.3%

## IT Services Growth Projection

(Billions of Dollar)



Source IDC-Nasscom

Figure 26 Worldwide ICT Spending

During the same period the IT Outsourcing is expected to grow by 5.1% from USD 228 billion in 2008 to USD 292 billion in 2013. Looking at the IT spending within the market we find that the Americas and Europe excluding UK would be the top IT spender. The highest CAGR would be in the Indian market and the Latin American market

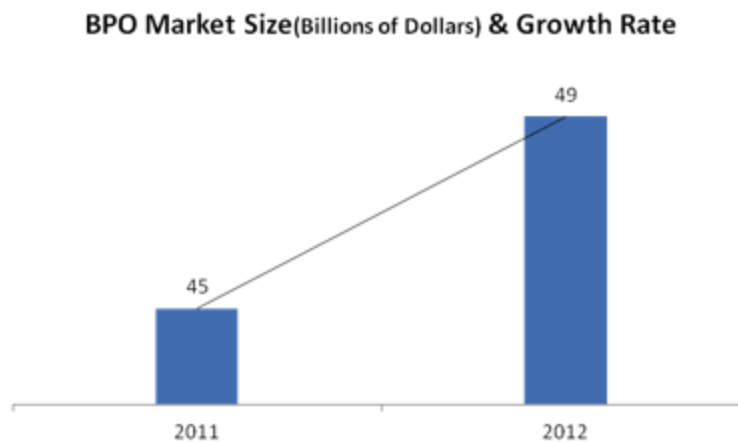
	2008	2013	CAGR (%)
India	6	11	14.5
Iberoamerica	44	57	5.6
Americas	316	380	3.8
Middle East & Africa	14	16	3.2
Asia Pacific	147	166	2.5
United Kingdom	77	88	2.3
Europe	170	189	2.1

Source IDC-Nasscom

Table 14 Geographical Spending Growth Projection

#### 7.3.4 BPO

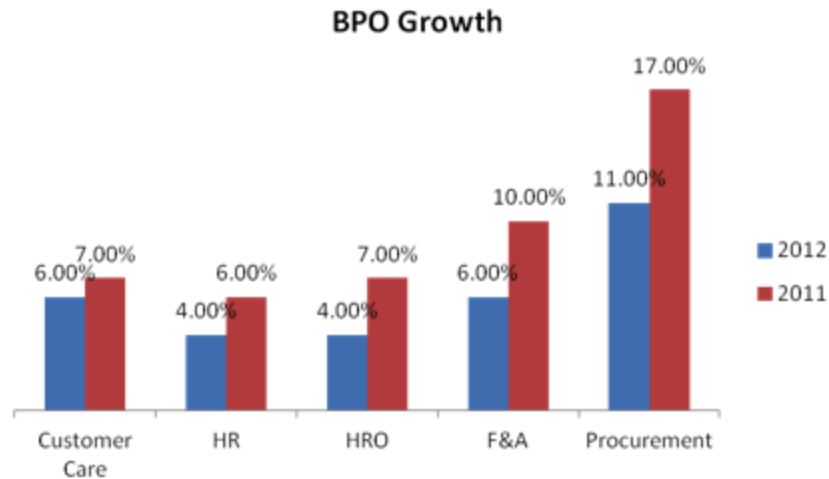
The global outsourcing market is poised for further growth after the recent economic turbulence. As per Nasscom Strategic Review 2013 the BPO market globally is predicted to grow by almost 9% and was valued between USD 48-50 billion.



Source Nasscom<sup>17</sup>

Figure 27 BPO Market Size & Growth Rate

<sup>17</sup>, <sup>18</sup> Nasscom Strategic review 2013



Source Nasscom<sup>18</sup>

Figure 28 BPO Segment wise growth

Key buyer geographies along with emerging and matured BPO destinations are as below:

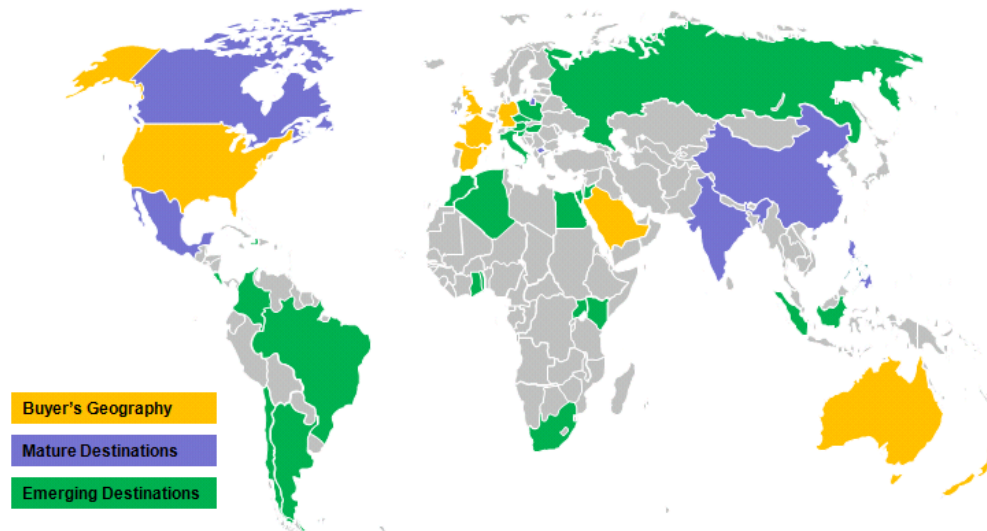


Figure 29 - Global BPO Landscape

Source Avasant Research

### 7.3.5 Training Services

ICT related training services could be broadly categorized into

#### 1. BPO Training

Training has become a major tool to retain employees. People working in BPO sector face the problem of job stress that results in de motivation. Well-designed training program with clear

career path increases the job satisfaction among the young professionals and help them in becoming efficient and effective at the work place. Therefore, organizations have to handle such challenges of meeting training needs, although, the sector is taking a lot of initiatives in conducting training for new joiners. Companies are now aligning business goals with training costs. But what more important is, is the development of the skills of middle management. Various BPO's have an elaborate training infrastructure that includes Computer-Based Training rooms, and specially trained and qualified in-house trainers.

With constant change in processes, technologies, techniques, methods, etc., there is a constant need of updating, training and development the BPO employees to consistently deliver customer goals.

## 2. IT Training

IT Training would help the workforce to gain technical knowledge in a particular technical area. With constant change in, technologies, techniques, methods, etc., there is a constant need of updating, training and development the IT Employees to deliver the customer growth

### 7.3.6 Telecommunications

Telecommunication plays a key role in the overall ICT Market as they form the basic infrastructure for the ICT products and services. Telecom services would typically include services such as

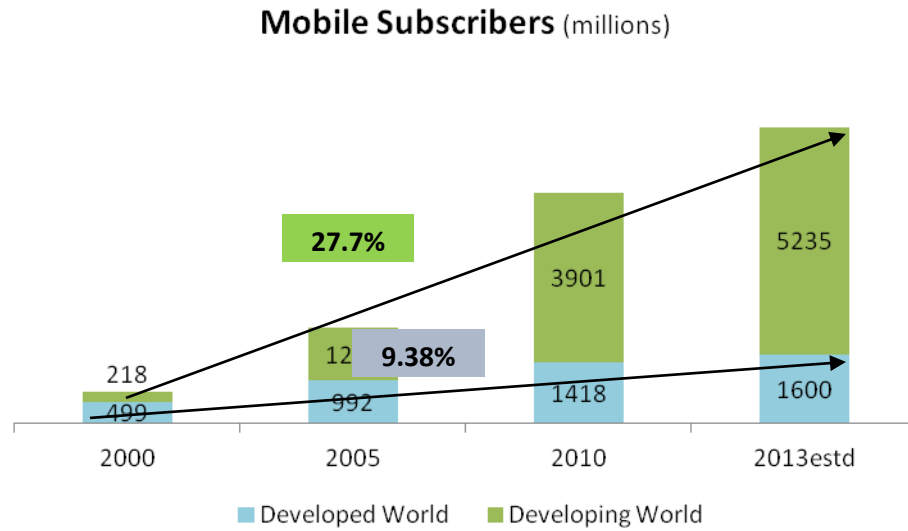
- Landline Voice Services
- Mobile Voice & Data
- ADSL/Broadband
- MPLS
- Leased Line Services etc.

Within the Telecommunication segment this report primarily concentrates on the mobile and internet services.

#### Mobile & Internet Penetration Trends

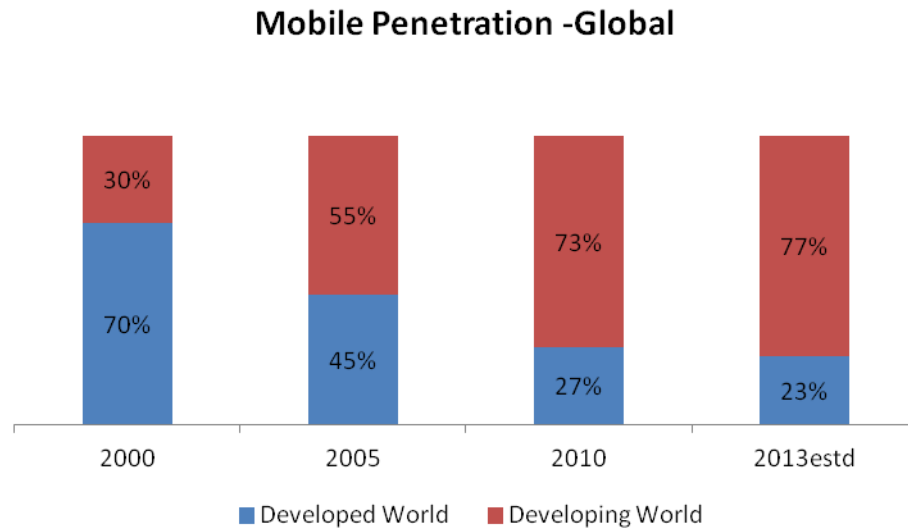
- Looking at the mobile and internet penetration worldwide, we find that it is rapidly increasing in the developing countries as evident in the graphs below. In the year 2000 there were only 218 million mobile subscribers in the developing world (just 30% of total subscription) whereas in 2013 it is estimated that subscriptions in developing world would shoot up to 5235 million which is around 77% of the total subscriptions.
- If we look at the growth rate of mobile subscription it grew by a CAGR of 9.38% in the developed world on the other hand the CAGR in the developing world was almost 3 times at 27.7%.





Source ITU, Key Indicators

Figure 30 Mobile Subscribers



Source ITU, Key Indicator

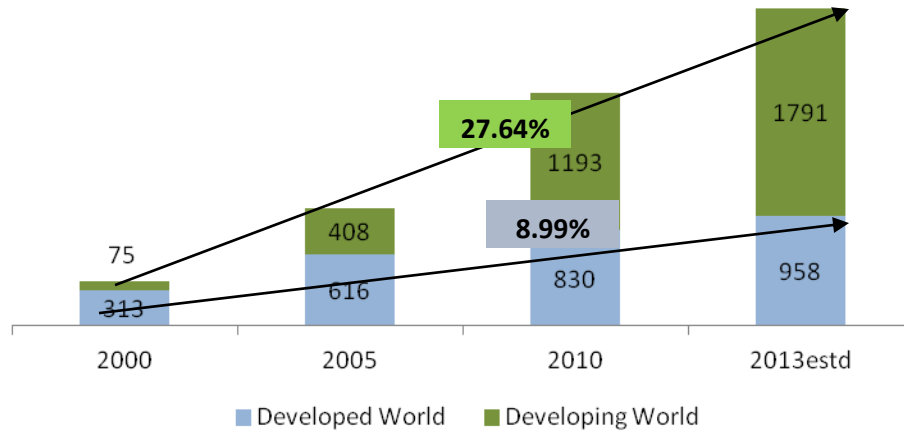
Figure 31 Mobile Penetration Split

- Another striking trend is the increase in the internet usage. This is also increasing on the lines of mobile usage. In the year 2000 only about 75 million individuals from developing world and 313 million individuals from developed world (almost 81%) had access to the internet on the other hand it is estimated that by 2013 approximately 1.8 billion people from developing world would have access to internet and only 958 million people in developed world would be doing so (just 35%).<sup>19</sup>

<sup>19</sup>, <sup>20</sup> ITU Key Indicators

- If we look at the growth rate of usage on internet in both developed and developing world, we find this follows the trend of mobile penetration increase with a CAGR of around 9% in developed world and almost 28% in the developing world.<sup>20</sup>

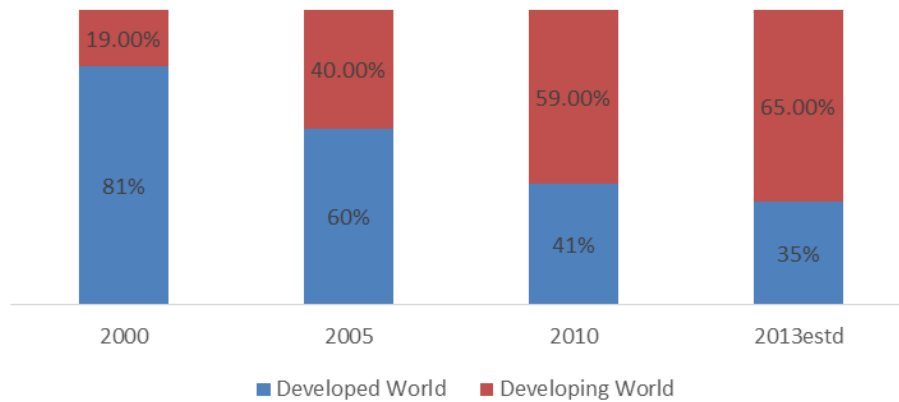
### Individuals Using Internet (millions)



Source ITU, Key Indicators

Figure 32 Access to Internet

### Internet Penetration - Global



Source ITU, Key Indicators

Figure 33 Internet Penetration Split

## Investments in Mobile

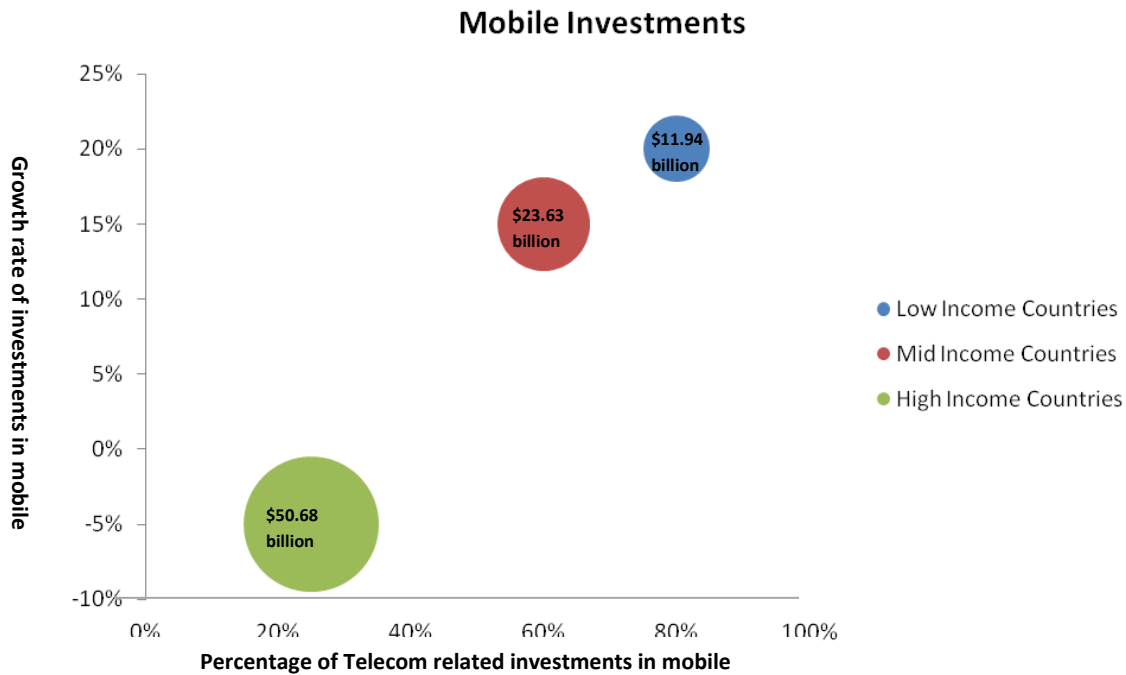


Figure 34 Mobile Investments 2010

- When we look at the investments done in the mobile we see that the Mid income countries and low income countries have allocated more chunk of their investments allocated for the Telecommunications as compared to the High income countries

## 7.4 KEY FOCUS AREAS

In this section we have evaluated ICT segments and sub –segments which Palestinian ICT Industries could possibly target along with the key geographies where these products could be exported to.

### 7.4.1 Key Segments

For the segments which Palestinian ICT Firms could target are evaluated in the table below .The evaluation parameters are

- Availability of Skill Set
- Experience in the particular segment
- Capabilities
- Potential for Growth
- Competitive Advantage

<sup>21</sup> 2012 White Paper Information and Communications in Japan

We have selected the segments which have qualitative score as Medium or above. Red color represents Low, Amber is representing the Medium and the Green color represents high

	Skill Set Availability	Experience	Capabilities	Potential for Growth	Competitive Advantage	Target Segment
Banking Software-Core Banking	Medium	Low	Low	Low	Low	✗
KPO	Low	Low	Low	High	Low	✗
Supply Chain	Low	Low	Low	High	Low	✗
Software Maintenance	Medium	Medium	Medium	Low	Low	✗
Software Development	Medium	Medium	Medium	Low	Low	✗
IT Infrastructure	Medium	Medium	Medium	Low	Low	✗
Finance & Accounting Services	High	High	High	High	Medium	✓
Mobile Payments	High	Medium	High	High	High	✓
Mobile Remittances	High	Medium	High	High	High	✓
Telemedicine	High	Medium	Medium	Medium	Medium	✓
Banking Software-Islamic Banking	Medium	Medium	Medium	High	Medium	✓
HR Services	High	High	High	Medium	High	✓
General BPO	High	Medium	Medium	High	Medium	✓
ERP	Medium	High	Medium	High	Medium	✓
Arabic Translation	High	High	High	High	High	✓
Data Entry	High	High	High	Low	Medium	✓
IT Projects	High	High	High	Medium	Medium	✓

Source Avasant Research

Table 15 Market Segment Attractiveness

Looking at the strengths of Palestinian ICT sector and demands of various segments, the key export segments for Palestine ICT industry could be

- ERP Customization
- Mobile Applications (Specifically more concentration on financial applications)

- Arabic Customization (Should form partnership with IT Service providers outside the Arabic speaking world to help them gain markets)
- Islamic Banking Software
- Telemedicine
- Staff Augmentation- IT Projects
- Data Entry
- HR ,Finance and Accounting Services
- BPO

#### 7.4.2 Key Geographies

Avasant evaluated various geographies which Palestinian ICT Market could target. The parameters were language compatibility for the market, market size and market growth rate, penetrability based on regulations, competition within the market, presence of Palestinian Diaspora and political compatibility with the region

	USA & UK	Continental Europe	MENA	SSA	Central & South America	Asia Pacific
Language Compatibility	High	Low	High	Medium	Low	Low
Market Size	High	High	Medium	Low	Low	Medium
Market Growth Rate	Low	Low	Medium	High	Medium	High
Market Penetrability	High	Low	High	Low	Medium	Medium
Competition	High	High	Medium	Medium	Medium	High
Diaspora Presence	High	Medium	High	Medium	Low	Low
Political Compatibility	Medium	Low	High	High	Medium	Medium
Target Geography	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Avasant Research

Table 16 Geographical Market - Attractiveness

Palestinian Territories have traditionally had friendly relationship with the Middle East and North African countries owing to the common language, demography and sympathy towards the Palestinian cause since the division of British Palestinian Territory in 1947.

Apart from this as the modern technology is making inroads into the Sub Saharan Africa backed by huge investments in the ICT infrastructure by large telecom giants such as SingTel(through Airtel), MTN , Etisalat etc. ,there is also huge investments in Africa by China, India , Australia in search of untapped mineral resources .

When Oslo accord was signed by Yitzhak Rabin, Bill Clinton and Yasser Arafat in 1993, it emphasized that the long lasting peace in the region would depend on the economic prosperity in the Gaza and West Bank region. The World Bank, the Departments of State and Commerce, the U.S. Trade Representative, the U.S. Trade and Development Agency ("TDA"), the U.N. Development Project ("UNDP"), and several development agencies have committed the funding and support to the effort of Palestinian Authority. The Annexure 3 of the Oslo Accord also laid down guidelines for cooperation between Israel & Palestinian Authority in the field of communication and media.

Due to Oslo Accord the fund and cooperation from western countries mainly G5 and European Union, Palestinian saw investments and business coming. Though there was a slight setback due to the Hamas-Fatah conflict in the 2007 however with the relative peaceful environment in Palestine now the business with Western world especially in the ICT market is on the rise. Coupled with the current economic crisis and weakening dollars the need for low cost outsourcing destination is on the rise

Based on these parameters, Avasant recommends following three markets to be targeted by the Palestinian ICT Market

1. USA & UK
2. Middle East and North Africa (MENA)
3. Sub Saharan Africa (SSA)

## 7.5 KEY IDENTIFIED MARKETS

### 7.5.1 Sub Saharan Africa (SSA)

Sub-Saharan Africa is the region defined by the desert of Sahara in the north and Africa's water borders in south, west and east. This region is one of the poorest regions of the world, however the economic growth rate is higher than other matured economies. This growth primarily comes from the export of minerals. This is very much affected by the external shocks e.g. in 2009 at the peak of the economic crisis the GDP growth of the region was around 2.5%, this was owing to major economies not importing as the manufacturing sector was expecting lower demand in local markets

The dream of poverty eradication in the Sub-Saharan African region can be realized with the economic growth where one sector which can create value add for other sectors. One sector which has promise to do so is the ICT sector. It is also an enabler of efficiency in the other sectors

### *Market Factsheet and Overview*

This region has one of the lowest GDP per capita in the world, as per World Bank almost 47% of the 850 million inhabitants of the region live on less than 1.25 USD per day. Most number of landlocked countries are in this region and are dependent on other countries for the trade & commerce as they do not have access to ports. This coupled with poor infrastructure, historically disturbed political environment, and high toll fees leads to very less profit margins by the time the exported goods reach the international markets.

Looking at the demography of the region more than 1000 different languages are spoken in the region. This region has very high urbanized population with almost 40% of population staying in the urban areas (more than India and almost comparable to China).

This urbanization has also led to people getting access to ICT products more importantly Mobile phones which has been a very important delivery channel for many ICT Providers

The drive to improve the infrastructure is a huge market potential for the investments coming into the sector and fuelling the GDP growth of the region and also due to the various poverty alleviation and health related plans being sponsored by agencies such as The World Bank and WHO there is a heavy presence of NGOs in the region which could be a target market.

### *Market Trends and Growth Opportunities*

The telecommunications sector in Africa has expanded rapidly since 1998, with both an increase in network and services provided. At the same time, prices have fallen everywhere, bringing telecommunications within the reach of the majority of Africans

Mobile subscriptions in 1998 were almost 4 million and it crossed 500 million by 2012 which is a phenomenal CAGR of almost 38.3% per annum.

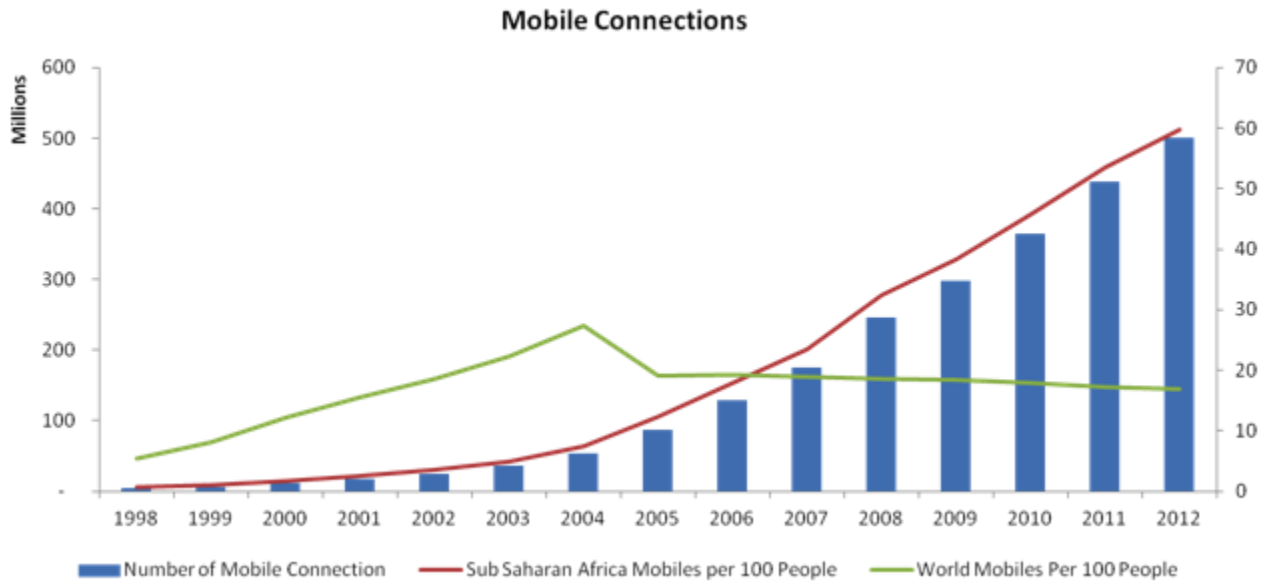


Figure 35 Mobile Connections in Sub Saharan Africa

Source ITU, World Bank

Also the usage of mobile phones among African per 100 people is more than three times of the world average. This has been possible due to the large investments by many large telecommunication companies from across the world, realizing the potential of this part of the world.

The broadband internet access is also increasing in developing world including Sub Saharan Africa however the broadband cost in Sub Saharan Africa is much higher when compared to other regions

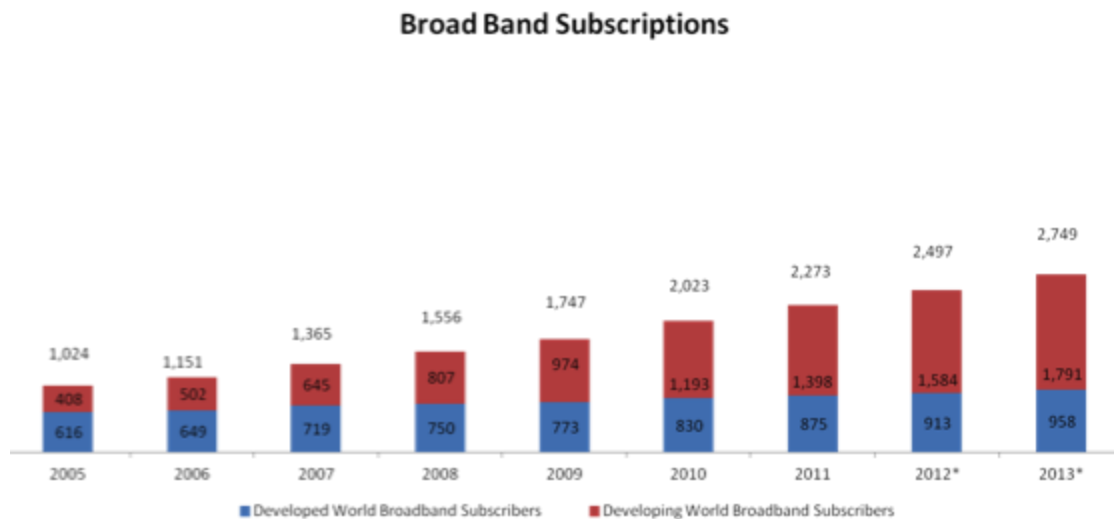


Figure 36 Broad Band Subscriptions

Source ITU



## Broad Band Penetration Rate

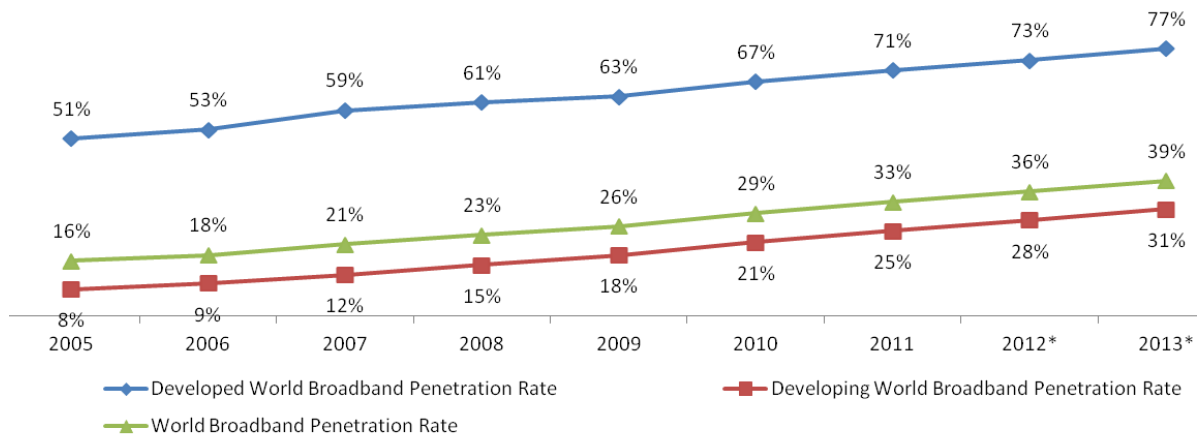


Figure 37 Broadband Internet Penetration Rate

Source ITU

## Broadband Prices

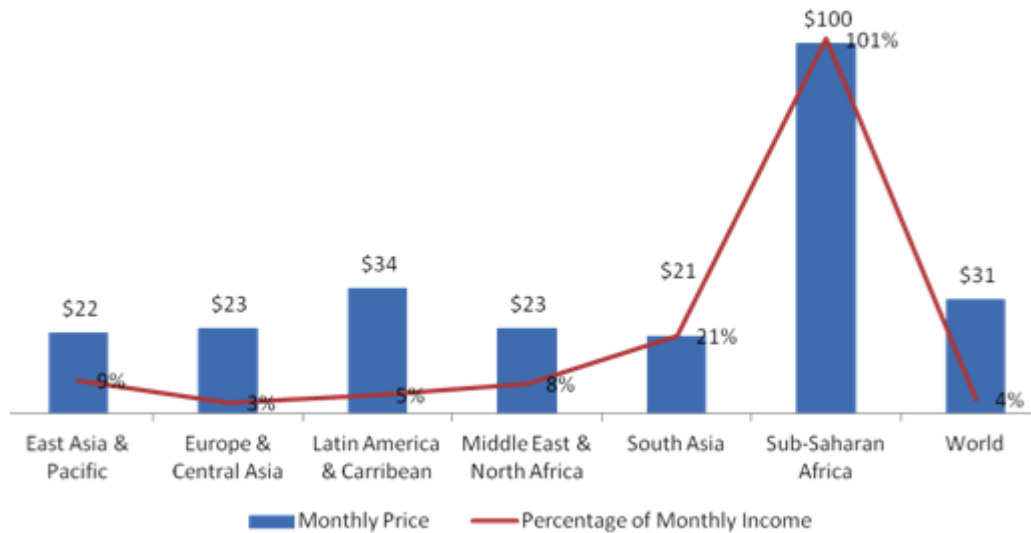


Figure 38 Broadband Prices -Region wise

Some of the companies present and investing in the telecom sector in Sub-Saharan Africa are SingTel (through Bharati Airtel), Etisalat, and China Mobile etc.

Source ITU

The investments have grown from meagre 1.7 Billion USD in 1998 to almost 10.5 Billion USD.

The investments in the telecom sector are majorly used to overcome the infrastructure bottlenecks. As the broadband penetration is increasing, network infrastructure requirements are changing. Broadband requires networks capable of handling much higher volumes of traffic than that generated by voice

services. As much of the traffic generated by broadband crosses international borders, it also requires more international network infrastructure.

Traditionally such infrastructure was less developed in Africa however the situation is changing a lot since 2009, In 2010 Sub-Saharan Africa had 12 operational undersea cables, and another 5 were under construction with an investment of \$1.7 billion. The operational cables have a combined capacity of more than 12 terabytes per second (tbps).

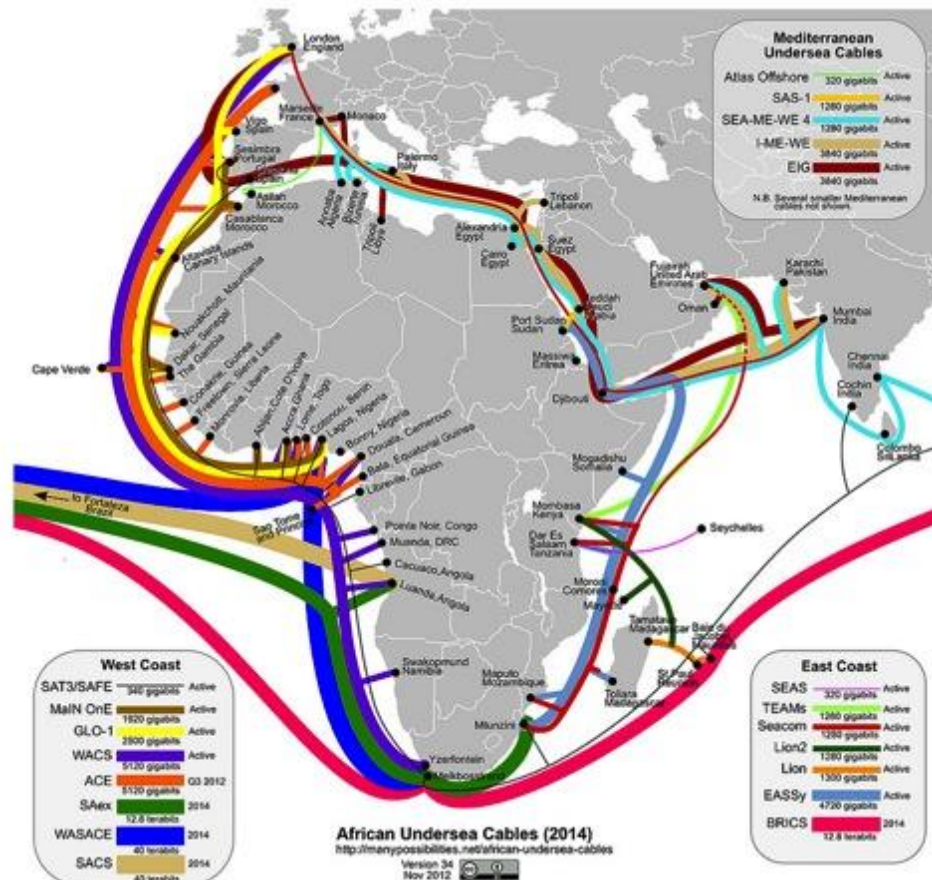


Figure 39 Fiber-Optic Cables in Africa, 2014

ICT industry in Africa has impact on the different sectors in the market. The most prominent sector where we see the impact of ICT in Sub-Saharan Africa is

- **Mobile banking**

Banking by cell phone in Africa is one of the most significant developments in the recent history of the continent's financial sector. The success of some of the early pioneers of cell phone banking has been replicated in other countries, through the launch of other types of financial service products delivered by cell phone.

- **Telemedicine**

Mobile phone operators, health service providers, health ministries, and donor organizations are working together to develop innovative ICT-based approaches to healthcare service delivery. One such application is TRACnet, which is used by the Ministry of Health in Rwanda to improve the quality of service in primary health care institutions

- **IT-enabled services/business process outsourcing**

In addition to being a platform for delivering services, the ICT sector has the potential to be a source of economic growth and employment itself. The IT-enabled service (ITES) sector—also known as business process outsourcing (ITES-BPO)—is becoming established around the world, including in some African countries.

- **Infrastructure Sector (Manufacturing , Roads, Mining and Construction)**

ICT industry has supported this key sector by bringing in efficiency and cost savings

#### *Palestine Value Proposition for the market and Focus Areas*

Palestinian ICT industry is well placed to meet the needs of the Sub Saharan Africa, as found that the major sector which are impacted positively by ICT are

- **Mobile banking**
- **Telemedicine**
- **IT-enabled services/business process outsourcing**
- **Infrastructure Sector (Manufacturing , Roads, Mining and Construction)**

The Value propositions of Palestinian ICT Industry are

- Strong in mobile computing and mobile finance , hence can meet the requirements of Sub Saharan Africa
- Trained and qualified large English speaking workforce
- Experienced in similar technology and accounting systems
- Lower cost of Operations
- Experience working with construction industry

#### **7.5.2 Middle East and North Africa (MENA)**

MENA is also known as the Arabic World because demographically its home to most number of people of Arabic decent. The MENA region has vast reserves of petroleum and natural gas that make it a vital source of global economic stability. According to the Oil and Gas Journal (January 1, 2009), the MENA

region has 60% of the world's oil reserves (810.98 billion barrels (128.936 km<sup>3</sup>)) and 45% of the world's natural gas reserves ( 2,868,886 billion cubic feet (81,237.8 km<sup>3</sup>) ).As of 2011, 8 of the 12 OPEC nations are within the MENA region.

This region is historically having high per capita income owing to the Petro Dollar. However in recent time they have seen some political instability and conflicts in countries such as Egypt, Tunisia, Libya, Yemen, and Bahrain and most recently in Syria.

However the young population in the region is an asset as the average age of workforce are 25, compared to Europe and America where it is in its 40. With ICT interventions in the economy, efficiency can be brought into operations and also the ICT industry could generate employment for this highly educated, young workforce

### *Market Trends and Growth Opportunities*

Arab ICT Index 2011 was topped by Saudi Arabia; this was mainly driven by very high mobile penetration of 189.24 %, which is first in MENA and fourth worldwide. The Kingdom came in fifth place for both computers installed and Internet penetration, while placing seventh for fixed line telephone penetration.

Qatar was second in the ranking; it has the highest computer installed with almost 47% penetration. Though it has very low landline penetration of just around 17% the mobile phone penetration and internet penetration are substantially higher (50.6% and 163.61% respectively)

In third place, the United Arab Emirates' (UAE) overall score of 2.59 on the 2011 Arab ICT Use Index leaves it in the same spot it occupied in 2010 with a score of 2.41. The UAE ranked second in Internet penetration with a rate of 53.85%, as well as fixed line penetration with 21.49% and computers installed penetration with 45.47%. Meanwhile, it remained in fifth place in mobile phone penetration, with a penetration of 138.06%, behind Saudi Arabia, Oman, Libya and Qatar.

### **Arab ICT Index -2011**

S No	Country	Population	Mobile Subscription	Fixed Line Subscriptions	Internet Users	Computers Installed	ICT Index
1	SAUDI ARABIA	28,376,355	53,700,000	4,633,100	13,600,000	8,098,276	2.82
2	QATAR	1,707,756	2,794,043	305,969	854,958	798,715	2.78
3	UAE	8,494,707	11,727,401	1,825,496	4,574,578	3,862,177	2.59
4	OMAN	2,859,457	4,809,248	287,323	1,146,880	551,714	2.38
5	BAHRAIN	1,316,750	1,693,650	242,407	715,928	469,360	2.37
6	KUWAIT	3,697,292	4,973,160	523,161	1,853,394	1,305,955	2.34
7	LIBYA	6,000,000	10,000,000	1,012,100	1,355,796	892,601	2.21
8	JORDAN	6,249,000	7,483,000	424,000	2,187,519	1,108,866	1.79
9	MOROCCO	32,419,800	36,554,000	3,566,076	12,728,464	3,045,939	1.72
10	TUNISIA	10,732,470	12,387,656	1,217,781	3,432,988	1,272,643	1.71
11	LEBANON	4,222,836	3,389,000	912,132	1,730,914	910,965	1.64

S No	Country	Population	Mobile Subscription	Fixed Line Subscriptions	Internet Users	Computers Installed	ICT Index
12	EGYPT	81,348,421	83,430,000	8,714,200	21,671,400	5,878,810	1.47
13	ALGERIA	37,100,000	35,711,159	3,153,500	7,767,641	3,763,607	1.36
14	PALESTINE	4,231,084	2,865,000	385,057	1,280,172	396,770	1.16
15	SYRIA	21,381,111	12,791,647	4,381,100	5,113,749	1,819,690	1.13
16	IRAQ	33,564,325	24,413,656	1,945,000	5,510,556	2,545,761	1.03
17	SUDAN	41,919,368	25,107,343	483,617	6,959,517	2,068,436	0.83
18	YEMEN	24,312,000	12,530,235	1,075,412	3,327,558	938,623	0.74
	<b>MENA</b>	<b>349,932,731</b>	<b>346,360,198</b>	<b>35,087,431</b>	<b>95,812,012</b>	<b>39,728,908</b>	<b>1.48</b>

Source: Arab ICT Use Report 2012

Table 17 Arab ICT Index

Most of the countries have a fair competition in their mobile phone market with at least 2 operators in the business.

Usage of Social networking among the internet users of the region is also very high and is increasing continuously. The “Arab Spring” or the Jasmine Revolution became very successful as Social Media and blogs were used as the medium to build public opinion.

Another striking trend is the increasing number of Arabic online content. In last five years (2007-12) number of Arabic web pages have been increasing at a fiery pace and thus the demand for the localization in Arabic would also increase

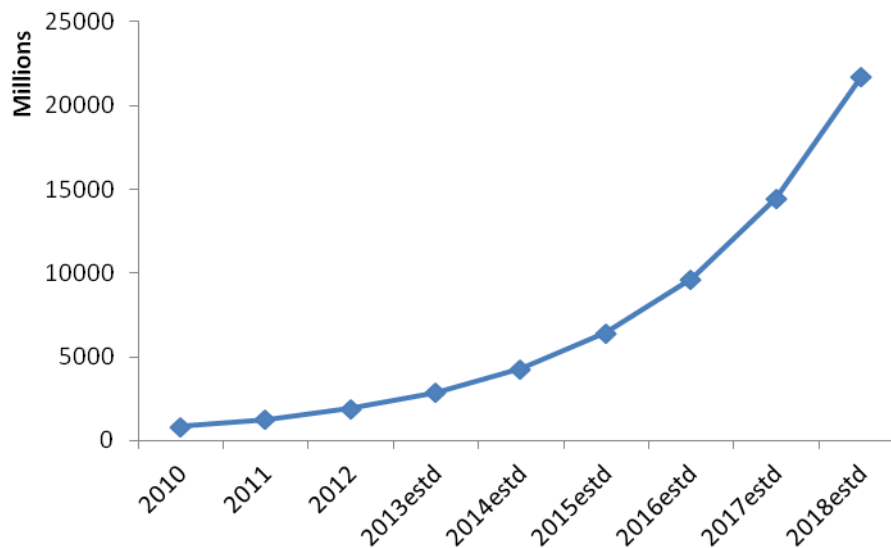


Figure 40 Number of Arabic Web Pages

Source: Arab ICT Index

Looking at the ICT expenditure in the region it is expected that the total expenditure by 2015 would be almost double of what it was in 2009 and Telecom investments will be substantially more than IT expenses and most of it would be used for Bandwidth and VoIP

## ICT Investments (Billion Dollars)

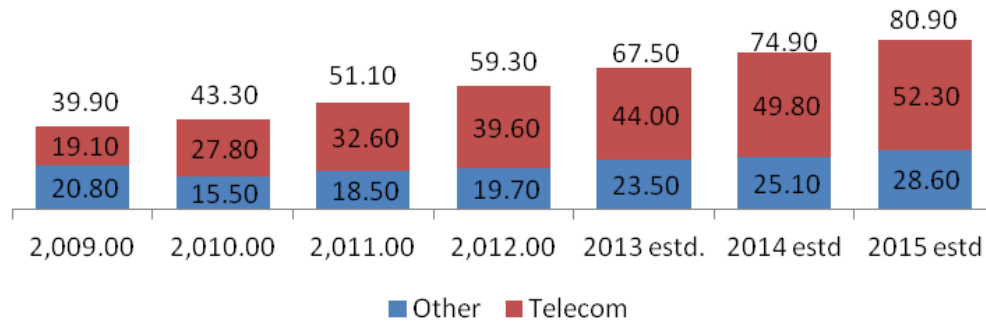


Figure 41 ICT Expenditure in MENA region

Source: Arab ICT Index

Ecommerce is the next in-thing in the region as well. Websites such as Souq.com which is an online auction website, are giving the push to e-commerce along with the traditional retail businesses which want to make their presence online

The sectors where ICT intervention can have the most positive impact in MENA region

- Government Sector
- Oil Sector (Supply Chain and Production)
- Mobile and E-Commerce
- IT enabled services

Apart from this Arabic localization is also a huge business

### Competitive Landscape

The biggest competition of the Palestinian ICT industry is from countries such as Egypt, Jordan, Morocco, Saudi Arabia and UAE. These countries have setup dedicated ICT parks and have already established their names as respected provider for the ICT services and products

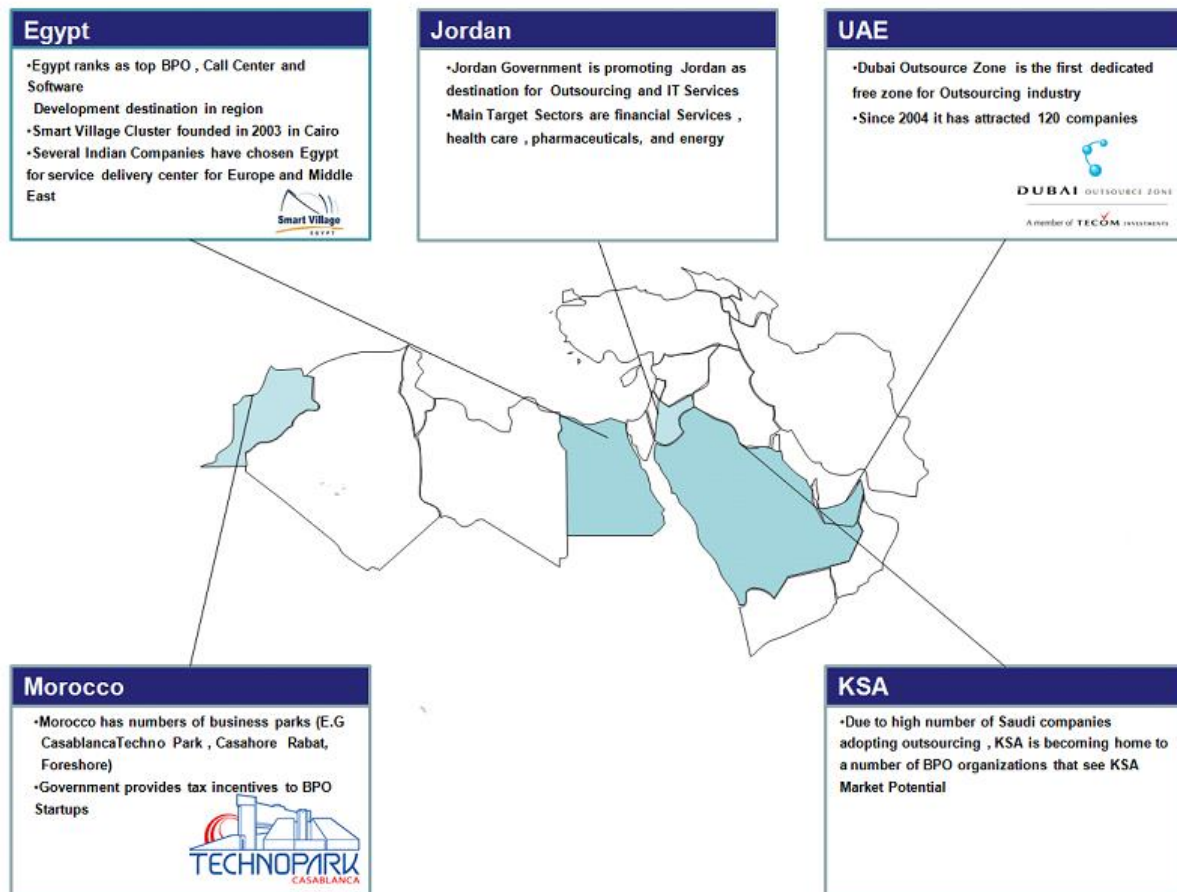


Figure 42 MENA BPO-ICT strong holds

### Immediate Export Target Areas

#### Iraq

Iraq under the previous regime was a closed economy where private ownership of business was not allowed. Apart from this there were high tariffs on import of foreign goods. However after the Coalition Provisional Authority took over they started to privatizing the economy and opening it up to foreign investments.

In February 2011 Citigroup included Iraq in a group of country which it describes as 'Global Growth Generators' or 3G countries. This is a list of 11 countries which will clock almost 6% GDP growth in between 2010-2050.

This will be fueled primarily by the Petroleum industry and would be supported by major economies of the world as Iraq is on its path of rebuilding the nation after fall of previous regime in April 2003.

On November 20, 2004, the Paris Club of creditor nations agreed to write off 80% (\$33 billion) of Iraq's \$42 billion debt to Club members. Iraq's total external debt was around \$120 billion at the time of the



2003 invasion, and had grown another \$5 billion by 2004. The debt relief will be implemented in three stages: two of 30% each and one of 20%.

Citigroup opined that with this financial stimulus and support from aid organizations Iraq will see an average growth of about 6.1% per annum in the period 2010-2050.

### **Current Status of ICT in Iraq**

Despite the turmoil the Iraqi Government has been working to improve the ICT sector, Telecom infrastructure, as well as involve the private sector through the creation of the regulatory environment which is represented by the Communications and Media Commission, which resulted in a boom in the mobile services. Currently the concentration is on creating the infrastructure for the ICT industry to boom.

### **Libya**

The Libyan economy depends primarily upon revenues from the oil sector, which accounts for 80% of GDP and 97% of exports. Libya holds the largest proven oil reserves in African Continent and is an important contributor to the global supply of light, sweet crude. Apart from petroleum, the other natural resources are natural gas and gypsum. The International Monetary Fund estimated Libya's real GDP growth at 12.2% in 2012 and 16.7% in 2013, after a 60% plunge in 2011 due to the Libyan war<sup>22</sup>. The growth in the Libya is primarily driven by the oil and petroleum companies resuming business quickly. The developmental agencies and NGOs are playing a key role in the nation rebuilding. Many national infrastructure projects are undertaken by foreign sponsorships.

As per ITU there were around 10 million mobile subscribers with 155.7 % subscription rate in 2011 which is comparable to developed economies.

### **Afghanistan**

Though Afghanistan does not come under the MENA region, it is mentioned here due to its cultural and physical proximity with the region. Since 2002, when the Taliban was moved by force by Northern Alliance backed by NATO forces, Afghanistan economy has grown significantly. The nation's GDP stands at about \$29 billion, and the GDP per capita is about \$1,000. The country's export was \$2.6 billion in 2010. Its unemployment rate is about 35% and roughly the same percentage of its citizens live below the poverty line<sup>23</sup>.

The Afghan economy has been growing at about 10% per year in the last decade, which is due to the infusion of over \$50 billion dollars in international aid and remittances from Afghan expats<sup>23</sup>. It is also due to improvements made to the transportation system and agricultural production, which is the backbone of the nation's economy using the foreign aid<sup>24</sup>. The country is known for producing some of the finest pomegranates, grapes, apricots, melons, and several other fresh and dry fruits, including nuts. While the nations' current account deficit is largely financed with the donor money, only a small portion

<sup>22</sup> Oil production boosts Libya economy, instability hampers reconstruction". The Daily Star.

<sup>23</sup> *The World Factbook*. Central Intelligence Agency (CIA)

<sup>24</sup> "Agriculture". USAID



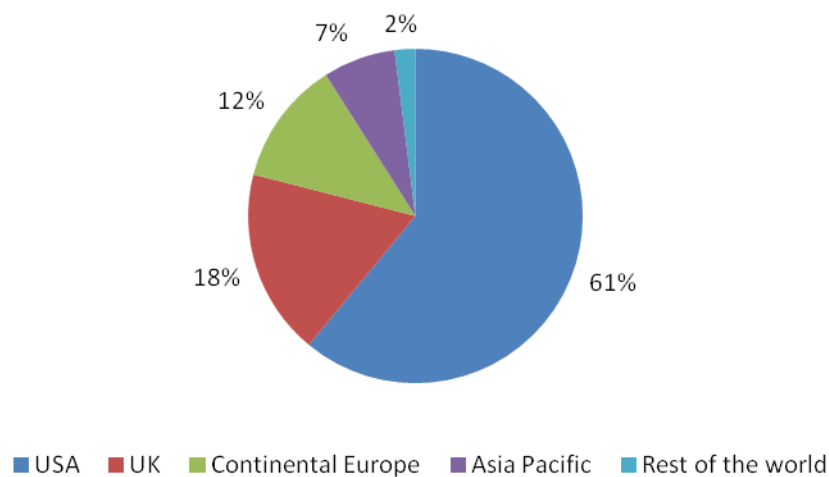
is provided directly to the government budget. The rest is provided to non-budgetary expenditure and donor-designated projects through the United Nations system and non-governmental organizations

Telecommunication services in the country are provided by Afghan Wireless, Etisalat, Roshan, MTN Group and Afghan Telecom. In 2006, the Afghan Ministry of Communications signed a \$64.5 million agreement with ZTE for the establishment of a countrywide optical fiber cable network. As of 2011, Afghanistan has around 17 million GSM phone subscribers and over 1 million internet users. It only has about 75,000 fixed telephone lines and little over 190,000 CDMA subscribers. 3G services are provided by Etisalat and MTN Group. The Afghan government announced that it will send expressions of interest to international companies to attract funding will launch its first ever space satellite by October 2012.

#### *Indian ICT firms exporting to Middle East*

Middle East is the biggest trade partner for India. However it is not reflected in the ICT exports of India where the biggest chunk of business comes from North America followed by Europe and Asia Pacific.

**Geographical Export Revenue Split -Indian ICT Firms**



Source: Crisil, a Standard & Poor Company

**Figure 43 Geography-wise export revenue split**

Looking at the figures we find that out of 76 billion USD of export revenue of Indian ICT industry, just 1.53 billion USD comes from markets such as Canada, Mexico, Central & South America, MENA and Sub Saharan Africa combined .On the other hand Saudi Arabian ICT market alone is worth more than 35 billion USD. This shows that there is huge potential for Indian ICT firms to penetrate the MENA market with GCC countries making significant investments in ICT growth in the region

The major verticals which will see the traction in the region are

- Mobile Computing
- IT Security
- Islamic Banking

- Mobile Banking
- ERP/CRM

As the Governments in the regular markets for Indian ICT industries resort to protectionism and introduce measures to curb off shoring, Indian ICT firms specially emerging players are looking at other markets. As per Nasscom Emerge 50 most of the emerging IT firms in India are now focusing on Europe instead of US

### Key Focus Geography -Emerging Indian ICT Firms

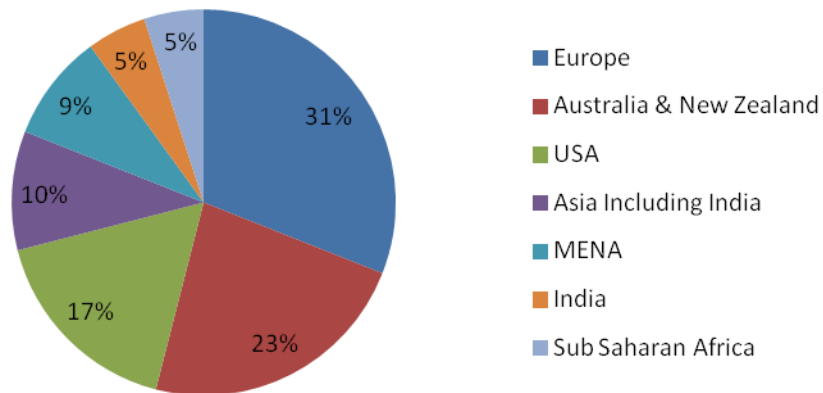


Figure 44 Key Focus Geography

Source NASSCOM Emerge 50

From this graph it is evident that only 9% of emerging ICT firms in India are targeting MENA region, but if we look at the investment patterns of such firm we find that they are ready to invest in order to expand in newer geographies.

### Strategic Investments by Emerging ICT Firms

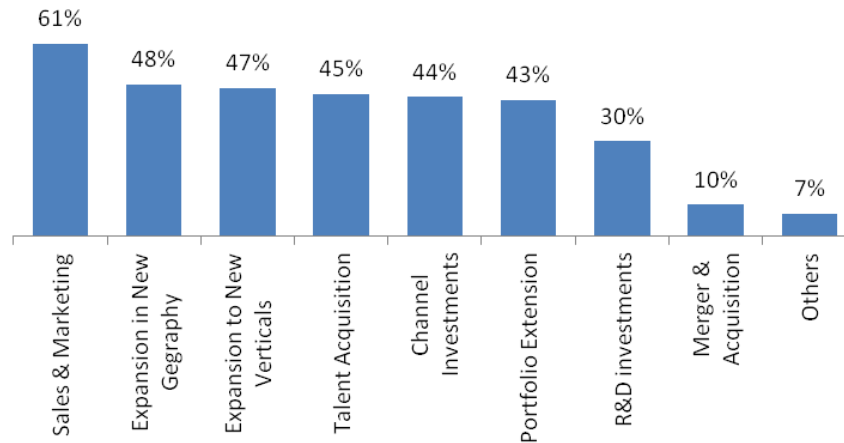


Figure 45 Strategic investments by Indian ICT firms

Source NASSCOM Emerge 50

The major challenge which Indian ICT firms would be facing is the lack of skilled professionals who could speak, read and write Arabic. As per the latest census in India out of almost 1.24 billion people living in India only about a million claimed to have Arabic language skills and most of them are religious scholars and hence not deployable in Indian ICT industry .

This presents a great opportunity for both Palestinian and Indian ICT firms to collaborate and try to penetrate these large Arabic speaking geographies. This would be major advantage for the Small and Mid-Size Indian ICT firms which cannot afford to have a delivery center in the region similar to the big players. They could leverage the low cost delivery centers with talented resources and native Arabic language skills. The Palestinian ICT firms could improve their quality and experience by working with the firms from a matured ICT markets

#### GCC Countries

The ICT sector in Gulf Cooperation countries (GCC) is expected to grow between 8% to 10 in the next 4 to 5 years which is far better than the worldwide projections of around 2.6 %, where mature markets like USA is either growing at a very low rate and UK is actually shrinking.

Since 2002, GCC countries have pooled in a substantial amount of their financial resources to diversify from oil dependent to knowledge-based economies. GCC countries have invested around USD180 billion by 2012 in Information Communication Technology (ICT) to fuel their socio-economic growth and diversification. Saudi Arabia is the leading country in the region with estimated \$26 billion spent in ICT in 2010 alone and the spend is projected to grow to \$35 billion by end of 2013. More than 400 major IT and telecom projects were announced and executed across the six GCC states between 2009 and 2010. The governments are channeling this investment which will aid in developing a skilled and technologically savvy human resource pool in the future.

Smaller countries such as Kuwait, Bahrain and Qatar invest significant sums in comparison to their population sizes and have ambitious plans to attract direct investment in ICT as well as ramp up their IT exports.

The adaptation of IT solutions has been relatively slow and limited to only a fraction of population in GCC countries. Constraints such as consumers' and decision makers' understanding of IT and availability of online content in Arabic are starting to give in, enhancing demand for virtually everything from mobile solutions to network infrastructure. Combined with the fact that rich countries in the region have vast amount of money to spend, the surging demand makes the Middle East the place where things truly happen

### **Sector Highlights**

Here we would be looking at various sectors within the ICT industry which have a potential in GCC countries

Only about 1.5% of the internet content is in Arabic language whereas almost 5% of the world speaks Arabic language. This shows the huge opportunity which exists for creation of localized content for the GCC countries.

The population is fairly affluent and young with almost 60% of people in the region under the age of 25% and thus has relatively good purchasing power and has aspirations to a better lifestyle and education and is connected to social network

Another important aspect of demography of the region is the large number of expatriates in the countries like UAE, Kuwait and KSA who form large English speaking customer base as well. Along with locals who are educated in English schools they form a viable target market for contents in English.

### **Mobile Applications**

The estimated size of the mobile sector is expected to be around 15.65 billion USD by end of 2013 in the GCC countries. A remarkable feature in GCC countries is the rapid expansion of mobile applications. Social media, application downloads and entertainment are increasingly happening in a mobile platform. Available applications range from Police capability to issue traffic fines by smart phones to e- tickets (events, metro, trade shows, low cost airlines) and interactive health care applications.

Social media is still in initial stages in GCC countries e.g. the penetration rate of Facebook in GCC is around 20%, but the figure is growing at a steady rates (The figure was just 7.9% in 2009). Sites for mobile social networking and "promotion through discovery" such as Foursquare, Gowalla and Mytown have become very popular among the young people in the region. Also local "social rating" sites such as Jeeran, Qaym and Yallawain where people can rate restaurants, shops, places etc. and share media content such as music videos have proven very popular among the young and urban populations.

The key processes of Mobile application business such as Application Development, Content Aggregation, Media Content Production, Operators, Vendor Platforms, Advertising and Online portals offer vast business opportunities in GCC countries

There is also a strong consolidation in progress among the operators. Companies such as Etisalat are expanding their presence in Middle East, Africa and Indian subcontinent through acquisitions and joint ventures.

Developments like this open up opportunities of gaining wider global exposure for applications through GCC partners. Application platforms have roughly following market shares: App Store 17%, Android 25%, Nokia Ovi 50% and BlackBerry 8%.

App Download Sources in GCC Countries

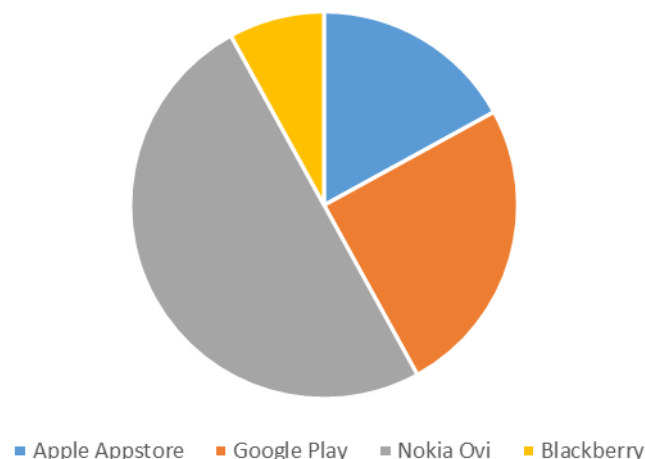


Figure 46 App Download Sources

### Gaming

Closely related to Mobile applications, the gaming industry is evaluated to be worth \$750 million in GCC countries. About \$600 million of this being console sales, the game applications market stands at \$150 million. The industry is expectedly dominated by big game companies and console based applications. Applications which can be played together and are good clean family fun such as Wii and Kinect have proved particularly popular. However, like in mobile applications, the segment of local or localized games is clearly underserved

### E-Banking & Mobile Finance

E- Commerce platforms, online banking and mobile finance are growing at a decent pace in the GCC countries. Though the availability of local services is far behind most Western countries. e.g., online shops in UAE which accepts payments in local currency have entered the market only by 2009 and are limited in numbers. The number of people who use the internet to shop online regularly in the GCC region which leads the pack in region.

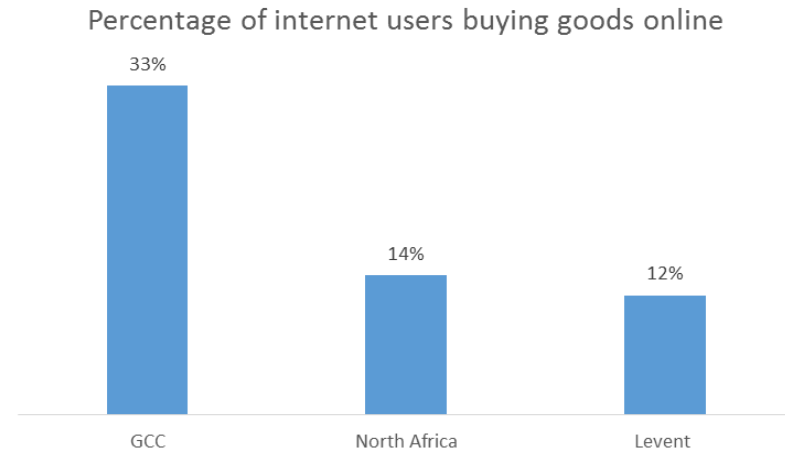


Figure 47 Percentage of regular Internet Shoppers

Major hindrance in the growth of these websites is lack of regulation regarding online financial transaction and IT security concerns. These issues have been increasingly resolved recently and solutions for both segments are on demand. E-commerce transactions are growing at the pace of roughly 15% a year driven by countries such as Saudi Arabia and UAE. The business is driven by online shopping, e-tickets and downloads. The total value of mobile transactions was \$3.17 billion in 2010 in Emirates alone. The region has also significant numbers of expat workers, ranging from about 51% of the workforce in Kuwait to 87% in UAE, who send regularly money to their home countries. According to IMF, the GCC countries rank in top five of world's regions in remittances.

#### Corporate Solutions (ERP/CRM etc.)

Corporate Solutions is diverse area with wide range of applications, services and integrated approaches. The sector offers large number of opportunities for companies to work either directly with end customers, to find a distributor or make partnership with an established integrated solutions provider in the region.

Industries such as oil, construction, energy, shipping and offshore, as well as derived industries such as transportation, accommodation, warehousing, power grids and telecommunications infrastructure are economical engines of the region and do have a demand for sector specific hardware and software solutions. Countries such as Saudi Arabia, Qatar and Bahrain have nascent manufacturing industries and need technical and process capabilities to further develop their sectors.

In countries such as UAE retail, banking, professional services and hospitality are growing fast creating needs for related corporate solutions.

We believe that companies who develop applications or integration approaches with technologies such as Cisco, Oracle, Cognos, SAP, and Microsoft Dynamics etc. can find attractive opportunities working with local integrators or might consider establishing themselves in the region.

Databases, CRM, POS and ERP are not yet fully implemented by the majority of local companies. The demand in corporate solutions can outpace the rest of the world fuelled by both market growth and drive to modernize. Yet, we have to also keep in mind that many local companies are still family owned having high reluctance for change, both in management, operational and IT sense.

But, in general we believe that, a company with vertical software or hardware solution can find significant business opportunities by working with local customers directly or through distributors.

### **Country Highlights**

#### **Kingdom of Saudi Arabia**

Saudi ICT market has seen significant growth during the past decade .This growth is mainly due to the liberalization of the ICT market in Saudi Arabia. Saudi Arabia has been experiencing rapid adoption of new technologies with huge potential in VAS, online gaming, and e-commerce. The Kingdom has become one of the fastest growing IT markets in the Middle Eastern region and accounted for almost 35 Billion US Dollars<sup>25</sup> in 2012

Saudi government have implemented many eGovernment projects like e-government portal, e-government network, public key infrastructure (PKI), e-government interoperability framework, national smart ID cards, e- Payment gateway (Sadad), e-Tax system, social insurance system, and electronic information exchange.

As per a study conducted by the Communications and Information Technology Commission of Saudi Arabia in 2010, the ICT outsourcing market alone is worth 7.5 Billion US Dollar<sup>26</sup>.

Some opportunities in the country are Internet banking and e-Commerce, Corporate Solutions, ERP and Mobile Applications & Finance.

#### **United Arab Emirates**

The major drivers for UAE ICT market include local and federal government initiatives and development of the non-oil sectors, which include real estate and tourism. These drivers have prevented stagnation of the UAE ICT market even in the economic downturn. The total size of the UAE ICT market is expected to grow from US \$ 3.2 billion in 2009 to approaching US \$ 4.7 billion in 2013.

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<sup>25</sup> <http://www.arabnews.com/entrepreneurs-look-share-35-bn-ict-market>

<sup>26</sup> <http://www.citc.gov.sa/English/Reportsandstudies/Studies/Documents/PL-PM-015-E-The%20State%20of%20ICT%20Market%20Development%20in%20Saudi%20Arabia.pdf>

The ICT market growth can also be attributed to many business reforms and development. The most important of these developments is the establishment of Dubai Internet City project costing US \$1.3 billion. The government has also been encouraging the development of 'smart cities' and is also driving online government services provision to over 90% of services provided. The increasing popularity of e-commerce and e-government has increased awareness regarding the value of internet use. This would also help boost the home PC market.

ICT has also been embraced by local governments in the UAE. A proposed law makes IT a compulsory subject in the school level. The government is also encouraging Research and Development (R&D) and hardware production. It is expected that foreign ownership rules for the hi-tech, R&D and knowledge based industries, among other sectors, could be liberalized. Investment in knowledge based industries could increase with the liberalization of foreign ownership rules.

The federal UAE strategic plan calls for strengthening of e-government services. This plan provides the framework for implementation of federal e-government programs. For example, in a recent initiative, the UAE's Ministry of Justice has recently introduced new software to streamline judicial processes. In April 2009, the UAE Ministry of Education announced an allocation of AED 79 million for 2009, for an initiative to provide computers and internet to state schools. Another important area for federal IT spending will be healthcare. The Wareed healthcare IT initiative aims to establish a fully integrated electronic platform which links 13 state run hospitals and 67 affiliated clinics across the country. UAE local governments are also playing an important role and account for 20% of all IT services spending.

The UAE is also an important hub in the region for financial institutions. Mobile banking, ecommerce and Islamic banking is growing at a steady pace and provides avenues for IT Companies to gain business in the region.

Some opportunities in the country are Internet banking and e-Commerce, e-Governance, Corporate Solutions, ERP and Mobile Applications & Finance.

UAE is a country which has lesser travel restriction for Palestinians and is a high potential market for Palestinian ICT firms. However UAE is highly competitive market with presence of established large IT Vendors .It would be difficult for Palestinian firms to penetrate this market in the short term

## **Qatar**



Qatar's ICT market is forecasted to be one of the fastest growing in the GCC region till 2017. The market is supported by one of the highest levels of GDP per capita globally - and boosted by a strong domestic macroeconomic outlook. Meanwhile, the IT market has benefited greatly from government policy under ictQATAR's ICT-2015 strategy that is providing a platform for growth across the IT market. The Qatari government has plans to invest QAR 6bn (US\$1.6bn) on ICT as part of its ICT-2015 strategy. The ambitious government investments in network infrastructure, as well as e-government and the promotion of smart systems and modernization of enterprises will see growth not only in traditional applications but also innovative IT systems and infrastructure. The decision to award Qatar the 2022 FIFA World Cup is likely to support investments for several years beyond 2017.

Flagship smart city project of Lusail represents the government's willingness to invest on a large scale in leading IT hardware, software and services to integrate urban management systems - offering large opportunities to a whole range of IT and telecom enterprises. The government's investment drive as part of the diversification away from hydrocarbons has however had a wider impact for instance in the growth of the financial, shipping, transport and tourism sectors - all of which contribute to growth in the IT market.

Qatari government is planning to build digital networks, smart cities, etc. as part of the ICT plan. ICT guiding body, ictQATAR, has several priority policy areas, including telecom liberalization, online government, eLearning, e-health, and small and medium-sized enterprises (SMEs). Government targets to increase utilization of ICT by SMEs. The government is also implementing a major IT initiative in the healthcare area.

Lower penetration of technology in businesses currently presents an opportunity for Palestinian firms to implement technology solutions to improve businesses which are having funding for ICT spends due to government push in that area and in the run up to 2022 world cup there would be further more ICT investments.

## **Bahrain**

The Kingdom of Bahrain in the late 1940s was the first country in the region to install a mainframe computer, the IBM 1401 model, at Bahrain Petroleum Company (Bapco) in 1962. Bahrain's first telecommunications link to the rest of the world dates back to 1864, when Bahrain was the first country in the region to be connected to the Indo-European undersea telegraphic cable. "Bahrain is the only country in the GCC to have ratified a Free Trade Agreement with the United States of America which

facilitates the exchange of technology expertise. The possibilities for long-term opportunities in outsourcing for Bahrain in niche areas of software development are rich.

The Bahrain ICT market is expected to grow and is being driven by the high demand for IT products and services from both the public and private sectors. The growing need for robust IT solutions is also being driven by massive eGovernment, eCommerce and banking sector technology modernization initiatives, which are aimed at achieving economic diversification.

In June 2010, Bahrain became one of only three countries to receive a UN e-Government special award for making significant progress in improving its e-service and strengthening its service delivery through e-participation.

This small but affluent kingdom in GCC present opportunities in eGovernment, eCommerce and corporate solutions space

### **Kuwait**

In its latest annual Global Information Technology Report, the World Economic Forum (WEF) ranked Kuwait 62nd out of 142 countries on its IT networked readiness index, which grades economies on their IT usage, acceptance and efficiency. Most of Kuwait's neighbors fared better in the rankings, with Bahrain, Qatar, the UAE, Saudi Arabia and Oman all featuring in the top 40.

By contrast, though ranked below its neighbors, Kuwait was the only significant mover in the WEF's latest survey, climbing 13 places. In its 2011 report, the WEF singled out Kuwait as being the only high-income economy that did not feature in the top half of the global rankings.

Though Kuwait's ascension through the ranks still leaves it in the middle of the pack, its IT position is moving in the right direction, and its jump was one of the most significant among any of the countries assessed.

The WEF attributed this marked improvement to a number of factors, including an improved political and regulatory environment and higher levels of individual and business usage. However, the report also highlighted the necessity for Kuwait to further bolster legislation relating to IT and to expand broadband reach.

The report also projected that hardware sales would hit \$430m in 2013, a 9% increase, with software sales climbing by a similar rate to \$277m, up from the \$254m posted last year. Private, state and

corporate sales should see a solid increase, the report said, as the Kuwaiti economy regained momentum following the global economic downturn.

With huge thrust from government there are opportunities galore for Palestinian ICT firms

## **Oman**

The Sultanate of Oman organized its digital strategy through the eOman initiative that aims to significant improvement in the quality of services the government provides to the Omani citizens. Digital literacy program of the government of Oman targets training all civil services employees and also setting up 25 IT Knowledge Community Centers which presents huge opportunity to be targeted by IT training institutions from Palestinian Territories.

Government of Sultanate of Oman is setting up a unified e-Government architecture including IT infrastructure, applications and shareable databases of services and public information; Enabling customer-centric e-Government services for both individuals and businesses and streamlining them within the common IT infrastructure.

The opportunities for Palestinian firms exist in the eGovernance and IT Training areas

## **Issues and Challenges in GCC Countries**

Huge investments and rapidly developing markets aside, the region has its caveats to which companies should prepare with careful planning and research. The market segments of bulk services, infrastructure and enterprise solutions are already dominated by global incumbents (such as Fujitsu- Siemens, Microsoft, Cisco etc.) and emerging Indian companies (such as Wipro, TATA consulting etc.). Companies should do careful research about suitable partners and viability of their product or service for the market.

Social networking platforms, mobile technologies and applications are a red hot trend in Middle East. However, the cultural function and role of social networking is still evolving and sometimes can lead to conflicts of interests as was the case of the recent threat to ban Blackberry messaging services in some of the GCC countries. The proposed ban was later called off and BlackBerry has announced big deals with government customers shortly afterwards.

The biggest market potential in the region is in Saudi Arabia and UAE. A right to establish 100% foreign owned business in Emirates is limited to free zones. Free zone procedure is quite straightforward and makes starting a business both cost effective and easy. The best free zone in the region, Dubai Internet City vets applicants beforehand and accepts only companies for strategically important sectors. Other emirates such as Sharjah, Ajman, Ras al Khaimah and Fujairah have opened their own free zones and sometimes have more flexibility and financial incentives for companies interested in setting up in the country.

Saudi Arabia companies have shown willingness to spend on IT, however, the only way to establish a company in Saudi is joint venture with 51% minimum local ownership. This caveat creates may create issues for companies looking to establish shop in Saudi Arabia. Most businesses probably would consider finding a distributor to work for them in the Kingdom.

### **Market Potential for Palestinian ICT Firms in GCC Countries**

There are various reasons why Palestinian ICT companies should consider targeting GCC countries as their potential market. At first, the region is investing a lot of money in ICT mainly due to the Governments' initiative to create a knowledge economy and the demand of ICT goods and services will outpace the rest of the world for coming many years.

Secondly, the ICT markets in the region are not yet mature and provide opportunities for growing companies to gain market share and develop their business without weight of legacy technologies. Most countries in the region are promoting business friendly atmosphere and drive to build high quality IT infrastructure and advanced solutions in industry and consumer sectors.

Thirdly, the region is maturing into a hub of transport, services, finance, trade and tourism in a new world order, and the affluence due to the Petroleum related revenue stream also brings in the propensity to spend money on ICT.

This progress can benefit Palestinian ICT businesses in at least two ways: Opportunities to get increased revenues from the GCC region and also to make regional strategic partnerships with companies from GCC region which can lead to wider international or global business opportunity

Another reason why Palestinian ICT firms should target these markets is the lack of the local skillset availability. This presents a situations where local companies would either look to hire expatriates (costly option) or to offshore their business which is a cost effective solution most of the time

Palestinian ICT firms need to develop sales channels and collaborate with international and local companies in the GCC region in order to gain business share of this growing region. However even within this market certain section would be difficult to penetrate owing to the presence of more mature and bigger global companies. Such companies have cemented their position in the markets like UAE, Qatar and KSA.

Based on the penetrability of the market segments, as per the ferocity of the well-established competition for the Palestinian ICT industry in the GCC countries, they have been classified in the table below as High, Medium and Low. Where “High” means penetrable in short term with relatively lesser effort and “Low” means the market has very high competition from well-established international players and thus would be difficult to penetrate for Palestinian ICT firms in short term.

In such market Palestinian ICT companies should target subcontracting and offshoring of work which would be easier than trying to establish sales channels and compete with the giants of the IT world. On the other hand the in the markets with “High” potential Palestinian ICT firms should try to establish direct sales channel.

	Mobile Application	Mobile Payments	E-Commerce	Corporate Solution
Kingdom of Saudi Arabia	High	Low	Medium	Medium
United Arab Emirates	High	Low	Medium	Medium
Dawlat Qatar	High	Low	Medium	Medium
State of Kuwait	High	Low	Medium	Medium
Sultanate of Oman	High	Low	Medium	Medium
Kingdom of Bahrain	High	Low	Medium	Medium

Palestinian companies can target mobile applications in the GCC countries via Apple App Store and Google Playstore. The mobile payments market would be difficult to penetrate in the short term due to the competition from established companies and security perception issues with Palestine. Though the high end market segment have fierce competition the middle to low market segments would be easier to penetrate in short to medium term.

Another model of cooperation to market access is to develop joint ventures and partnerships with major outsourcing companies in India, or multinational companies in order to deploy solutions such as Oracle, SAP, etc. in these countries whereby Palestinian vendors upgrade their staff skills to become certified

consultants and the companies as certified partners for such solutions.

#### *Palestine Value Proposition for the MENA Market and Focus Areas*

With the infrastructure development across sectors being done with help of Aid Organizations and NGOs, Iraq, Afghanistan and Libya will see a flurry of activities from these organization. As the operations of such organization are distributed, the ICT intervention becomes a major enabling tool

Palestinian ICT companies have gained experience and reputation working with these types of organizations in their own country. This will be a significant differentiating point from the competition which may not have a similar experience

The other major industry segments which would drive the growth in these Countries are

1. Roads and Building Construction
2. Oil & Petroleum
3. Banking Industry
4. Government ,NGO and Development Agency backed welfare and governance
5. SME Corporates

With lots of Palestinian ICT companies working for government and NGOs as well as working in a conflict zone and as countries such as Iraq, Libya, Syria are coming out of conflicts. Companies from Palestine are well placed to understand the needs of these states and would be better placed to meet them. This along with knowledge of Arabic language which is a common language and good relations with Arabic nations would put Palestinian firms in a good position.

Mobile & E-Commerce solution which Palestinian firms are already exporting to some Gulf countries can be extended to other countries in the MENA region. Apart from this the ERP and CRM solutions especially for the Oil & Petroleum sector would be an exciting opportunity for Palestinian ICT firms.

As more and more companies in the richer countries of the region adopt the technology in business and the ICT outsourcing becomes the trend Palestinian firms stand a good chance as they have friendly relations with these countries and they have common language so this would place the Palestinian ICT firms to get the outsourcing deals as they have the lowest cost of operations in the MENA region.

Apart from these Palestinian ICT firms can work with ICT firms from more matured market such as India and help them with Arabic localization and thus help them in capturing the MENA region in a better way.

#### **7.5.3 United States of America & United Kingdom**

As per the latest United States Black Book by IDC total IT spending in United States is going to grow by almost 6% to approximately 474 billion USD. The economy of USA is expected to stabilize in the second half of 2013 which would lead to a moderately strong IT spending growth.

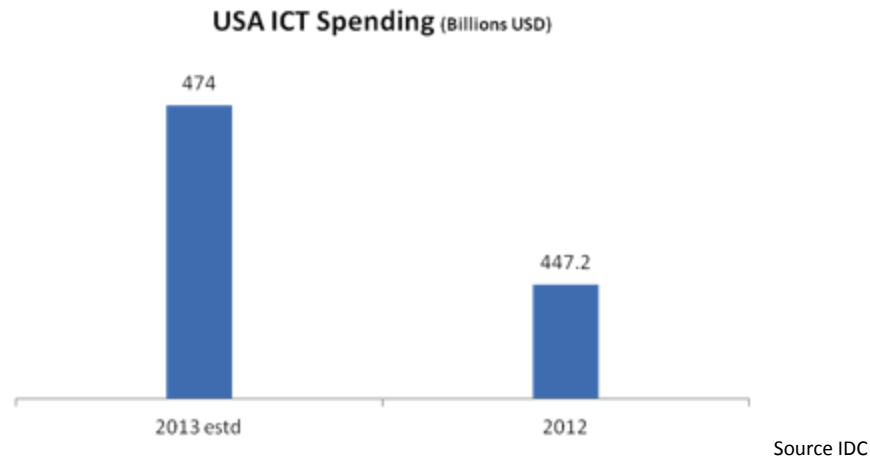


Figure 48 US ICT Spending 2013

United Kingdom is one of the largest ICT market with Europe, with large number of tech –savvy users. UK market has been traditionally been the “Test Bed” for new technologies introduced in the market. UK IT spending was US\$83.6bn in 2012, down 1% from 2011. On the other hand UK BPO market grew by the same proportion.

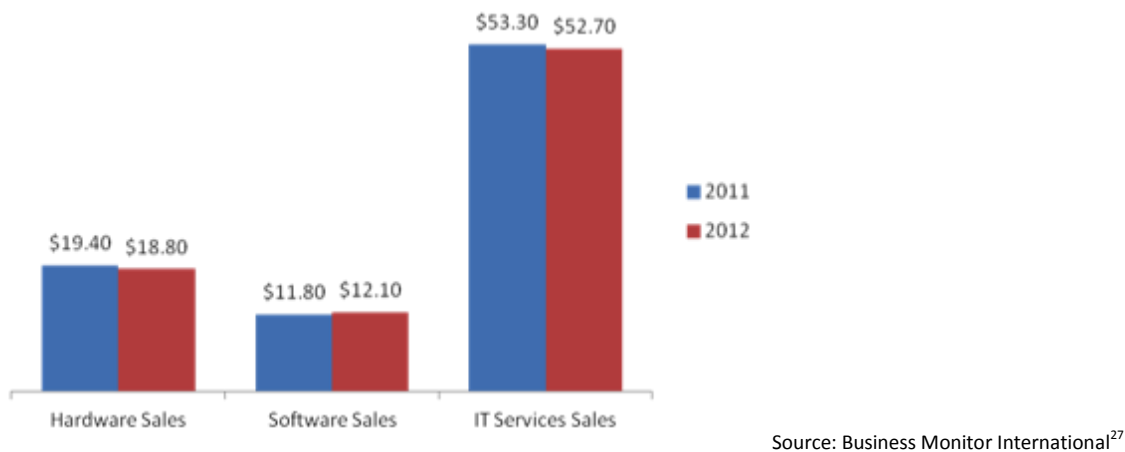


Figure 49 UK IT Spending in Billions

This is primarily driven by the UK government’s austerity measures wherein they have reduced the IT budget significantly and this has led to an uncertainty about the market and businesses are wary to invest money in long term IT assets.

#### *Trends in the market*

As economic crisis in matured markets continues some of the governments are resorting to protectionism and the demand for businesses which are outsourcing to be taxed is becoming shriller. In such environment the businesses would be looking at low cost destination and models to outsource.

<sup>27</sup><http://www.eweek.com/c/a/IT-Management/IT-Spending-Expected-to-Grow-65-Percent-over-Five-Years-Report-162759/>

This would help them to avoid any risk of paying higher taxes for outsourcing, in case such law is passed. They would be typically looking at low level BPO work to be outsourced by this type of model. Microwork provides a way where businesses could outsource their business process at a cost substantially lower than that when outsourcing to a traditional BPO player. At the same time they could see this as a CSR activity as Microwork would help them to generate employment in the developing world.

### *Palestinian Opportunity for USA & UK Microwork*

As per Avasant's research, looking at the skill set, process maturity and other regulations we recommend that Palestinian ICT companies should approach the USA & UK markets through Microwork to start with.

As per a research sponsored by World Bank globally the Microworks market size is estimated to be almost 311 million USD. It employs almost 997,250 workers. This estimate is minuscule when compared to the global BPO industry (excluding voice-based/call center services), which is estimated to reach \$70 billion to \$73 billion by 2016 (BPAP, 2010).

There are growing number of service aggregators in the market including private sector players such as AMT, CloudFactory, MobileWorks and CrowdFlower, and developmental players such as Samasource. Awareness about the potential of Microwork to bring development in poor part of the world is increasing. This shows in the project sponsored by UKAid and taken up by Infodev and Nokia. The project was to collect ideas for promoting usage of mobile for the Microwork and was aptly named m2Work Challenge

## **Major Service Aggregators**

### **1. AMT (Amazon Mechanical Turk)**

This emerged from the cloud platform of Amazon and is one of the popular service aggregator in the world with almost 500,000 micro workers in 190 countries. Mechanical Turk web service enables companies to access its marketplace and a diverse, on-demand workforce; then

The program integrates the results of micro tasks called Human Intelligence Tasks (HIT) directly into their business processes and systems. AMT has been compared to mass production whereby workers are subject to low wages.

### **2. Cloud Factory**

Cloud Factory currently connects over 500,000 microworkers from bottom of pyramids to the job opportunities. They have microworkers from countries such as Algeria, India, Nepal, Nigeria, The Philippines, and Saudi Arabia. Cloud Factory collaborates with Kiva Microfunds to provide microloans to microworkers to purchase the tools needed to complete the task at hand. Cloud Factory does many types of task such as Data Entry, Data Processing, Data Collection and Data Categorization. Its approach in organizing microworkers is based on the microfinance model of Grameen Bank

### **3. Cloud Flower**



Cloud flower claims to have 2.5 million microworkers and providing 60% savings to enterprises as compare to traditional outsourcing model. It received 5 million USD from venture capital funds Bessemer Ventures and Trinity Ventures and another 1.2 million USD from angel investors in the height of recession. While the 50% of the work was done by online gaming channels(Payment in Virtual Money) such as Farmville and Restaurant City another 40% was completed by small outsourcing companies(payment in cash) , another 10% were being completed by other microworkers where payment was done in rewards and coupons .

#### **4. Mobile Works**

MobileWorks has registered microworkers from 24 countries including USA, India, Ghana, Lithuania, Pakistan and The Philippines and is interested to expand to the Middle East and North Africa region. It started off as a Microwork aggregation platform and now is a delivery platform especially suited for developing countries. It adopted the AMT platform and made it available in mobile platform but it did not deliver the financial results Mobile Works hoped for, so they developed a completely new platform accessible from both, Computers and Mobile. In its new role, Mobile Works automatically assigns tasks to its microworkers based on their skills, and tasks are typically standardized around few areas such as Digitization (character recognition, data entry), fact finding, and online research. Through its new business model, there is limited risk for nonpayment as workers earn a flat hourly wage. Through the platform MobileWorks monitors the time it takes each worker to complete a task. Mobile Works uses PayPal and bank accounts to distribute payment to the microworkers.

#### **5. Samasource**

Samasource is a nonprofit company that connects people living in poverty to Microwork via the Internet. It provides content moderation, data entry, and other outsourcing services to clients including LinkedIn, Intuit, and the United States Department of State. Samasource provides Microwork in the areas of:

- Content Generation
- Data Enrichment
- Transcription Service

Samasource's San Francisco-based sales and delivery teams work with clients to move large data projects to a proprietary online work distribution system. Samasource's platform which interacts with both sides of the supply chain managing the separate relationships with customers and delivery centers. It operates 16 centers worldwide; ranging from Haiti to East, West, and Southern Africa, India, and Pakistan (there are currently no delivery centers in the Middle East and North Africa). Between 2009 and 2010, the Samasource experienced 400 percent in earned income, with a 10-fold increase in revenue to over \$2 million in 2010.

### **7.6 TARGET EXPORT MARKETS**

Based on the survey responses, face to face interviews and the secondary research conducted by Avasant, we could zero in on three geographies, 6 verticals. These verticals and geographies are the markets where as per the data presented Avasant sees Palestinian firms' potential to penetrate them.

The three geographies are

1. US & UK
2. MENA Region
3. Sub Saharan Africa – East Africa and West Africa

The same is depicted in the opportunity matrix in the Table below. The amber block represents the segment within the corresponding geography and vertical where Palestinian firms could penetrate the market in medium term, on the other hand Green represent short term. These time spans are based on the market conditions in those geographies and strengths and weaknesses of Palestinian ICT Industry.

Verticals	Geographies				
	East Africa	West Africa	MENA	Iraq & Afghanistan	USA & UK
Banking	Mobile Remittances				
	Mobile Payments(Retail)				
	Islamic Banking				
	Customer Care				
NGO & Development Agencies	Enterprise Applications				
	Accounting Software				
	HR, Finance & Accounting				
Health Care	Telemedicine				
	Accounting Services				
Oil & Gas	Enterprise Applications				
	Enterprise Applications				
	Finance & Accounting				
Road Construction	Enterprise Applications				
	Finance & Accounting				
	Accounting Software				
Others	Arabic Translation				
	Finance & Accounting				
	General BPO				
	IT Projects				
Approach	Direct Marketing	Direct Marketing	Direct Marketing	Direct Marketing	Microwork
	Partnerships	Partnerships	Partnerships	Partnerships	
	Subcontracting for Indian, Egyptians and Jordanian Companies	Subcontracting for Indian, Egyptians and Jordanian Companies	Subcontracting for Indian Companies	Subcontracting for Indian, Egyptians and Jordanian Companies	

Source: Avasant Research

Table 18 Opportunity Matrix

These opportunities, identified as segments in a vertical in a particular geographical area, are explained further in the section below.

### 7.6.1 Banking Sector

BFSI Sector is one of the biggest consumers of the ICT worldwide. They spent almost 40% of the total global ICT spending world with of 1.9 trillion USD. Banking is very critical for the growth of the world economy as the industry serves as the source of fund for the economy to grow.

But the major issue is that almost half of the world population over the age 15 years does not have access to a bank account. As per World Bank just 50.5% of individuals world over have at least have one account (both deposit and loans) with any formal financial institution.

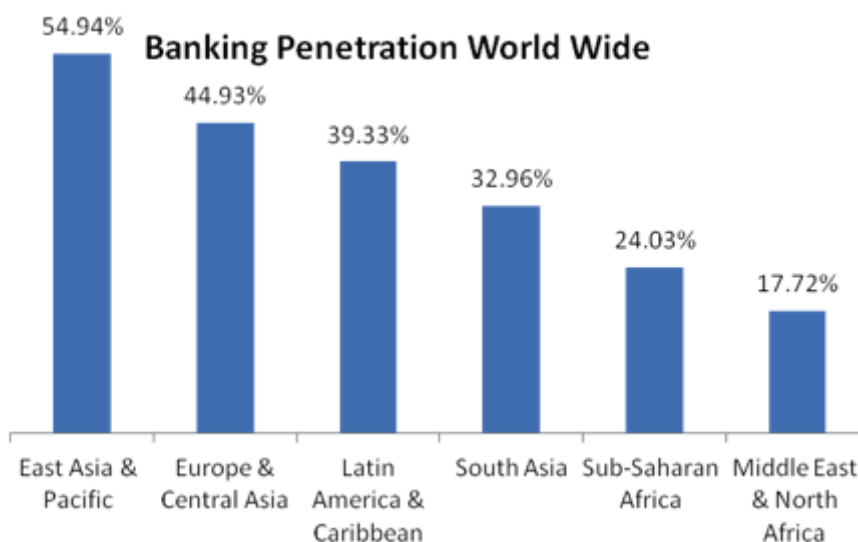


Figure 50 Banking Penetration

Source World Bank

The countries in the region of MENA and Sub-Saharan Africa have very low access to banking. Both these region combined are home to around 1.75 billion people, i.e. 25% of the world population. Most of these people come from the lower income group. It is argued that as banking services are in the nature of public good; the availability of banking and payment services to the entire population without discrimination is the prime objective of this public policy. The term "financial inclusion" has gained importance since the early 2000s, and is a result of findings about financial exclusion and its direct correlation to poverty.

### Mobile Banking

Worldwide the developmental agencies are looking at innovative ways to increase the access to banks for bottom of the pyramid. Mobile devices have helped a lot in aiding this objective especially in lower income countries in the region. The mobile penetration in the region is substantially high and usage of mobile for banking specially remittances and mobile payments is catching up and thus helping to increase the penetration of financial access

The mobile payments in the region has been growing rapidly since 2008

### Total Mobile Payment in Billion USDs

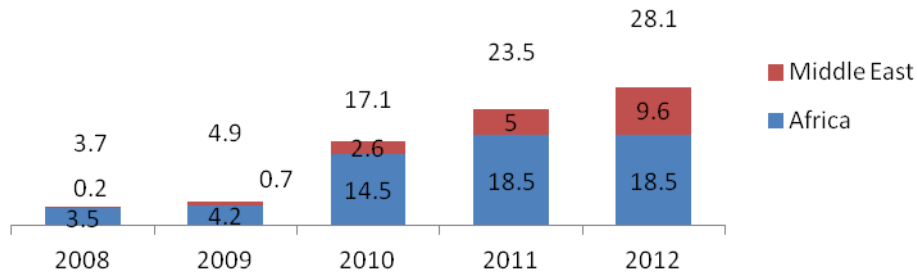


Figure 51 Mobile Payments Transaction Value

Source Grail Research

### Mobile Payment Split by Segment

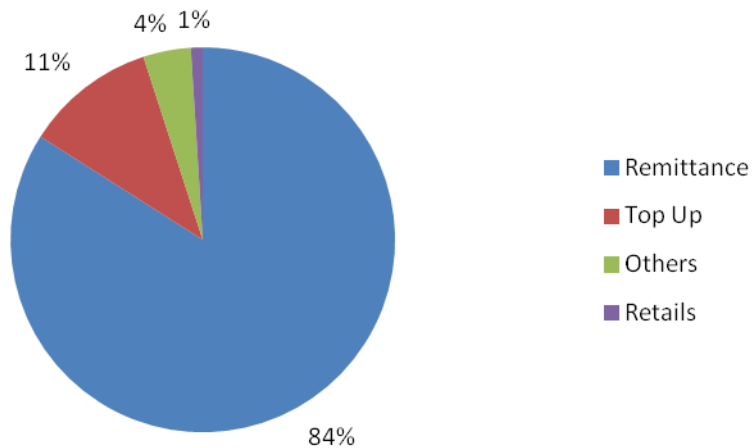


Figure 52 Mobile Payments Segment Wise Split

Source Grail Research

The growth of Mobile Payments is almost 66% in Middle East and Africa combined and mobile remittance be the biggest chunk with total transaction value to be around 23.6 Billion USD

### Mobile Financial Transaction MENA (in Billions)

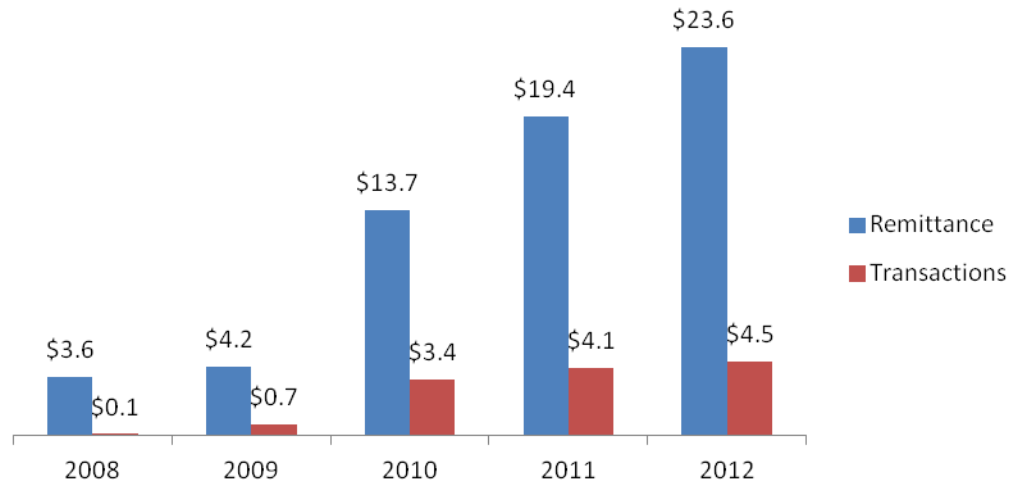


Figure 53 Mobile Transaction Values

Source Grail Research

Mobile transactions also grew to value of 4.5 billion USD. The major chunk of the mobile transaction was in mobile top up followed by retail

### Mobile Payment Transactions Middle East & Africa

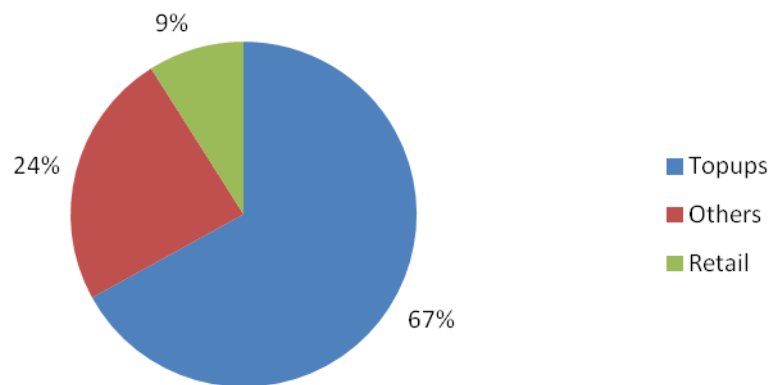
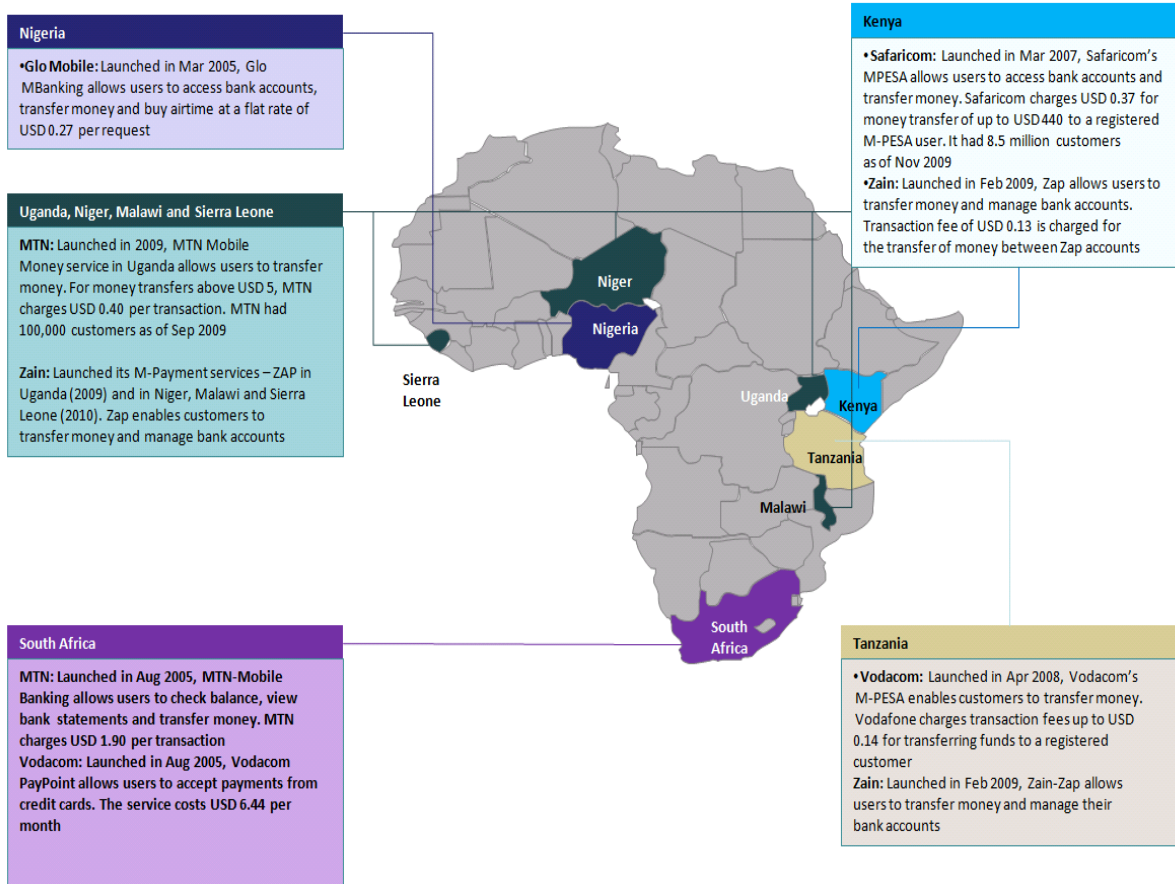


Figure 54 Mobile Payment Transactions

Source Grail Research

There are many a success stories in Africa where mobile has been used for financial transactions especially in Easter Africa and the model is to be adopted in other parts of Africa and also Middle East. Some of the success stories are depicted in the map below



Source Grail Research

Figure 55 MENA M-Finance Success Stories

As we found in the supply side survey that many Palestinian ICT firms are into mobile development including financial applications, this segment could be a focus area for Palestinian ICT firms in the markets in West and East Africa where English is the business language and also in the Middle East and North Africa region where Palestine is based in the short term.

### Islamic Banking

Other reason of people not looking to have a traditional bank account in the region specially West Africa and MENA region is that the majority of the people in these geography are followers of Islam and as per the Sharia the holy law , earning and paying interest is *Haram* or prohibited.

Islamic banking is banking or banking activity that is consistent with the principles of sharia and its practical application through the development of Islamic economics. Sharia prohibits the fixed or floating payment or acceptance of specific interest or fees for loans of money. Investing in businesses that provide goods or services considered contrary to Islamic principles is also Haram. In the late 20th century were a number of Islamic banks formed to apply these principles to private or semi-private commercial institutions within the Muslim community and thus helped in increasing the financial inclusion.

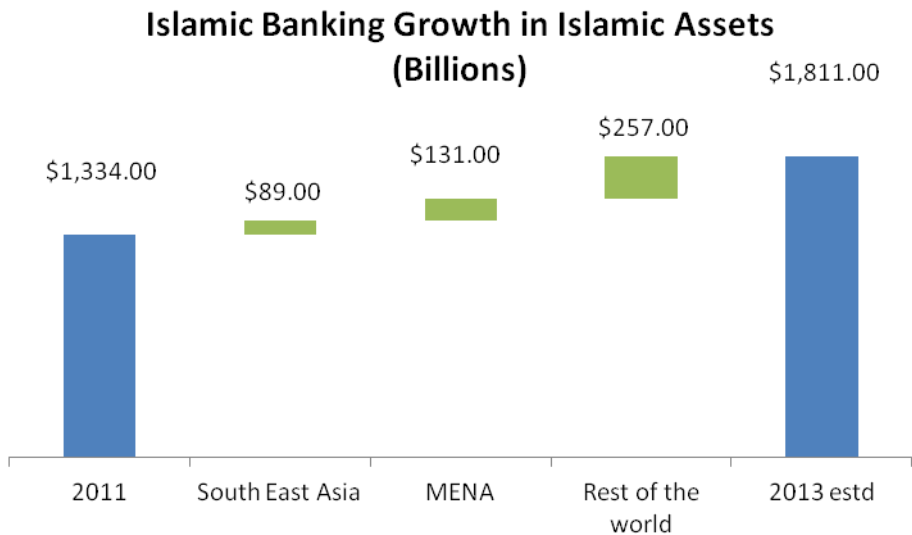


Figure 56 Islamic Banking Growth of Assets

Source Ernst & Young

One potential scenario shows global Islamic banking assets with commercial banks to reach \$1.8 trillion in 2013 (2011: \$1.3 trillion), representing average annual growth of 17%.



Size of circles denote the size of Islamic banking assets in 2011

Source Grail Research

**Figure 57 Banking asset penetration (% of Nominal GDP) and Islamic banking market share of total assets (%) in 2011**

Islamic banking growth outlook continues to be positive, growing 50% faster than overall banking sector in several core markets. In Saudi Arabia, market share of Islamic banking assets is now almost 50%.

As the Islamic Banking is becoming popular in Middle East & North Africa where most of the Muslims live, it provides a huge opportunity for IT implementations in the banking process. Western Africa has the highest concentration of Muslim outside of MENA region and the Islamic bank is also gaining popularity.

Already countries in Western Africa such as Nigeria, Senegal, Ghana and Niger have started opening their doors to Islamic finance. Though, the region is poor such as most of Africa, the Islamic banking system and the region need each other for mutual benefits; Islamic banks will help accelerate the region economic growth and development, and help reduce inequality and poverty. While the region will provide the Islamic banking system with new growth area with its population of over 300 million people.

Today like with any typical banking process, Islamic Banking is also heavily dependent on IT industry. Though for Palestinian market the Islamic banking in West Africa and MENA region should be a medium term focus market. Apart from this the Afghanistan is a market which Palestinian ICT firms should target in the long term as the Islamic Banking sector matures in the Country. These markets throw up a possible collaboration opportunity with well-established firms from countries such as India. This would be mutually beneficial as Indian firms would access to low cost native Arabic workforce and Palestinian firms would get opportunity to gain experience by working with firms from a matured market.

Within the MENA region the Palestinian BPO firms should target the Banking and Financial Services Company for processes such as Customer Care and Finance and Accounting processes. Palestinian has a



highly educated bilingual work force who could communicate in English and Arabic .This should be the short term focus area for Palestinian firms as in the region only Jordan has similar workforce who has a similar language skills and highly educated workforce and has a competitive advantages. The long term focus market for the BPO organizations should be to gain experience in the regional market and focus on more mature markets such as USA & UK ,especially the Finance and Accounting for the Banking and Financial services market

#### 7.6.2 Health Care

The Sub-Sahara countries are considered extremely rural with little or no power generation to the sparse communities, making health care a luxury often unheard of or not even thought about. Much of the culture is steeped in ancient rituals and tradition and is non-believers in modern medicine and general health care. Of course the larger the settlement the better the chances of receiving any health care at all are but generally it is not something which people seek out for them.

There are only 2.5 Healthcare workers for every 1000 people in the region Aside from the fact the region lives in extreme poverty, one of the bigger problems is educating, training and most importantly retaining doctors to practice in the areas in need. Africa carries 24% of the world's burden of disease, and is served by only 3% of the world's health workers, who have access to 1% of global health expenditure. Its population continues to grow rapidly and is expected to nearly double by 2050

Telemedicine is a very potent force in Africa. It can provide health care to population living in most remote location. All they need is a simple cellular link. This helps to avoid long journey, some people need to take, sometimes on foot, just to reach a medical health center. This also enables scarce number specialist to support academic institutions to train new doctors.

Telemedicine holds great promise for Africa. It can provide rural health care in the most remote areas. All that is needed is a satellite or cellular communication link. This will reduce the long journeys that people need to undertake, sometimes up to days on foot, to get to the nearest health care service point, such as a clinic. Telemedicine also increases access to scarce medical specialists in bigger centers and academic institutions.

The Palestinian ICT industry which already has many mobile development companies as came out from the supply side survey has a low cost of operations. This suits the African healthcare as they have meager budgets and simple software for mobile which could be as simple as an SMS reminder system for HIV+ patients to take medicine or a pregnant lady to speak to her mentor mother who is helping her to have a healthy lifestyle in her gestation period.

Apart from this the Accounting software for healthcare organization in Sub Saharan Africa could be a possible short term target for Palestinian ICT firms. With Arabic localization they could also target Healthcare organizations in MENA region.

In the long term, as the Palestinian ICT industry and African and Middle East healthcare organization mature, the target segment for ICT companies could be Enterprise Management Products for Healthcare .These could include packages such as CRM, ERP, SCM products

### 7.6.3 NGO & Development Agencies

Although the humanitarian sector has lagged behind other industries in adopting technology, NGOs are increasingly becoming more sophisticated in their use of technology—particularly wireless technology such as mobile phones—and are openly collaborating with a range of partners.

To promote the expansion of technology and achieve uniformity of technology packages, some larger NGOs have formally joined consortiums such as NetHope. This type of organizing allows groups to pool resources and coordinate requirements in hopes of saving costs and maximizing benefits. Other NGOs are engaging in variety of partnerships with the private sector, academia, and other NGOs.

NetHope's mission is to act as a catalyst for collaboration, bringing together the knowledge and power of 38 leading international humanitarian organizations so that the best information communication technology and practices can be used to serve people in the developing world.

Nethope runs five strategic programs

- **Connectivity**

This was the first strategic program of NetHope and initially started by deploying VSAT systems to improve the communication between field and head offices of NGOs in remote parts of the world where either the infrastructure is poor or nonexistent.

NetHope continues the existing communication infrastructure such as (WiMAX, mobile GSM & HSPA data connections) to install low-cost solutions in isolated areas to improve the connectivity and cost of operations in remote areas

- **Field Capacity Building**

The Field Capacity Building initiative began as collaboration with European Central Bank in 2006 to train individuals on telecommunications/satellite technology and IT project management. Since, the NetHope Academy has grown to be the initiative's largest project — set to train 1,000 computer science students in Africa and Latin America in just three years. Each elected student will receive classroom instruction as well as a hands-on IT internship with humanitarian organization. The goal is to prepare students for full-time employment upon graduation as well as address local demand for skilled IT professionals.

NetHope Chapter program aids collaboration between humanitarian organizations through meetings at a regional level, allowing even those NGOs that normally do not qualify for NetHope member to also participate.

## ▪ **Emergency Response**

The Emergency Response initiative aims to enable faster, better-coordinated responses to manmade and natural disasters by our member agencies. Initial assessments enable NetHope members to determine pressing ICT challenges as well as arrange how to best respond to the situation with NetHope member organizations, in the field as well as at headquarters.

The Open Humanitarian Initiative aims to bring together the humanitarian community, the academic community, private sector, the digital volunteer community as well as the donor community around the concept of open data within the humanitarian sector. It also focuses on improving information management capacity within the humanitarian community and national governments in disaster-prone countries.

## ▪ **Shared Services**

The Shared Services initiative provides leverage and economies of scale by sharing the best solutions and services among our membership. Shared Services assists member organizations with their strategic cost management and capacity building by deploying scalable technologies, common processes and standards to reduce back-office spending.

## ▪ **Innovation for Development**

The Innovation for Development initiative began in January 2008 to design replicable and scalable ICT solutions to address challenges found across all development areas.

The goal is to create new, practical scalable technology solutions for pressing problems in healthcare, education, agriculture, conservation and financial programs. Success comes with sharing existing best practices, aggregating common needs, designing solutions, conducting proofs of concept and taking these to scale within the NetHope membership. The Rockefeller Foundation, the Bill & Melinda Gates Foundation and USAID greatly contribute to design, deployment and sustainability of these solutions.

Looking at the initiatives taken by NetHope it is clear that NGO and developmental agencies give high importance to the ICT tools to improve their efficiency and reach for the general good of the society. NGOs need technology that is rugged, reliable, and affordable as they need to operate in harshest of the terrain and in isolation. E.g. High frequency & Very high frequency radios, mobile/satellite phone, laptops which could be repaired and replaced from Afghanistan to Somalia locally.

Apart from the common communication and IT hardware used by NGOs they also use NGO specific software which helps them do activities such as

- census taking
- logistics management
- epidemiology
- information gathering

These along with generic software such as ERP, Accounting Packages and business productivity suits form the common software inventory for NGOs

Palestinian firms have gained significant experience working with NGOs in their own territory and have gain credibility by providing services and products to NGO .In the short term this will be a competitive advantage for the Palestinian firms to gain business from NGOs in the markets in the segments such as Accounting Packages and low cost ERP deployments. This type of services are already being provided by some of the Palestinian players in the Palestinian territory and can be replicated easily in markets such as West and East Africa along with regional MENA market especially in the countries which are in process of nation rebuilding such as Afghanistan , Libya & Iraq.

#### 7.6.4 Infrastructure Sector

Infrastructure is basic physical and organizational structures needed for the operation of a society or enterprise or the services and facilities necessary for an economy to function. It can be generally defined as the set of interconnected structural elements that provide framework supporting an entire structure of development. It is an important term for judging a country or region's development.

The term typically refers to the technical structures that support a society, such as roads, bridges, water supply, sewers, electrical grids, and telecommunications.

Here we would be targeting those components of Infrastructure which have high potential of business for Palestinian ICT firms namely Oil & Gas and Road Construction

## Oil & Gas



Figure 58 ICT Usage in Oil & Gas Value Chain

Source AMR Research

The typical Oil & Gas value chain software usage is depicted in the picture above. About a decade or two ago companies were using piece meal approach by buying separate software for all processes. But now integrated Enterprise Management Tools such as ERP, CRM are available to the consumers.

On the other hand Palestinian BPO organization could target Oil & Gas companies, looking to outsource processes such as Finance & Accounting in the MENA region. They are very well placed as they have one of the lowest cost of operations and qualified work force

### Road Construction

Construction projects involve a large number of direct stakeholders (clients; professional design teams and construction companies), indirect stakeholders (local authority; residents; workers and customers) and suppliers. All these have differing levels of understanding and interests in the project. Thus managing construction projects consists of planning, coordinating and controlling many work processes, that span different stages or phases involving many different participants, each often utilizing different information and communication exchange systems. This makes the construction industry one of the most information-intensive industries, and requires close coordination among a large number of

specialized but interdependent organizations and individuals to achieve the cost, time and quality goals of a construction project. The industry is characterized by inaccurate and untimely communication that often results in costly delays to the progress of the project. Thus one of the most significant problems presently facing the construction industry is communication. ICT is seen by many as a potential solution to this problem. ICT can provide unifying modeling, management and communications systems to bring the unique talents of project participants together in a more productive and integrated manner. Despite advances in computing and IT, the construction industry is making insufficient use of transferring project data and information electronically. On the other hand leading consulting and construction firms are increasingly recognizing computers as a strategic technology, and it is very probable that these firms will be the ones who will ensure the industry's success in the future.

The other areas where we see ICT could help Construction industry is Supply Chain optimization, Document management system, Archival System and ERP. As with Oil & Gas, Road Construction industry is also having low usage of ERP in Africa and MENA region.

This industry is seeing high investments in Africa and Middle East as some of the countries are trying to improve their basic connectivity infrastructure. Countries such as Libya, Afghanistan and Iraq are rebuilding their nation from scratch so more and more construction companies are coming in this region.

Huge potential for growth of construction industry coupled with low penetration of ICT presents a potential target market for Palestinian ICT firm. As discussed the competition in this market is intense and Palestinian firms need to collaborate with players from the matured markets to capture the markets

The Palestinian BPO organization can target road construction companies looking to outsource processes such as Finance & Accounting in the short term

#### 7.6.5 Others

Within the MENA regions Palestinian BPO organizations can target low end outsourcing work such as Data entry, transcription, and Arabic translation taking advantage of large bilingual workforce. They could also target the medium complex outsourced processes such as finance & accounting and B2B collections in the short term

#### 7.6.6 Indian Firms Looking To Expand in Middle East

As pointed out earlier Indian ICT firms are looking to expand into newer markets as growth in their traditional markets slows down. Middle East has a huge market which is yet to be tapped fully by them. One of the important reasons being lack of Arabic language skills. Some of bigger players have started to open up delivery centers in the region and hire locally to overcome this barrier. At the same time many smaller firms which may not be able to afford an office in the region would look for potential partners.

Palestinian firms could be potential partners for such Indian firm for a mutual beneficial relationship

### 7.6.7 Microworks

There is readily available, skilled, and accessible young workforce for Microwork with access to internet and emails. However supporting programs could maximize use of existing facilities such as university centers of excellence, cyber cafés, and relatively pervasive Wi-Fi access in public places. Also the Palestinian ICT sector has lower cost of labor in comparison with competitor countries. Palestinian population has better English speaking skills when compared to the Arabic speaking countries and similar type of skill set is probably available in Jordan only.

Other reason for probable success in Microwork in Palestinian market is that the Palestinian youth and women may be willing to accept a lower hourly wage rate (\$1 to \$2) for such work and work on incentive based plans as per the quality of the output. Microwork is expected to be more feasible in population centers outside Ramallah, largely due to the wage and standard of living differentials that exist.

The Palestinian ICT companies can act as the Microwork intermediaries in order to reduce the business risks of Microwork, this could be done in collaboration with major service aggregators to gain access to the customers

## 7.7 ENGAGEMENT PLAN

Based on the analysis of various opportunities, following is the suggested engagement plan for Palestine ICT sector

Area	Approach	Key Suggested Initiatives
MENA Region	<p>MENA region can be accessed in two ways</p> <ul style="list-style-type: none"> <li>• Direct Marketing</li> <li>• Sub-Contracting</li> </ul> <p>Direct marketing is the best approach but also the toughest to pursue. It takes a longer time. In this approach Palestinian companies are pitted directly against local and regional companies that are larger and more formidable.</p> <p>The ideal way for Palestinian companies is to act as local partners for other larger companies who would find access to the region difficult. Typical in this category would be Indian companies. Indian companies are larger in size and successful and they have challenges in accessing MENA markets as lack of on ground presence leads to lower sales</p>	<ul style="list-style-type: none"> <li>• We suggest a delegation be organized to India. Nasscom and PITA should participate in some of their events. Indian companies need to be educated about Palestinian companies and the skills and resources available and the role they can play.</li> <li>• A consultant can be identified and retained to represent the Palestinian ICT companies' interest in India and that can coordinate and guide PITA to effectively engage Indian ICT firms. Appropriate marketing material should be developed before participating in such events.</li> <li>• Appropriate marketing material should be developed before participating in such events.</li> <li>• PITA can ask some NASSCOM representatives to visit Palestine</li> </ul>

	ratio. This scenario offers ideal fit for Palestinian and Indian firms to explore the market jointly.	and the visit can be covered in their internal publication.
Afghanistan and Iraq	Both these countries are building up. Both have aid agencies and donors pledging redevelopment fund. Palestinian companies have experience of working with aid agencies and donors. Both these countries are still seen as no go areas for western companies providing an ideal untapped opportunity for Palestinian companies.	<ul style="list-style-type: none"> <li>• PITA should conduct visits to these geographies and build a relationship with the government and donor sector of these companies.</li> <li>• Some of the aid work for Iraq may be coordinated in Jordan or elsewhere, so these have to be kept in mind while organizing visits.</li> <li>• The ministries, flush with funds are big spenders on ICT as they believe that ICT is a pillar in their redevelopment. Hence relationship building exercise needs to be conducted with the ministries</li> <li>• The larger Palestinian companies can also consider opening a representative office or hire a local partner to liaison with the target market segments</li> </ul>
Sub Saharan Africa – East and West Africa	<p>Africa is witnessing rapid growth in pockets of their economy. Telecom has filled in partly the gaps in infrastructure that have existed for so long. Economies have evolved around telecom sector. Palestinian companies have rated Mobile related application work as one of the most preferred areas for them. We see this as possible synergy for Palestinian companies to work in these areas.</p> <p>The best possible approach is to participate in the market directly or through local partnerships. Other possible approaches are partnering / subcontracting for Egyptian and Jordanian firms and even Indian companies.</p>	<ul style="list-style-type: none"> <li>• Avasant suggest a delegation be organized to nations in West and East Africa for participating in some of the industry events where Palestinian firms can showcase their capabilities.</li> <li>• Such tours should be used to forge local partnerships. Palestinian companies should try to have local partners as their representatives for accessing the regional market</li> <li>• The other possible approach is to subcontract for Egyptian and Indian firms. Delegations and meetings need to be organized to Egypt and India to convey this message to their respective industry</li> <li>• A consultant needs to be identified and retained that can appropriately guide and effectively coordinate and engage the local industry.</li> </ul>
US and UK	Both of these are the most open markets globally and have immense	<ul style="list-style-type: none"> <li>• Palestinian companies should initiate dialogue with micro work</li> </ul>



opportunities, large and small in almost all niches that Palestinian ICT companies want to target. Being open markets, these can be easily targeted. But then the competition is also extreme.

The alternative approach is to target micro work projects. These are well supported by aid agencies, where Palestinian companies have strong experience, they are easier to get and would require minimal marketing. These pay lower rates but it is an ideal platform to build experience and capability which many Palestinian companies lack in BPO space.

companies, names of a few are mentioned in this report. There are few annual conferences attended by micro work companies. We would strongly recommend participating in such events and connecting with the micro work companies.

- Palestinian companies have been smart to tap the western markets by using online medium extensively. We would recommend continuing the use of online business and social media platforms to enhance the reach. Using Sites such as Elance is recommended for tapping small size IT project work from US and UK markets.

Table 19 Engagement Plan

## Annexure A

### Demand Side Survey Analysis

On analyzing the 30 responses received for the demand side survey we find that Education sector, Development Agencies and Banking Sector respondents comprised almost 73% of respondents. The role and the category of the respondents are depicted in graphs below

**Role of the respondents**

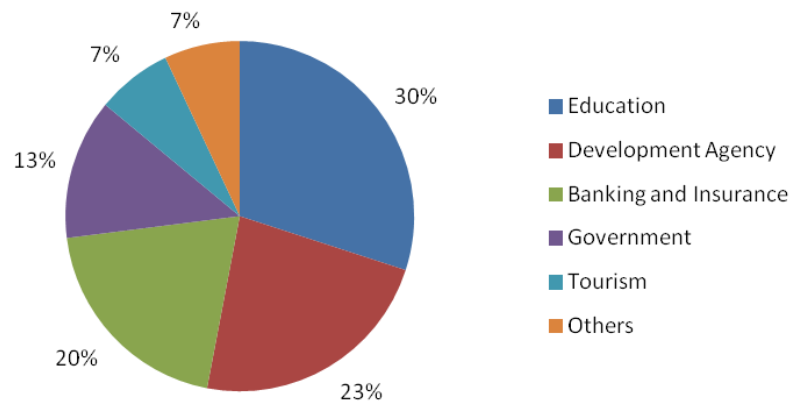


Figure 59 Role of Respondents

**Category of respondents**

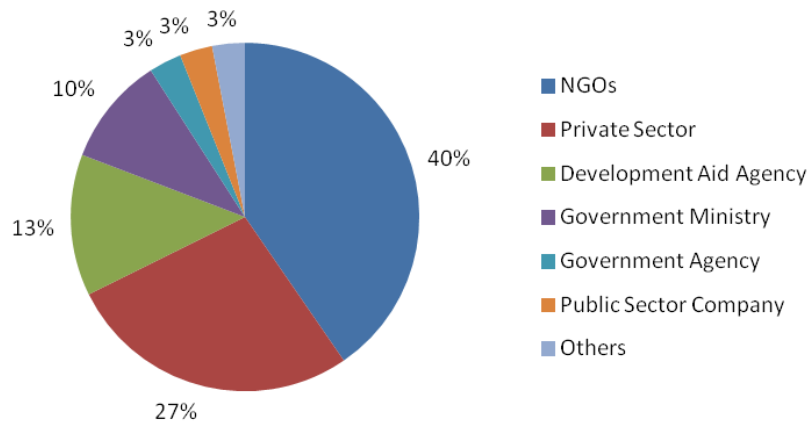


Figure 60 Respondents Categorized

If we look at the category we find that the most number of responses have come in from the NGOs followed by Private sector.

If we look at the service delivery models of respondents depicted in the Tables below, we find the adoption of ICT to facilitate the service delivery is very limited in general and does not permeate well in different economic sectors especially the government agencies. However, the respondents are taking some measures to deliver their services through ICT channels to end-users and businesses.

Service through IT Channels – Corporate			
#	Answer	Response	%
1	No	18	64%
2	Yes	10	36%
Service through IT Channels – Government			
#	Answer	Response	%
1	No	22	79%
2	Yes	6	21%
Service through IT Channels -Common Public			
#	Answer	Response	%
1	No	16	57%
2	Yes	12	43%

Table 20 Service Delivery Channels - Respondents

#### Industry Specific Tools Installed and Procurement Plans

Current industry-specific IT software applications used in the organizations of the respondents and their plans to purchase such IT solutions in the future are listed in Tables and Graphs below

Tourism Industry Specific Applications Installed
Virtual Tours -Mobile Applications
Booking and Reservations
Web Site
Social Media Presence
Tourism Management Application
Restaurant Management System
Hotel Management System

Table 21 Industry Specific Applications Installed - Tourism

We only received one response from the tourism sector where the respondent sees that though they have some tourism related applications already installed they are not planning to buy any more ICT products/Services specific to the Tourism industry in near future

### Government specific applications installed

Numbers represent actual responses

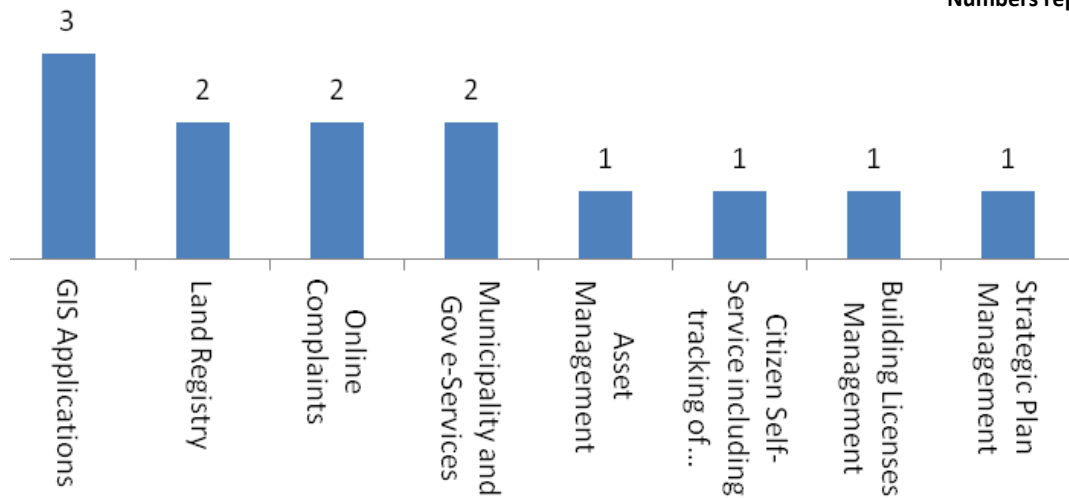


Figure 61 Industry Specific Applications Installed - Government

### Plans to buy government specific applications

Numbers represent actual responses

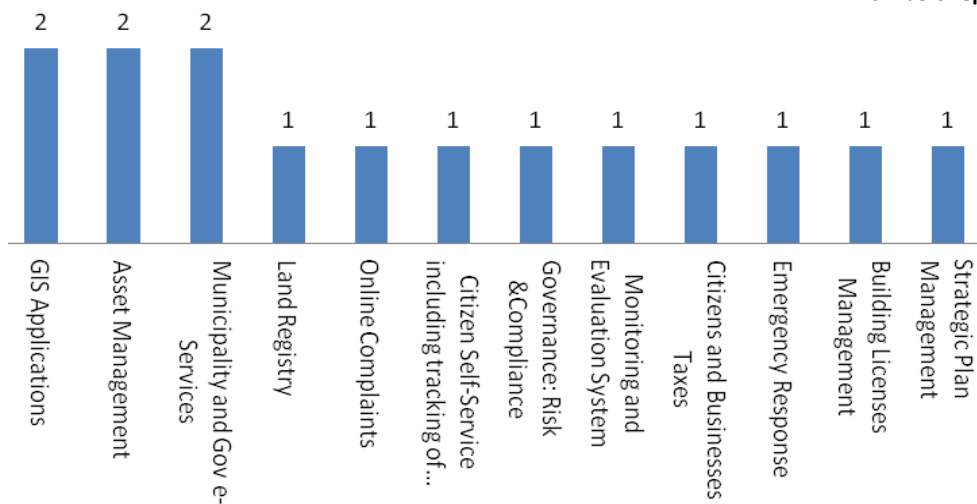


Figure 62 Industry Specific Applications Planned to Procure - Government

Among the respondents from the Government sector were ICT Ministry, Ministry of Education, Municipal government of Ramallah and many other government agencies. GIS applications, public service delivery systems, land registry are some of the area which are already digitized and the PA has invested in the ICT applications for these area.

Government is looking to invest more on the local self-government, asset management, GIS applications in coming few years; the focus of the Government is to enhance the public to Government interface

using the use of ICT. This will generate huge demand for ICT services in coming years and is a promising sector for growth of the Palestinian ICT

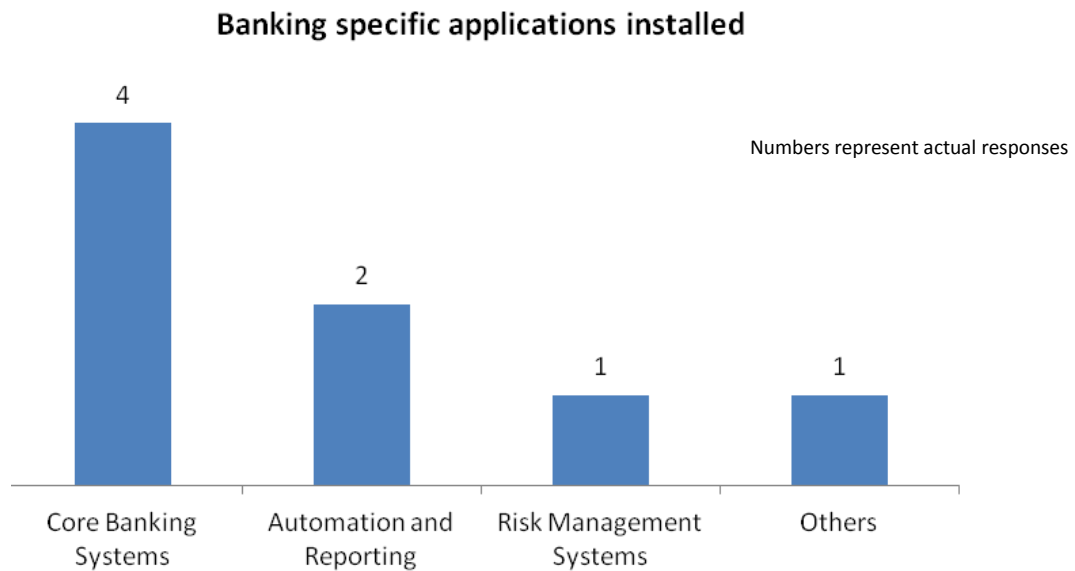


Figure 63 Industry Specific Applications Installed - Banking

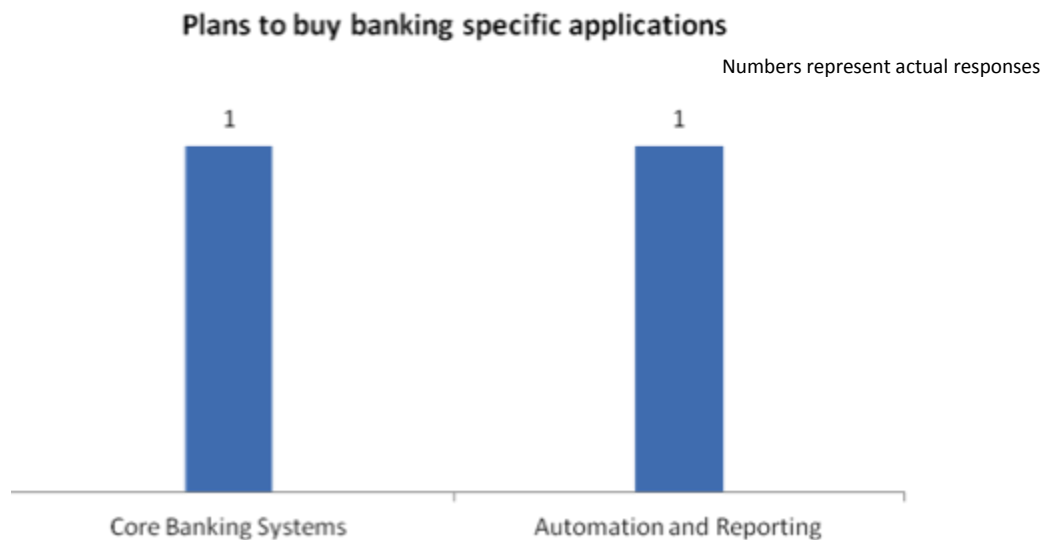


Figure 64 Industry Specific Applications Planned to Install - Government

Banking sector forms the base of a vibrant economy and in modern times it is almost impossible to imagine banking without IT application. Core banking systems along with reporting and Risk

Management systems are most popular systems used in Palestinian banks. However we see that one respondent from banking industry is looking to buy the Core Banking System, but looking at the limited responses received we can deduce that the banking industry in Palestinian Territories has not moved beyond traditional banking as there is no demand for other traditional banking systems like Forex trading , Bonds , Fund accounting and Hedge fund .

Standard Applications Tools and IT Infrastructure Components

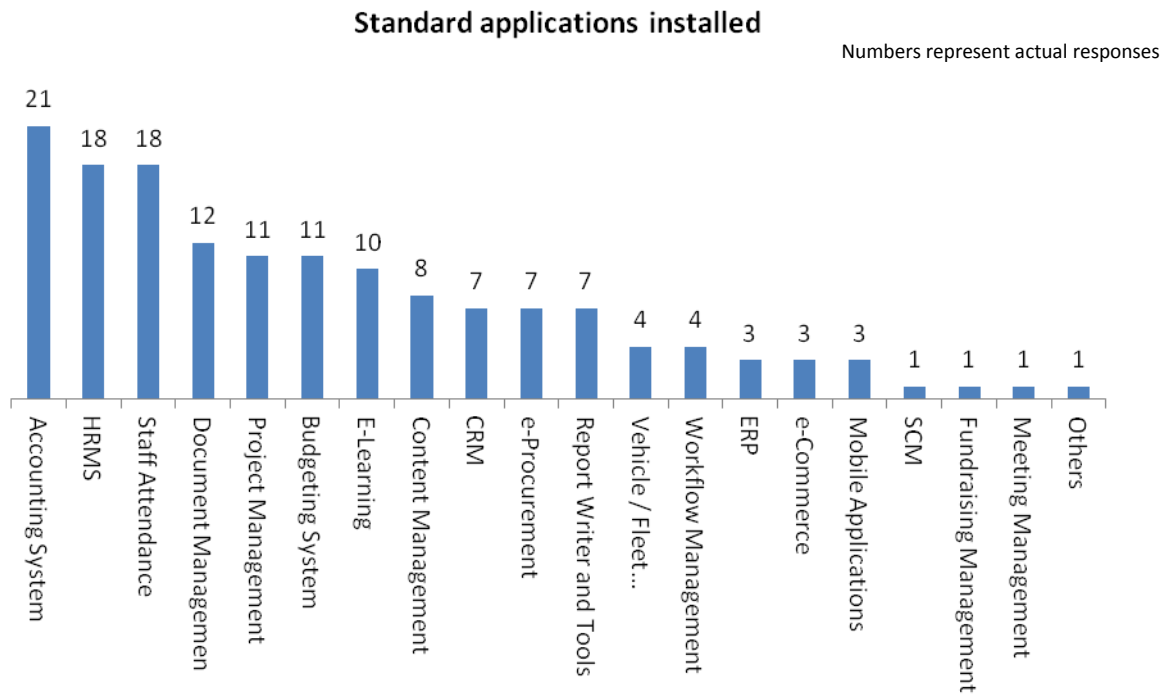


Figure 65 Standard Applications Installed

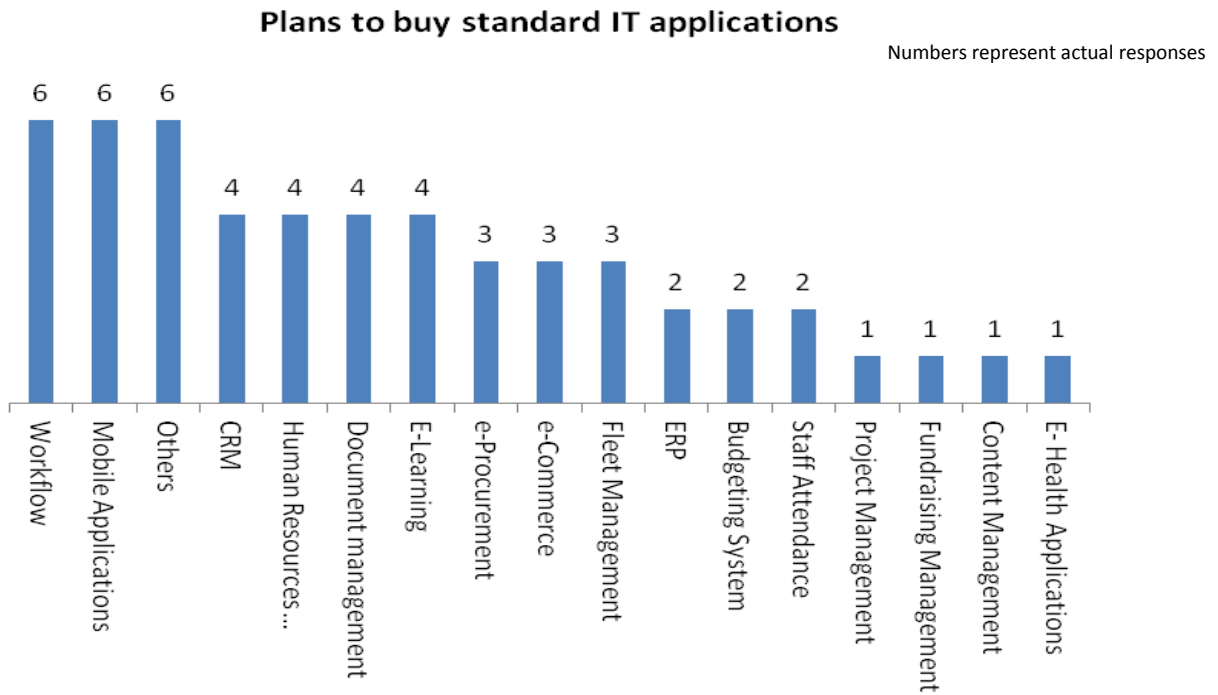


Figure 66 Standard Applications Planned to Install

Accounting applications and HRMS applications are most popular application among the Palestinian companies and organizations. On the other hand applications like E-learning, Project Management and Document management system are also high on popularity. When we look at the plans of the ICT procurement among Palestinian firms and organizations we find that Mobile Apps & Workflow management systems are ranked high that point towards the growing popularity of automation of business process and usage of mobile in business.

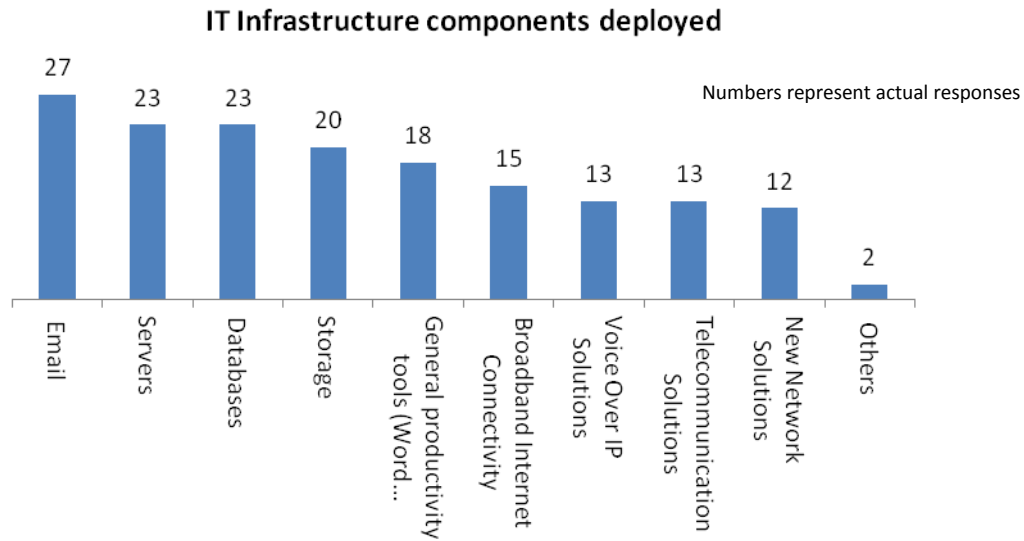


Figure 67 IT Infrastructure Deployed

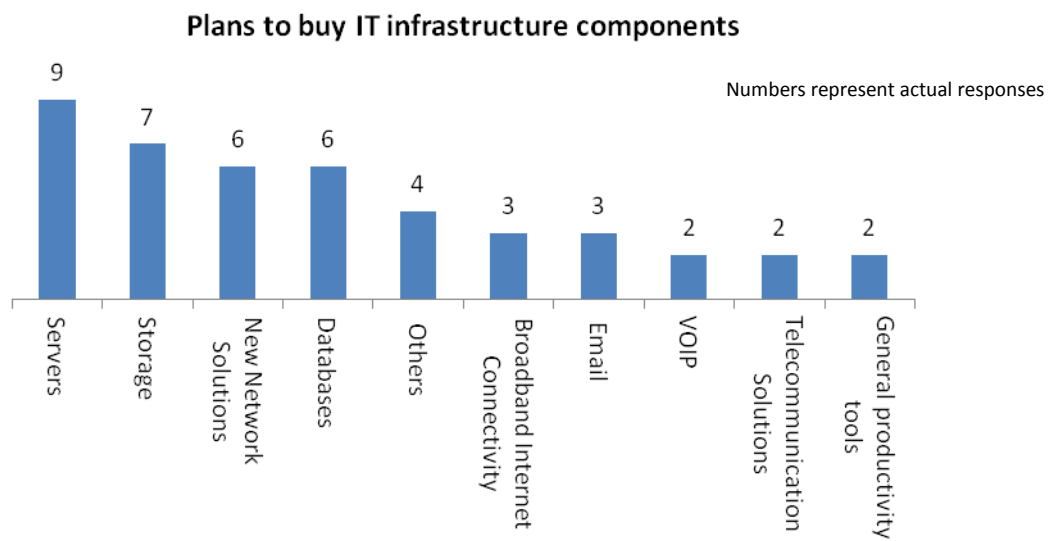


Figure 68 IT infrastructure components Purchase Plans

The current standard Information Technology Applications/infrastructure used in the respondents organization and their future plans to purchase them are indicative on how small the market size is. The local market opportunities are very limited and do not enable the growth of the ICT sector.



### Annual Average ICT Budget

The Demand survey in the local market suggests that the future budget for the ICT spending would be increasing. The total amount that respondents have shared translates to US\$18,735,032.00. It is a sum that should not be underestimated and requires further validation.

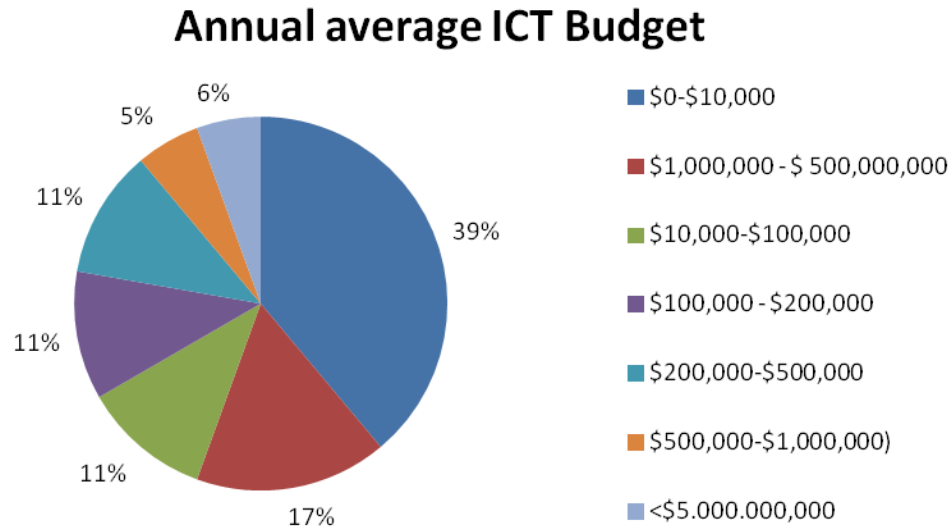


Figure 69 Average ICT Budget - Respondents

There is another indicator from the survey that respondents foresee increased spending on ICT to improve interface with end user as in the below table. More than 90% of respondents feel that their Annual ICT spending would be increasing in next three years

ICT Budget to Increase?	
Yes	20
No	2

Table 22 Increase in ICT Budget

The survey also sheds light on the spending pattern of the Annual ICT budget as indicated in the question by respondents. The budget split was recorded under 6 heads

- New Hardware & Networking component
- New Software
- Maintenance of existing Hardware and Software
- Telecommunications
- Training and Consulting
- Others

The split as predicted by the respondents is depicted in the table below

#	New Hardware and Networking	New Software	Maintenance of existing H/W & Software	Telecom	Training and Consulting	Others
1	20%		30%	50%		
2	50%	15%	25%	7%	3%	
3	70%			20%	10%	
4	10%	10%	10%	10%	30%	30%
5	20%	30%	15%	10%	25%	
6	30%	20%	20%	5%	10%	
7	30%	5%	10%	10%	45%	
8	45%	10%	25%	10%	10%	
9	30%	30%	10%	15%	15%	
10	66%	34%				
11	30%	10%	50%	5%	3%	2%
12	60%	30%	4%	1%	4%	
13	20%	10%	5%	15%	20%	30%
14	30%	20%	10%	5%	35%	
15	27%	21%	22%	28%	2%	
<b>Average</b>	<b>36%</b>	<b>17%</b>	<b>16%</b>	<b>13%</b>	<b>14%</b>	<b>4%</b>

Table 23 ICT Budget Split

Further analysis on the above table is that the around 50% of allocated budgets will be dedicated to procuring new hardware and networking as well as maintaining the existing Hardware and software. The least percentage of budgets is dedicated to telecommunications, the training and consulting items. This leaves only 17% of the budget, as an indicator, assigned to purchase new software. It is another indication on the limitation of the local market on consuming software products.

#### Outsourcing among Palestinian Organizations

The adoption of the outsourcing is very low in Palestinian organizations. The percentage of ICT employees being outsourced is very low. While few of the respondents outsource their ICT employees, most of the respondents do not outsource their ICT employees, but rather they have an in-house staffing.

Around 75% percentage of respondent have maximum of 25% outsourced employees within this group large portion of respondent do not outsource at all, on the other hand 15% of organization have more than 50% of their workforce outsourced.

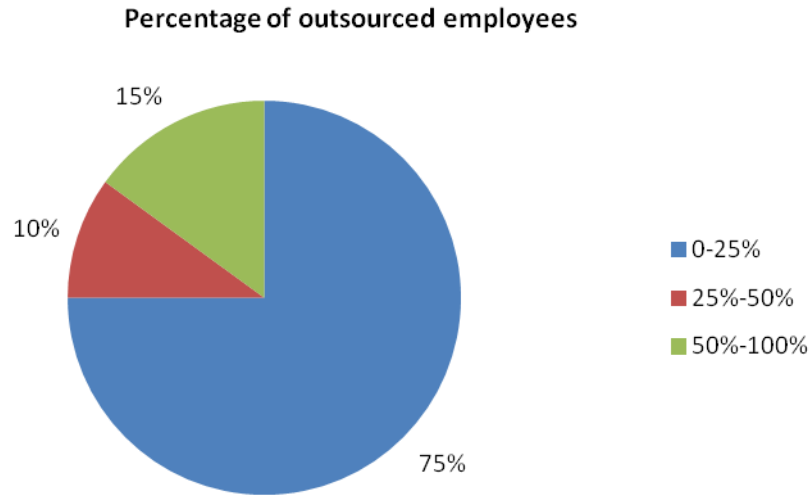


Figure 70 Outsource Employees in Respondent Organizations

#### Procurement Split

Furthermore, if we look at the composition of the local market we find that the local ICT firms have to compete with the foreign ICT firms. The below graph provides an indication on the penetration of foreign firms in Palestine by showing the percentage splits which buyers spend on foreign and local ICT firms

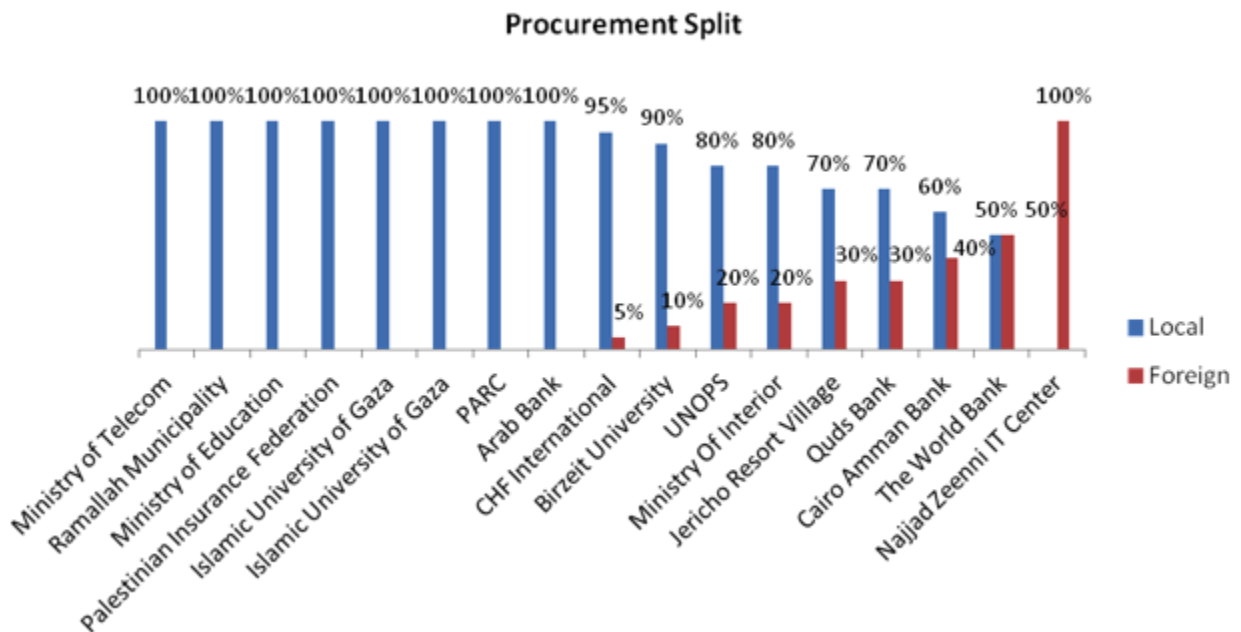


Figure 71 Procurement Splits

Furthermore, 36% of respondents as in the below table do not insist on buying Palestinian products from Palestinian companies or from foreign companies with Palestinian partners.

#### Buyers insist on buying from Palestinian ICT firm

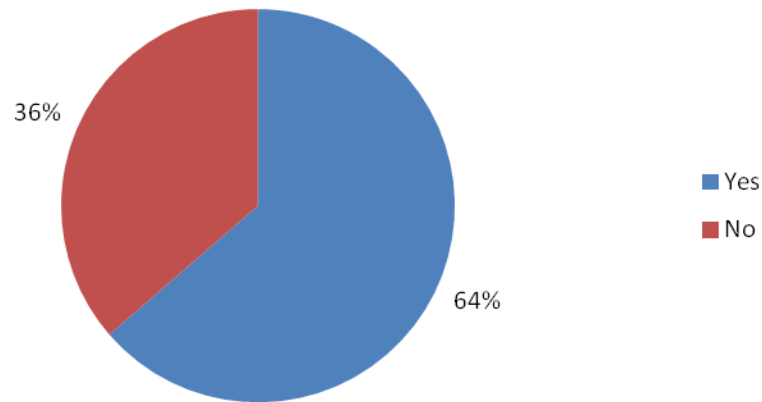


Figure 72 Insisting on buying from local providers

#### Delivery Channels

The survey provides further insight on what the local demand market foresees the change in channel delivery, which includes most recent trends in mobile applications and social networking. However, the majority still believe that the online Web services and email will remain to be their dominant ones:

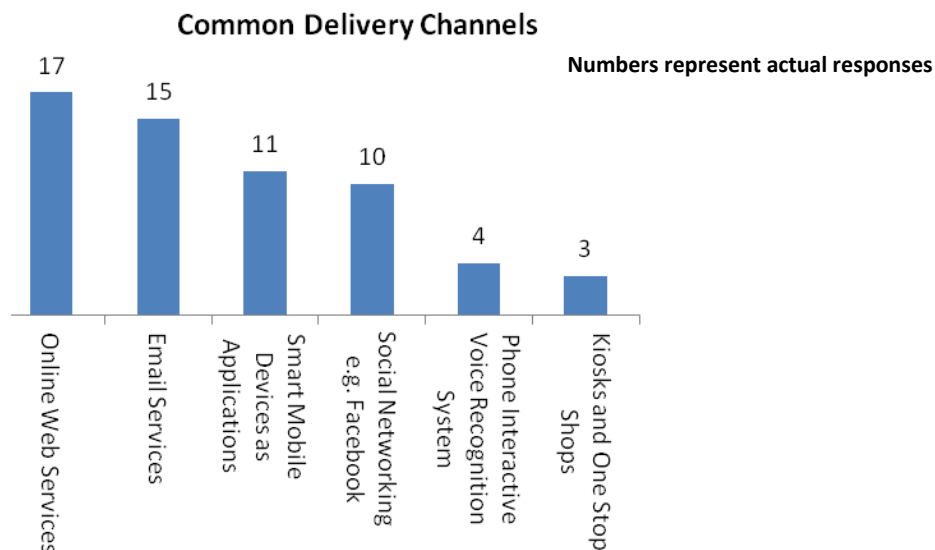


Figure 73 Service Delivery Channels

### Suggestions on Improving ICT Penetration

Some of the survey respondents from the Government sector provided advice on how the Palestinian ICT companies can further penetrate the Government ICT market in specific and local ICT market in general by being more involved in policy process setting and enhance the marketing abilities and market reach. Furthermore, it is recommended that companies continue to be innovative and introduce new technologies, show and implement good support as well as conduct workshops and seminars on specific ICT solutions.

One of the survey respondents from the Tourism sector provided advice on how the Palestinian ICT companies can further penetrate the Tourism ICT market in specific and local ICT market in general by providing more specialty products and services.

Some of the survey respondents from the Banking sector provided advice on how the Palestinian ICT companies can further penetrate the Banking ICT market in specific and local ICT market in general by increasing the quality and availability of the products and by enhancing the support and service level. As expected, Banks have requested to improve the needed technology services to be more secure and to be more satisfied for customers.

### Challenges in Buying From ICT Providers

Respondent face many general challenges and constraints when working with the local ICT vendors. The survey responses include many items that give a negative perception about the local situation of the ICT sector. The major challenges faced by the respondents could be grouped into following heads

- **Low Quality**  
Majority of respondents feel that the work done by Palestinian ICT firm is of lower quality and do not meet the international standards. They also feel that local firms lack the experience both in marketing and also in service delivery. Some of the respondents feel that local ICT providers lack domain expertise.  
Some of the respondent pointed out that they feel that the timeline adherence is an issue while working with local ICT firms
- **Lack of support**  
Some of the respondents feel that the after sales support and technical support for the ICT products/services provided by local ICT firms is not up to the mark
- **Skill set availability**  
The lack of right skill set is a major issue which deters buyers from buying services/products from local ICT providers
- **Regulatory /Policy restrictions**  
Due to the regulatory /policy constraints which restricts buying locally, the buyers are not able to procure from local Palestinian firms

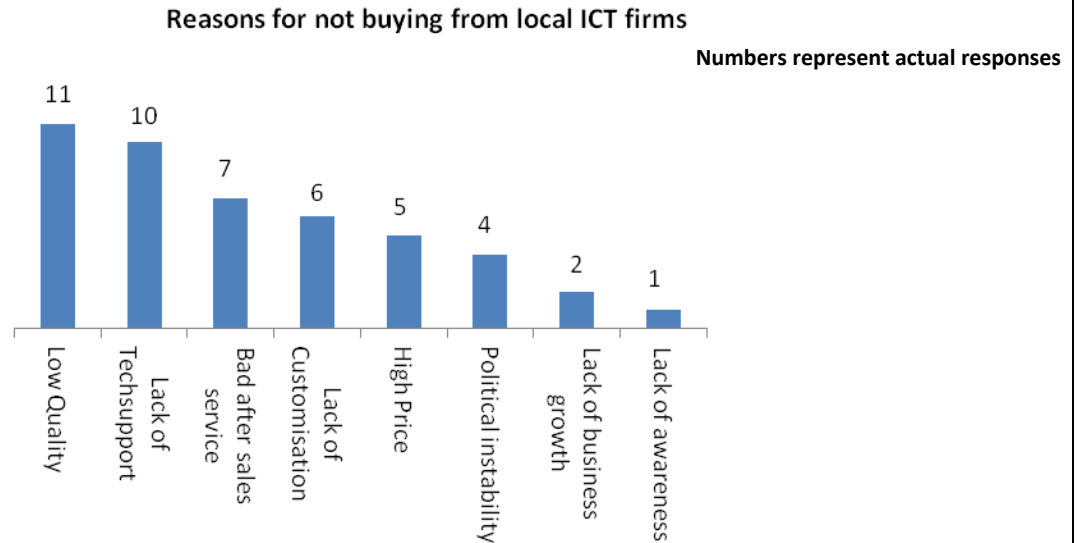


Figure 74 Reasons for not buying from local firms

In comparison, the challenges that some of the respondents face while working with the multinational companies MNC in Palestine include:

1. Lack of understanding local legal framework; business and organization culture; long term support
2. Remote support services. Delivery and exchanging spare parts. High taxes and customs.
3. Local buyers feel that as MNC ICT firms do not have office in Palestinian Territories it's difficult to make connect with them and trust them

#### Buying Process

Process of the respondents is indicative that ICT products are bought from preferred vendors either directly or through quotations. Moreover, respondents have indicated that they publish open advertised tendering internationally. Only 33% of the respondents publish their open tenders locally.

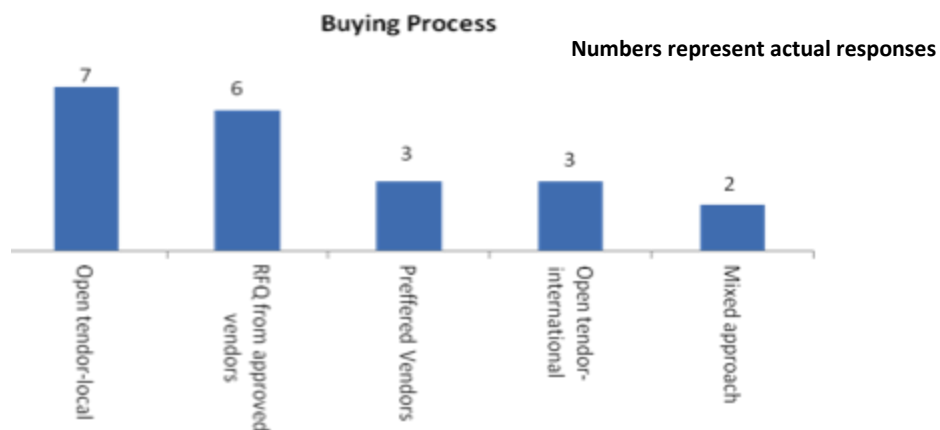


Figure 75 Buying process of respondents

### Drivers of Growth

Survey responses point out that the Palestinian ICT market in Palestine is set to grow. The major drivers for this growth which comes out of this survey are

1. The investment by private sectors and financial support by foreign aid agencies and NGOs
2. Huge young and educated talent pool
3. Political support to grow the ICT Sector
4. To work parallel with the development of the other sectors
5. Investments in creating the ICT infrastructure by the Palestinian Authority
6. Growth of E-commerce, E-Services which would allow service delivery to be done remotely
7. The universities in Palestinian territory revising the curriculum and coming up with training courses to make students deployable in the industry as soon as possible

## Annexure B

### Supply Side Survey Analysis

#### Services Offered by Respondents

From the sample of companies that responded, the following services were offered by companies. The number against the bar represents the number of companies providing that kind of service.

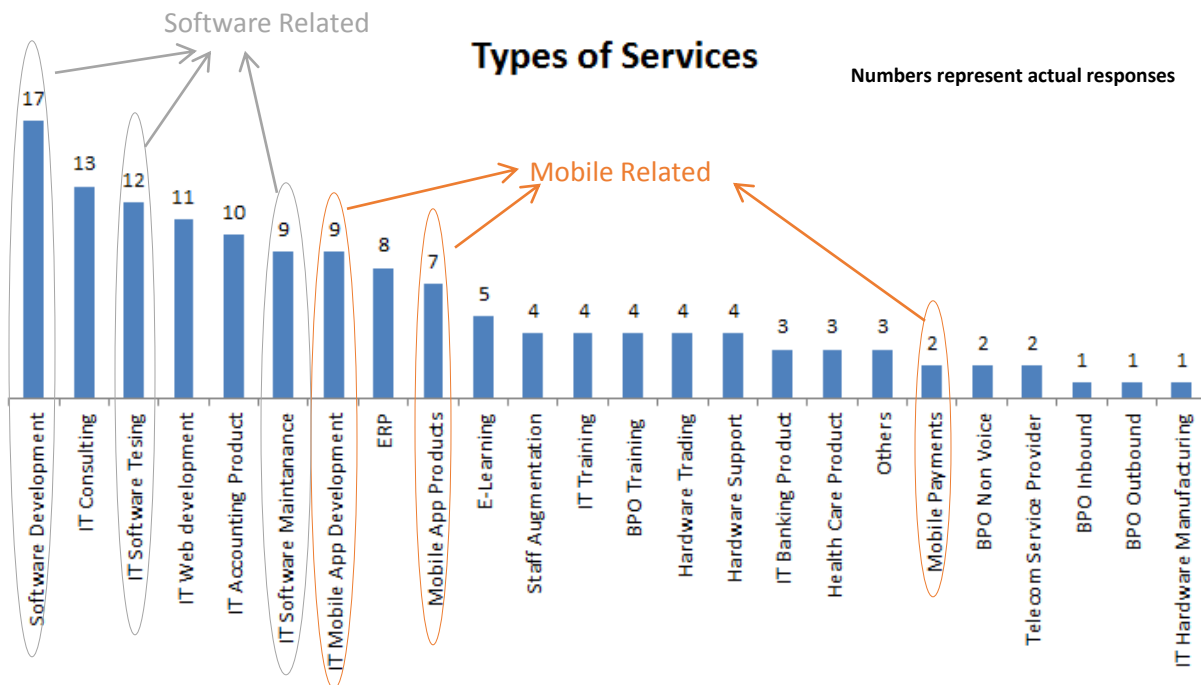


Figure 76 Services offered by Local Service Providers

- Software development and related services are the most popular service offered by the Palestinian IT Firms
- If we club Mobile App Development, Mobile Payments and Mobile App Products , we see that most of Palestinian firms have mobile development capabilities



Organization Strength of the Respondents and Projected Growth

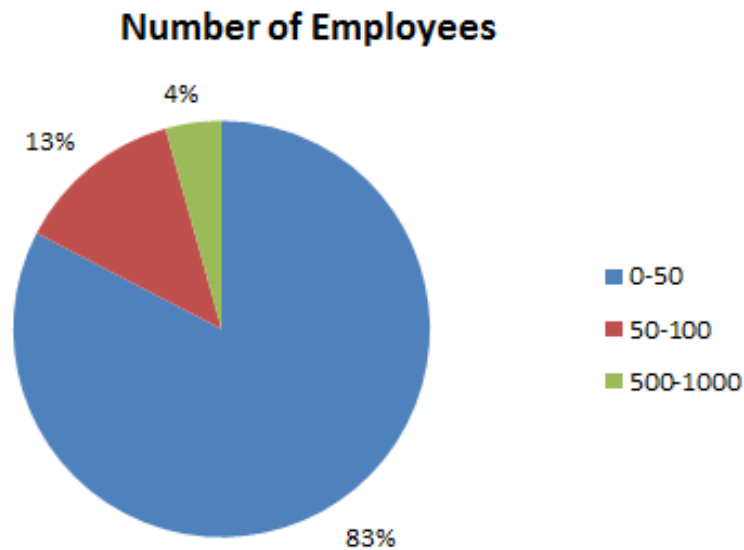


Figure 77 Number of Employees in Respondent Organizations

83% of respondents are having less than 50 employees suggesting that the Palestinian ICT market is dominated by small firms. It is also interesting to see that overall Palestine companies expect some growth over the next three years though it seems to be quite modest when looked in average terms. Table below describes the growth expected in terms of net employee additions over the next three years, presented as per company size.

Size of Company	Average Growth Predicted
0-50	10
50-100	13
500-1000	100

Table 24 Projected Head Count Growth in Respondent Organizations

### Most Targeted Export Market

When asked about the most targeted export geographies, MENA came out on top followed by Europe and North America. Surprisingly 11 of the 25 respondents do not export at all. Please note that the respondents have not been able to target the Asian and the Latin American market at all.

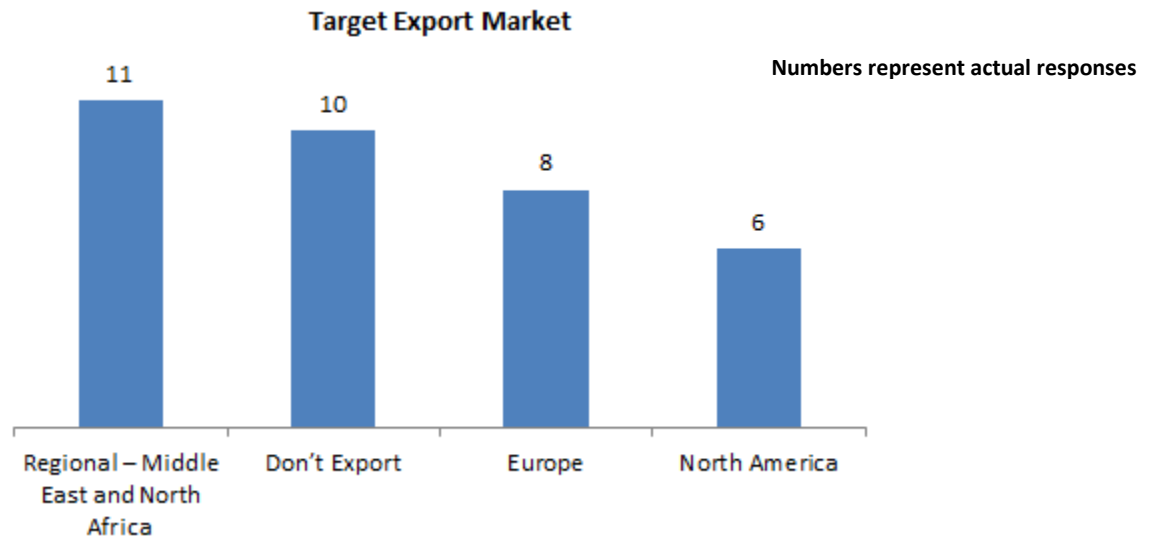


Figure 78 Target Export Markets of Respondents

When asked about the geography which generates maximum revenue, most of the respondents (60%) answered as MENA .MENA region is also the most targeted export market for Palestinian ICT firms. While Europe is targeted by more companies as compared to North America, more respondents get their highest revenue from North America

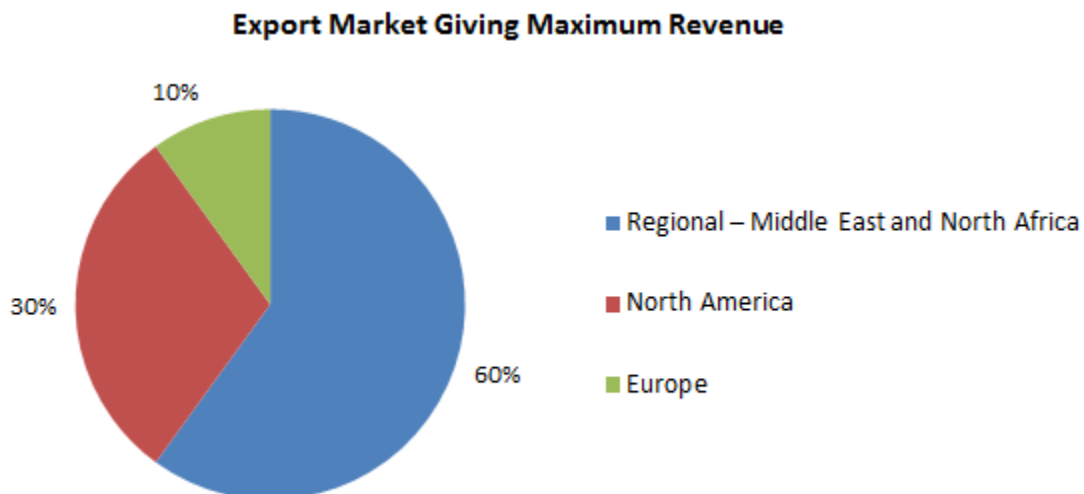


Figure 79 Geography giving maximum revenue

These numbers have to be seen from the context that only three companies from the entire set of respondents have offices outside of Palestine.

Looking at the export bucket of companies, software related services and products top the list, followed by enterprise products such as ERP and HR. Website development is another area for exports where Palestinian companies are seeing increasing traction.

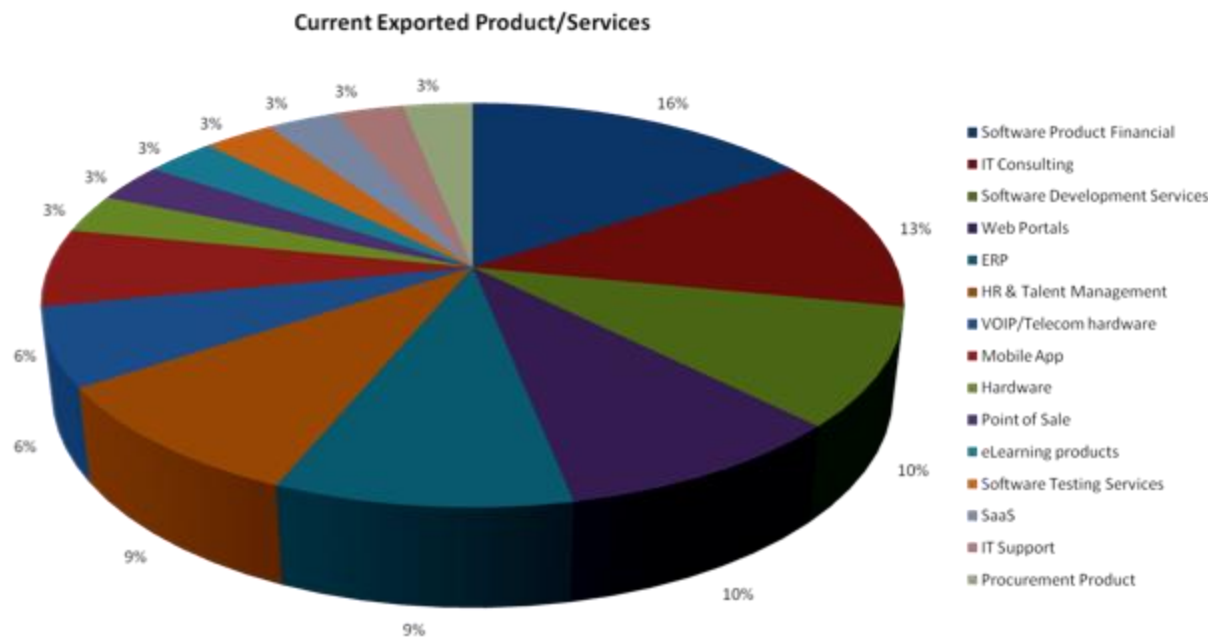


Figure 80 Export Product/Service of Respondents

## Drivers for International Buyers

The factors that are driving exports and as per the respondents, are the reasons for international buyers to source from Palestinian ICT industry are:

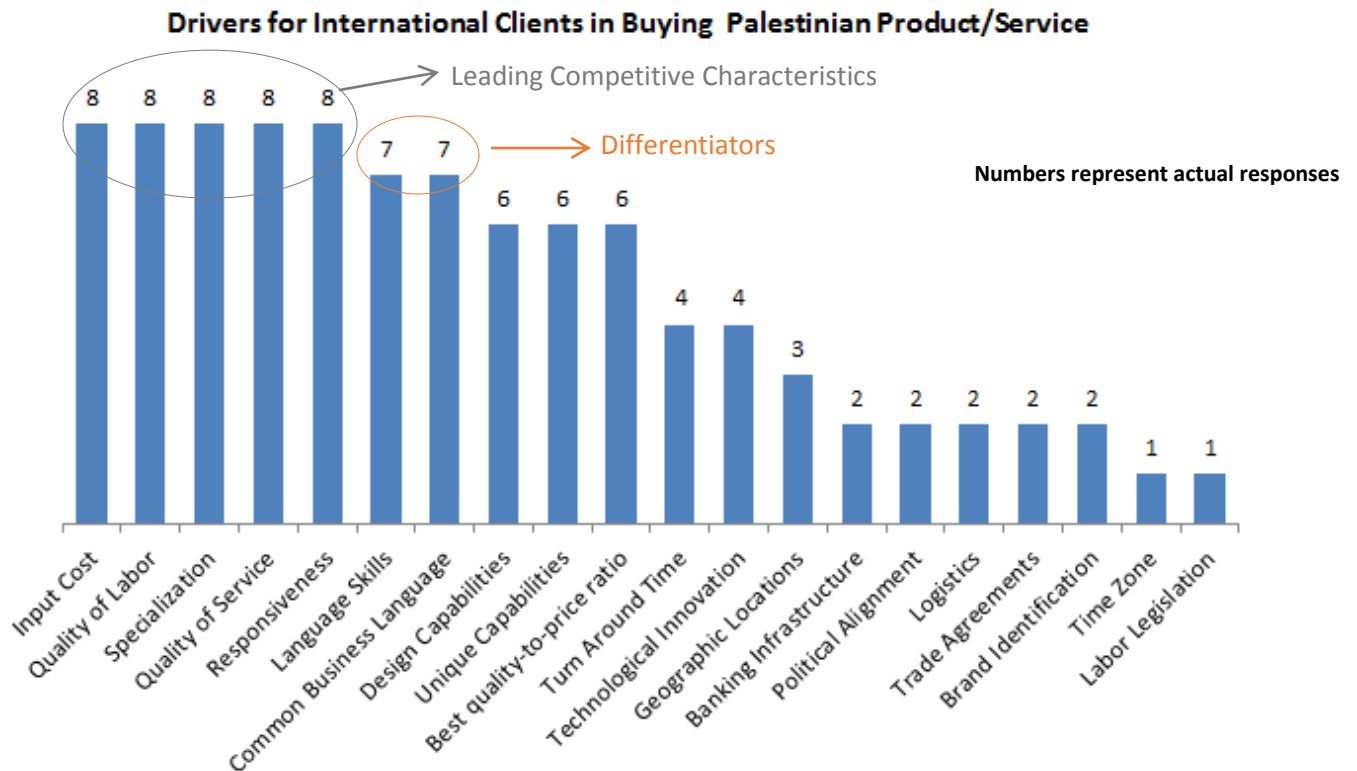


Figure 81 Drivers for Buying Palestinian Product/Service

Most respondents believe that the input cost, quality of labor, specialization and responsiveness are the drivers for importers to buy their product/services. While the top drivers are quite obvious and would make sense under any business scenario, it is very reassuring to know that the Palestine ICT sector is driven the very same traits as any other market targeting international buyers. The key take away from the responses is the differentiating capability – ‘Language Skills’ and ‘Common Business Language’. These are the unique strengths which the Palestine ICT industry can leverage itself to address niche areas and services.

## Top Potential Markets – Geographies and Verticals

Over the near term period of three years, ICT companies believe there are certain geographies and verticals which look promising for them.

Leading Verticals

Leading Geography

No Potential Seen

#	Business Vertical	MENA	Sub Saharan Africa	Europe	Asia	North America	Central and Latin America	Total Responses
1	Retail and Consumers including e-commerce	5	2	3	1	3	0	14
2	Non-Government Organization Sector	6	1	2	1	1	1	12
3	Donor Community and United Nations Projects Sector	6	1	1	0	1	1	10
4	Government Sector - Local Municipality	6	1	1	0	1	0	9
5	Telecommunication	5	1	1	0	1	0	8
6	Professional Services Sector – Engineering	4	0	2	0	2	0	8
7	Professional Services Sector - Financial	5	1	1	0	1	0	8
8	Agri-business Sector	3	1	1	1	1	0	7
9	Government Sector – Education Services	5	0	1	0	1	0	7
10	Others	2	0	2	0	3	0	7
11	Tourism Sector	3	1	1	0	1	0	6
12	Manufacturing Sector	4	0	1	0	1	0	6
13	Stone and Marble Sector	4	0	1	0	1	0	6
14	Pharmaceutical Sector	3	0	1	0	1	0	5
15	Construction Sector	3	0	1	0	1	0	5
16	Government Sector – Health Services	3	0	1	0	1	0	5
17	Government Sector – Social Services	3	0	1	0	1	0	5
18	Professional Services Sector – Legal	2	0	1	0	1	0	4

Table 25 High Potential Horizontal and Vertical Markets

Most of the respondents believe that the Retail /Ecommerce industry would be holding the maximum promise for Palestinian ICT industry primarily driven by the export markets of Europe, Sub Saharan Africa and North America. Within MENA, the biggest potential is seen in the NGO and Donor community including the UN projects sector and the Local Municipality sector.

Respondents are not optimistic about the Asian and Central & Latin American Markets but foresee emerging activity in the Sub Saharan African market.

## ICT Segments with Maximum Promise

Over the near term period of three years, ICT companies believe there are certain ICT segments which hold more potential than others.

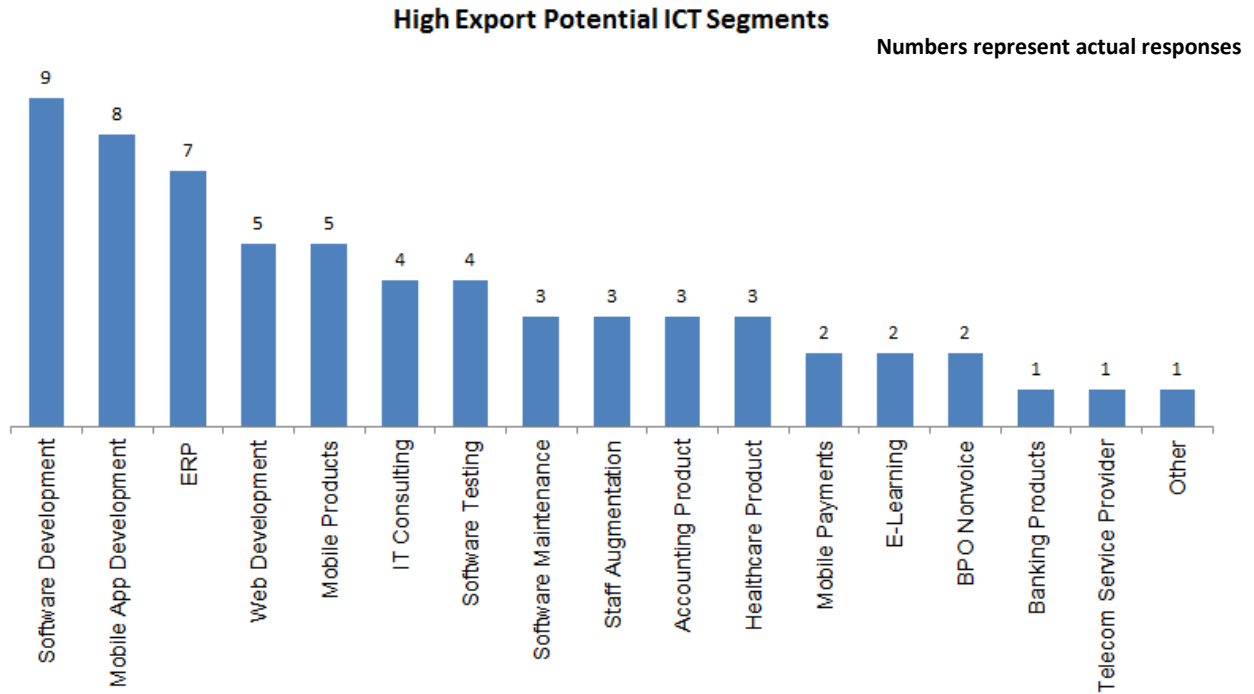


Figure 82 Potential ICT Segments

Respondents believe that the Software Development, Mobile Application Development and ERP are the top three segments which hold maximum promise in the export market in the next 3 years.

## Current Approach / Engagement Model to Access Export Markets

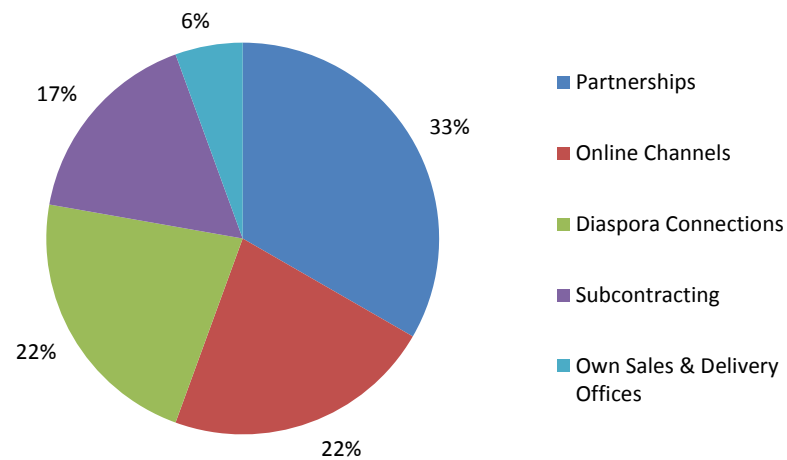


Figure 83 Engagement Model in Export Markets

Majority of respondents have partnerships in the export markets while very few have their own sales and delivery office. Subcontracting is also a popular channel.

The most interesting aspect is that online channels have been a source of substantial export business for many companies. This is a low cost model mostly for sourcing projects and tasks with defined time and effort. But for larger companies this does not prove to be a sustainable channel. Diaspora is also important channel for small and medium firms to access export markets.

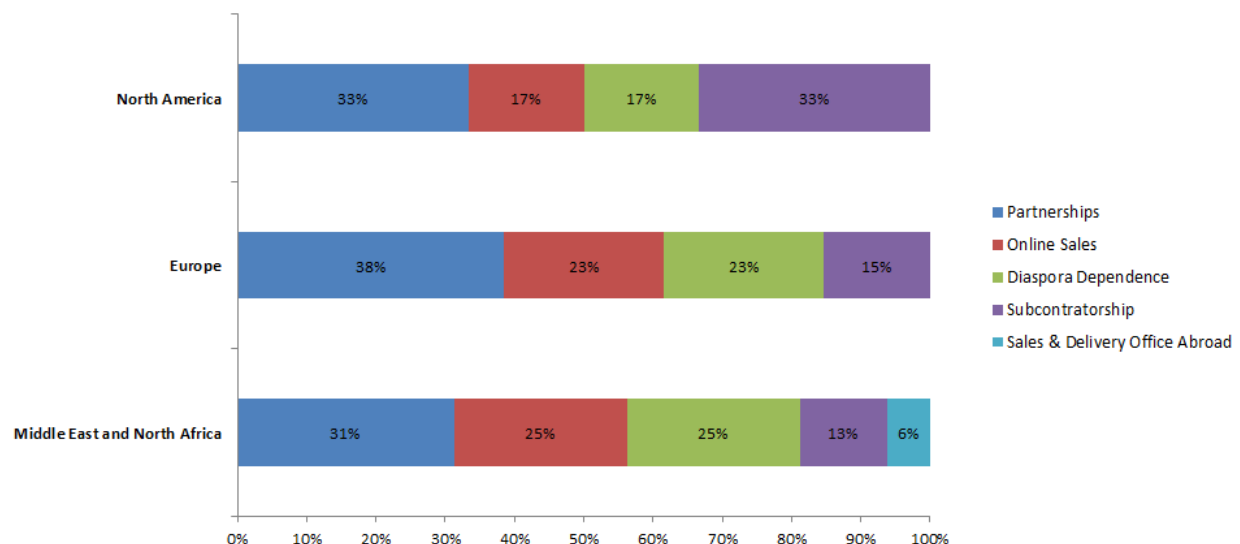


Figure 84 Engagement Models in Target Markets

If we look at the engagement approach by geography, we observe that to access Europe, partnership is the most preferred model but when it comes to North America, Subcontractorship plays an equally important role.

### Competitor Countries

When asked which countries have been giving major competition to the Palestinian ICT sector, the obvious names cropped up. Jordan, Egypt followed by India was the major competing destination. Apart from these many other countries were identified which included Eastern Europe, Morocco, Malta, Tunis, and Lebanon

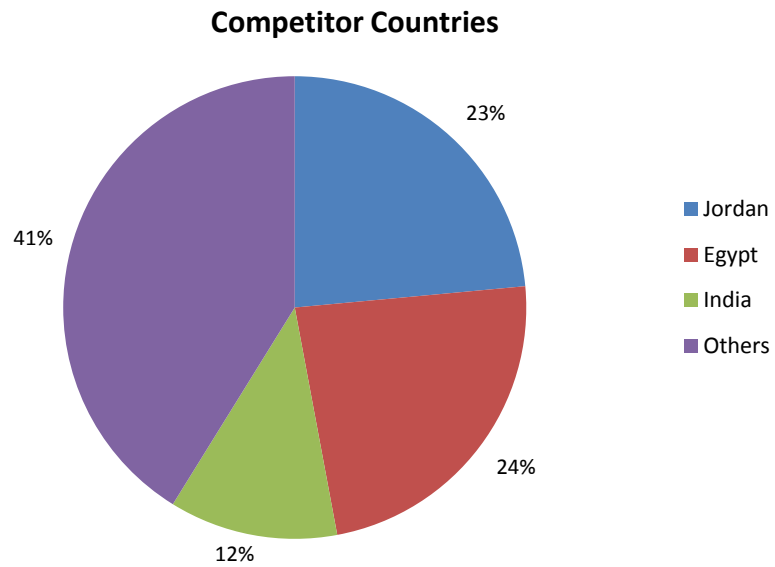


Figure 85 Competition to Palestine in International Market



### Challenges in Capturing ICT Export Market

The Palestinian companies face a myriad of challenges when accessing international markets. Some of these challenges are internal while some are external; some of them are structural while a few are environmental.

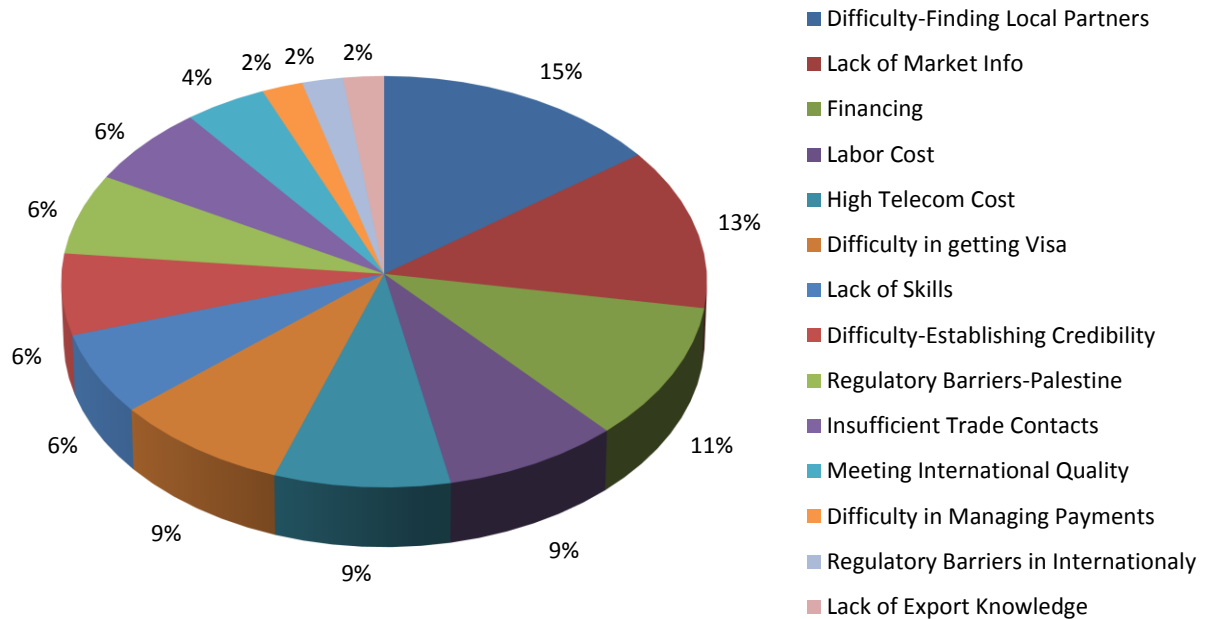


Figure 86 Challenges in Capturing ICT Export Market

It is worthy to note that the biggest challenges faced by Palestinian ICT companies are market related and not structural or environmental as some may perceive. 'Difficulty in Finding Local Partners' and 'Lack of Market Info' are challenges which can be overcome through various market penetration measures.

### Primary Verticals Targeted in the Local Markets - Current

The local ICT companies seem to be relying upon the NGOs as their primary set of clients. This is clearly demonstrated in the chart below when the local ICT companies were asked about their primary target areas in the local market. The next two areas are manufacturing sector and telecommunication sector. This is followed by government led sectors such as local municipalities, healthcare, education and financial services. This more or less maps the current broader economic structure of the economy and we believe it would be this way going forward where developments in the broader economy would pave the way for targeting by ICT companies.

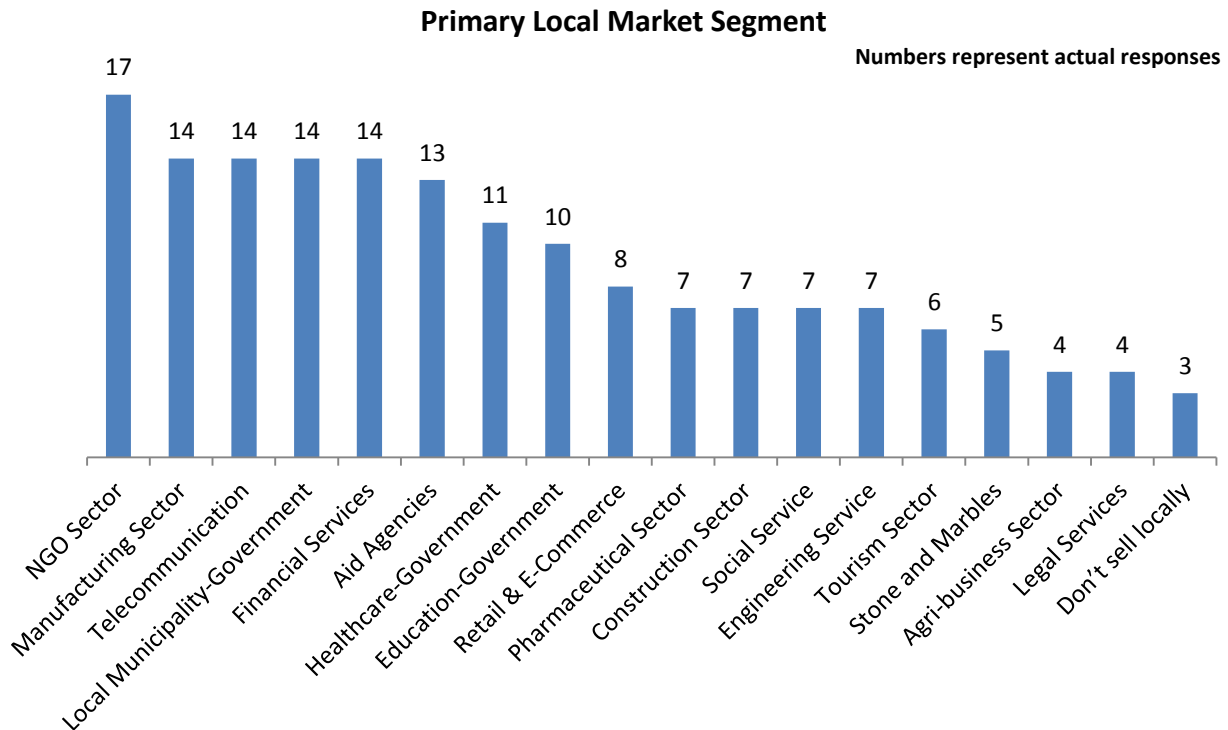


Figure 87 Local Market Segment

It has to be noted that retail and ecommerce being one of the favored verticals for exports, is not really on top of mind for the local market. A surprising observation has been the lower standing in the chart of Tourism Sector which was expected to be higher up on the pecking order of the local companies target list.

### Primary Verticals Targeted in the Local Markets – Future

When requested to rank the top three sectors where Palestinian ICT sector would succeed in the near future, there were some clear winners.

Target Verticals	Ranking
Non-Government Organization Sector	1
Telecommunication	2
Government Sector - Local Municipality	3
Donor Community and United Nations Projects Sector	4
Manufacturing Sector	5
Government Sector – Education Services	6
Government Sector – Health Services	7
Tourism Sector	8
Stone and Marble Sector	9
Government Sector – Social Services	10
Professional Services Sector – Engineering	11
Professional Services Sector – Financial	12
Other	13
Agri-business Sector	14
Pharmaceutical Sector	15
Construction Sector	16
Retail and Consumers including e-commerce	17
Professional Services Sector – Legal	18

Table 26 Primary Target Verticals Local Markets

The NGO sector currently is one of the most favored sectors and is likely to continue in the near future. Telecom sector is likely to gain further traction based on the recent successes of the ICT sector in this

area. On the government front, it is the municipality sector that will continue its stronghold as the most targeted area. Government supported education sector is likely to gain importance in the near term. Tourism sector is likely to gain more importance as seen from its ranking which is relatively better than in the current state.

### Challenges Faced by Palestinian ICT Sector

While Palestine has some structural, environmental and political challenges that affect business in general, from the ICT sector perspective, it seems that the skill availability is a bigger challenge than anything else.

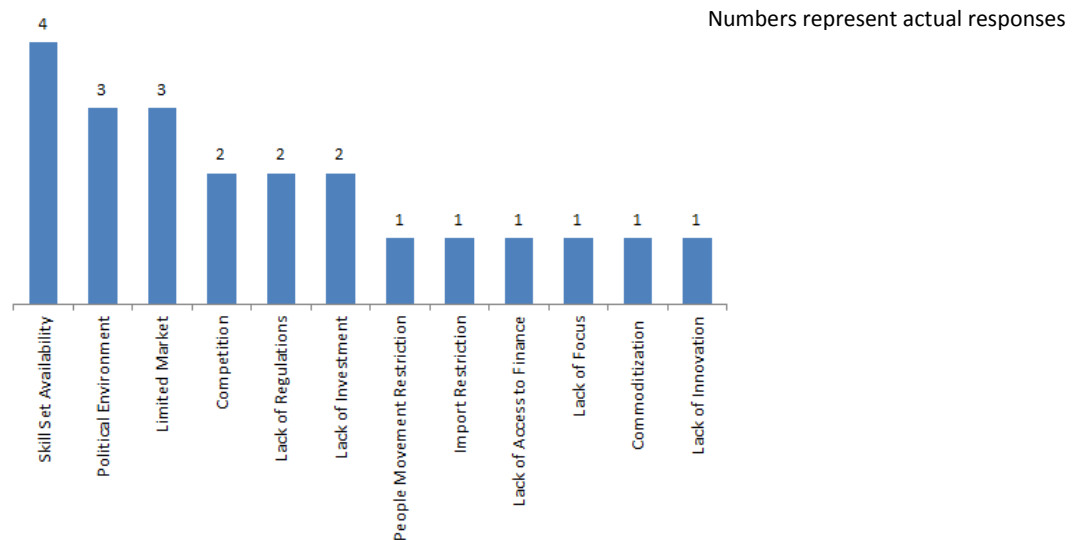


Figure 88 Major Challenges - Palestinian ICT Sector

### Improving Access to International Markets

Similarly, when looking at ways to improve the access to international markets, it's the marketing challenges that ICT companies are looking to overcome. Companies believe that increasing marketing efforts and forging partnerships are likely to result in improving international market access.

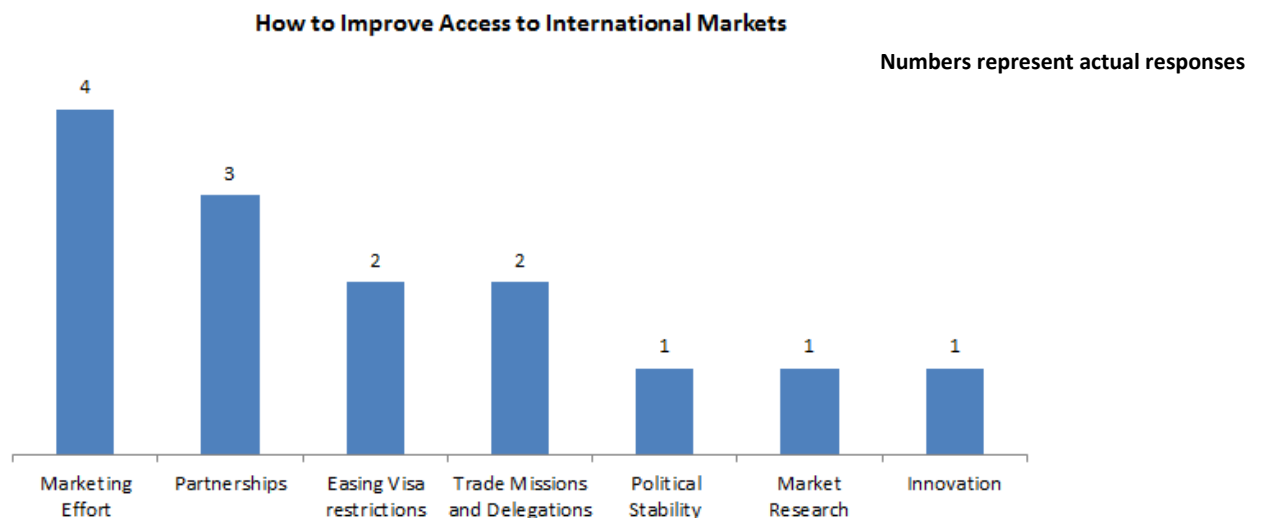


Figure 89 Improving Access to International Markets

## Annexure C

### Interviews Conducted by Avasant

#### Government and Municipality

##### **A. Mr. Majed Ayyad UNOPS and Ministry of Local Governance, Palestine Authority:**

At a telephone call with Mr. Majed Ayyad, who is a consultant at the Ministry of Local Governance and the UNOPS, the following opportunities have been shared for ICT solutions:

UNOPS Opportunities for the Police Department:

1. Microwave Network Links
2. Wireless Radio System
3. GIS Maps
4. Business Intelligence
5. There will also be new labs established for forensics and evidence management

UNOPS is currently fundraising to secure budgets for these projects.

Opportunities at the Ministry of Local Governance:

1. Document Management System
2. Integrating of different software
3. Cloud computing solutions

It will be an additional 4 months for Ayyad to exactly identify the needs of other specific solutions.

One specific response from the Survey indicated the need for GIS applications and Document Management and Archiving System at the Ministry of Interior. Furthermore, there is a need for Storage solutions.

##### **B. Dr. SafaNaser Eldin's, (the Minister of Telecommunication and IT, Palestine Authority)**

The table below is based on interview of Dr. SafaNaser Eldin's, (the Minister of Telecommunication and IT) response to the Survey:

Sector Pain in the Value Chain	Clustering Opportunities	IT Solution	Obstacles Hindering Product Development
1. e-Services Applications – Web and Mobile as well as IVR Channels	1. E-Government and e-Services can be clustered on the “Cloud” to reduce	1. Broadband Internet Connectivity's 2. Payment Gateways 3. ERP Solutions Customization for MTIT Services e.g. Postal, Telecommunications, Document	1. Political Driver to Outsource to Local IT

2. Content + Content Management Systems (Arabic – English)	overhead and service delivery cost whereby municipalities	Management System, Client Relationship Management, Self-Service, etc.	Companies
3. Online Payment – Infrastructure	would share the information	4. Mobile Payment Solutions Specific at MTIT based on Dr. Safa Naser Eldin response	2. Assigning Budget to Buy Locally
4. Enterprise Resource Planning for Postal Services	technology resources used to deliver its e-	<ul style="list-style-type: none"> <li>• e-Services Applications (Mobiles and Web)</li> <li>• Monitoring and Evaluation</li> <li>• Emergency Response and Preparedness</li> <li>• Strategic Plan Management</li> <li>• E-Commerce and Online Payment</li> <li>• Human Resource Management System</li> <li>• Document Management and Archiving System</li> <li>• Vehicle / Fleet Management</li> <li>• Dynamic Workflow System Builder and Notifications</li> <li>• Content Management System</li> <li>• Mobile Applications</li> <li>• E-Learning Applications</li> <li>• E-Health Applications</li> <li>• Telecommunication Solutions</li> <li>• Servers</li> <li>• Storage</li> <li>• New Network Solutions</li> <li>• Databases</li> <li>• Email</li> <li>• General Productivity Tools (Word Processing, Spreadsheets, etc.)</li> </ul>	3. Realizing the Government Procurement for IT can be for Consultancy Services, IT Infrastructure and Applications
5. ERP for MTIT Services	services as an example		
6. Governance: Risk, Compliance, Reporting, Performance Tracking, Notifications, Emergency Response and Preparedness			

Table 27: Government Sector Validation

### C. Mr. Ahmad Abu Laban Ramallah Municipality Interview:

On 29<sup>th</sup> of April, 2013, Mr. Ahmad Abu Laban, the Executive Director of Ramallah Municipality has shared further great insights on a recent high-level analysis that was conducted internally at Ramallah Municipality for its business process automation requirement, which include:

<b>Health Dept. Management</b> 1. City Beautification Management: Parks, Cemetery, other Real Estate 2. Solid Waste Management 3. Monitoring and Evaluation: Markets, Butchery, 4. Project and Awareness: Schools, Institutions, Local Society and Campaigns	<b>Culture Management:</b> 1. Library System 2. Real estate Management 3. Youth Council and Neighborhood Committees, Kids Council 4. Program and Activities: Culture and Society Programs and Events 5. Document Management System and Archiving
<b>Administrative Management:</b> 1. Human Resources including Recruitment Application (طلب التوظيف الالكتروني) 2. One Stop Shop 3. Support Services: Insurance, Document Management and Archiving System , Inventory, Service Agreement 4. Vehicle / Fleet Control Management: Vehicle Control, Mileage Metering, Security, Routes	<b>Public Relations:</b> 1. Media: CRM 2. Fundraising Management 3. Marketing and Promotion Management: Document Management and Archiving System , Films, Web Site, Tourist information Center 4. International Relations: CRM, Tours, Event / Meeting Management
<b>e-Services:</b> 1. e-Procurement 2. Online Complaints 3. Online Self-Service including Tracking of Application Status including Citizen Access Management	<b>Others:</b> 1. Land Registry 2. Project Management 3. GIS Integration e.g. <a href="http://www.aeroterra.com/PDF/using-gis-and-sap.pdf">http://www.aeroterra.com/PDF/using-gis-and-sap.pdf</a> 4. Asset Management 5. Governance: Risk, Compliance, Reporting, Performance Tracking, Notifications, Emergency Response and Preparedness. 6. Dynamic Workflow System 7. Report Write and Tools 8. Phone Directory System

Table 28 Business Process Automation - Ramallah Municipality



## Tourism Sector

While the Survey conducted did not materialize any market information about the tourism sector; however, from qualitative interviews conducted there is an abundance of opportunity to introduce IT solutions. The other rational for selecting this sector as it is strategic to Palestine. As indicated earlier in this report, the number of hotel in West Bank guests increased through the first three quarters of the year 2012 compared to the same period of the year 2011. More market information about this sector has been collected through interviews below.

### **A. Mr. Mustafa Deeb USAID/Compete Project Interview:**

At a meeting on 24<sup>th</sup> of April, 2013 with Mr. Mustafa Deeb, IT Sector Development for the USAID Compete Project, Mr. Deeb advised of the following:

ICT Solution Diffusion and Linkages will be financially supported in the following tourism economic sectors:

1. Tourism Sector: the current issue with the tourism sector is that the global business trends are generated through two main market channels, which are
  - a. 4% of business is done through non-digital tour operators
  - b. 96% of business is done through online browsing whereby 54% of tourism bookings are done through the Internet

Unfortunately, the tourism sector is not capitalizing on latter market channels through the online booking. As such, the USAID Compete project intends increasing the effectiveness and efficiencies in the sector through the following:

- a. Rolling-out a payment gateway, which is already planned to take place already? This infrastructure project should enable more online businesses.
- b. Publishing an RFQ to ICT companies to provide online reservation solutions for hotels in Palestine that is interoperable with online booking websites and at the same time this technology solution to integrate with the back office systems at the hotels.
- c. Develop a Hotel Classification Mobile Application as Cloud Computing
- d. Other potential funding discussed, which requires PITA lobbying with tourism industry association in order for the latter organization to formal request it from Compete include:
  - Other mobile applications such as virtual tours

Major challenges expected would be resistance to change by the tourism industry towards automation and limited capacity.

### **B. Mr. Raed Khatib Arab Hotels Association Interview:**

Mr. Raed Khatib, the Executive Director of both the Arab Hotel Association (AHA) and the Tours Association advised on Tuesday 30 April, 2013 that his members look for specialization in the tourism

sector including content development, savvy Web design, and new ideas in tourism as well as bringing new technology value to the members.

Khatib also advised that AHA is considering renewing the design of its Website to make simpler but with more search functionality provided and stickiness effect with a well-designed interface. Mostly, Khatib wants to integrate the upcoming hotel classification on the Website and to allow for more User Generated Content on their experienced visiting and staying at Palestinian hotels.

### **C. Ms. Christina Samara, Samara Travel Agency Interview:**

Ms. Christina Samara who owns and manages the Samara Tourist and Travel Agency advised that she does not have a Website for her business! She mentioned that many other similar operations do not yet have their Website presence on the WWW. Samara attributed this to her inability to communicate her needs and wants with local designers and IT companies. She simply does not know the capability of vendors and what they can provide as she is not exposed to the companies that provide such services. Hence, it is not an issue of lack of trust of local vendors in her case, as much as, that she simply does not know and expressed that she would like to learn more from local vendors on design and functionality for her business.

Samara is acknowledging that her business is chasing the foreign independent travelers (vs. the group organized) to deliver them tours and transportation services to tourist sites. She is also considering delivering packages to their individual travelers that includes hotel accommodation as well as selling souvenirs online for pilgrimages. Samara advised that she would like for her business to transition from low cost offering to high value with better gross marking for her business by attracting individual tourists. Currently, Samara explained that all her business process is done manually and runs her business on many Excel sheets that she has been developing in-house and Microsoft product. She advised that as a small business she finds herself involved in quality assurance processes such as checking on tourist landing, pick—ups and drop-offs to the airport, schedule of tours with departures and arrivals as well as personally taking notes from tourists on how the tours can be improved. All this is done manually.

She and Khatib also advised that other Tour Operators are running on software that is maintained by one individual and is 20 years old. No immediate name of the person supplying this software was given.

### **D. Damian Cook Interview:**

Mr. Damian Cook, an International tourism expert who is contracted by USAID to give out training on tourism content development, was interviewed on the Tuesday 30 April, 2013.

He has highlighted the following about the opportunities, stemming from serious deficiencies in its value chain, for the Tourism sector:

1. There is extremely weak presence regarding Palestinian tourism on the Web. As a matter of fact tourism information online is linked in algorithms and search engine optimization to be linked to Israel and not Palestine. He strongly recommended:

- a. More Images, movies and text descriptions of destinations (content) of Palestine to have content directly related to Palestine
- b. Develop more Search Engine Optimization
- c. Provide more training on Tourism Content Development as technology makes things available to independent travelers (the new market segment that hotels and tour operators are interested in). Content should be in the form of stories generated by travelers on the places they visited, the people they have met and the experiences that have gained and to share their experiences. He advised that 72.7% of US social network users access social networking at least daily while traveling. Content should also be in the form of photos uploaded by tourist on their social networks. The secret to have a viral impact is for these photo uploads to receive many “like” hits from the contacts of the tourist
- d. Utilize technology platforms such as Pinterest, Facebook and its graph search to leverage social networking for search
- e. One great thing about tourist in Palestine is the abundance and availability of Wi-Fi networks (due to the non-availability of the Israeli ban on 3G networks). This Wi-Fi should be promoted in a way that asks tourists to share their stories online on the social network and media. Converting everyone to blog about his/her stay at the hotel, at the restaurant, etc.
- f. Unlike the traditional pilgrimage tourism that is done through tour operators in bulk and attains low profit margins, independent travelers need to have a new type of imagery and stories about Palestine and to find more about the situation e.g. 5 Broken Cameras and Gatekeepers movies as well The Promise series done by Channel 4 in the UK

### Summary of the Tourism Sector Situation Analysis

Sector Pain in the Value Chain	Clustering Opportunities	IT Solution	Obstacles Hindering Product Development
<ol style="list-style-type: none"> <li>1. No Direct Channels to reach to Foreign Markets</li> <li>2. No Ability to Arrange for Online Bookings</li> <li>3. No Ability to Manage the Quality of Staff to ensure quality service provided</li> <li>4. No Management of After Sale Service</li> <li>5. No Social Networks and Media Strategies and Activities</li> <li>6. No Promotion of Events and Seasonality of Tourism</li> </ol>	<ol style="list-style-type: none"> <li>1. Content Providers from the Professional Services with Tourism Sector to improve the online content delivery and IT Vendors to develop the IT Solutions and Systems Integrators</li> <li>2. IT and Financial Institutions to develop online payment solutions and systems integration with international gateways</li> </ol>	<ol style="list-style-type: none"> <li>1. Online Payment Gateways</li> <li>2. Serious Upgrade of Websites for Hotels, Tour Operators and Guides and other Service Providers linked to Social Media e.g. Facebook, YouTube channels, etc.</li> <li>3. Mobile Applications for Tourism about the holy sites and alternative tourism</li> <li>4. Systems Integration for ERP capabilities and Client Relationship</li> </ol>	<ol style="list-style-type: none"> <li>1. High Investment Cost</li> <li>2. Low Return on Investment in the near future</li> <li>3. Instability of Political Situation</li> <li>4. Small Sized Companies have little funding capability to pay for solutions individually</li> <li>5. Regulatory framework for e-transaction</li> </ol>

## Functionality

**Table 29: Tourism Sector Situational Analysis**

During a brainstorming exercise, Mr. Yusef Daher, a local tourism expert, provided insight on the tourism sector. It was analyzed that the tourism market needs to be developed in a way to answer to two main objectives. Firstly, how to utilize the sector more through widening the offer to cover the off-season and the low-season. This comes through targeting new pilgrimage markets and other markets that do not necessary fall into demand in high and peak season. It also leads to finding new types of tourism and activities to target other markets of business FIT, Solidarity, leisure, sports, Diaspora, learning, cultural and others.

The second recommendation would be to better value the sector through concrete steps to regulate the sector through tourism laws and regulation, a code of conduct and capacity building within the tourism association. It entails also driving the Government into more interest in the sector and to push for more cooperation in the fields of budgeting, public private cooperation and cooperation with local governance when it comes to identifying Palestine as a tourist destination and its cities as unique and different tourism destination with special needs in urban planning.

The below table is what Mr. Daher has suggested from his own in-depth analysis of the tourism sector to be the economic linkages with other sectors including ICT.

Sector: Tourism	Clustering Opportunities	Marketing Opportunities	Obstacles Hindering Product Development
Linkages with ICT	<ol style="list-style-type: none"> <li>1. Accounting</li> <li>2. Booking and Reservations</li> <li>3. Online Sales Program and Channels</li> <li>4. Credit payment mechanism unavailable at Palestinian and Arab Banks existing in Palestine</li> </ol>	<ol style="list-style-type: none"> <li>1. Marketing portals and tourism guides as well as smart phone applications</li> </ol>	<ol style="list-style-type: none"> <li>1. Low demand and small market makes it unfeasible to develop needed programs</li> <li>2. Regulatory framework and complexity of solutions needed</li> </ol>

**Table 30: Tourism Sector Validation**

## Commercial Agribusiness

### USAID/Compete Project Interview:

At the meeting on 24<sup>th</sup> of April, 2013 with Mr. Mustafa Deeb, IT Sector Development for the USAID Compete Project, Mr. Deeb advised of the following:

Another ICT Solution Diffusion and Linkages will be financially supported in the following economic sectors:

1. Commercial Agriculture Sector
  - a. ICT solutions that increases efficiencies and compliance to international quality requirement and standards
  - b. Traceability software package for farmers – already has started
  - c. Packaging technology

Furthermore, PARC organization in Gaza has indicated in the Survey response that they are in need of:

1. e-Procurement and Inventory
2. Human Resource Management System
3. Budgeting System
4. Staff Attendance

An Agri-coop in Khan Younes, Gaza that was surveyed did not share any specific future requirement for ICT solutions. However, this does not substantiate a high level of market opportunity in this sector.

### Banking and Financial

#### **Association of Palestinian Banks Interview:**

At a meeting with Mr. Nabil Diab on 25<sup>th</sup> of April, 2013, the General Manager of the Association of Palestinian Banks, Diab advised of the earlier intention to develop a banking services company, whereby it will be responsible to roll-out the Automated Teller Machine (ATM) switches and points of sale equipment for credit cards. However, this company did not materialize, and the roll-out of the ATM switches was taken on-board by the Palestine Monetary Authority (PMA), whom by the way is also currently publishing a tender for Enterprise Resource Planning software<sup>28</sup>. At the same time, the Bank of Palestine has taken the lead on the roll-out and the electronic payment transfer. It is also anticipated that an online payment gateway (Master Card) will be rolled-out in Palestine by Dr. Abdul Malik Jaber also bringing in the Mater Card services.

In the opinion of Diab, the PMA and Banks as well as other financial services providers can be a growing market for the IT vendors as this segment has enough budgets to procure IT solution. Banks do invest in IT as compliance to on-going regulatory PMA and Jordanian requirement. There is also the tendency to comply with International standards and regulations. For example, Diab advised that there may be an upcoming requirement to capture data about local bank clients if they have a dual US citizenship details.

Hence, the banking sector is a well-funded market segment. However, Diab has advised that most of the software procurement and maintenance is centralized from Jordan. Perhaps, this calls for PITA to lobby the PMA to have local Palestinian companies mandate a local Palestinian presence to support these banks rather than focusing on just internal recruitment for ICT resources.

<sup>28</sup> [http://www.pma.ps/index.php?option=com\\_content&view=article&id=304&Itemid=130&lang=en](http://www.pma.ps/index.php?option=com_content&view=article&id=304&Itemid=130&lang=en)

Sector Pain in the Value Chain	Clustering Opportunities	IT Solution	Obstacles Hindering Product Development
1. Automation and Reporting	1. Potential Software for Islamic Insurance and Islamic Banking that supports the business process as this software was once discussed as exportable 2. Software for smaller size Palestinian banks and not those Jordanian or large corporate ones	1. Business Process Automation such as for the process of loans due diligence and transitioning from simple Excel sheets and Access database. 2. ERP and CRM Solutions 3. Reporting 4. Banking and Brokerage Software to Comply with Regulator ongoing ruling	1. Most banks are originally Jordanian and their procurement decision process is done centrally in Amman, Jordan. Hence, there is minimal impact by these banks in demanding ICT services from Palestinian companies. This has to be changed through negotiations as a change of policy and advocacy with the Palestine Monetary Authority is needed.

Table 31: Banking Sector Situational Analysis

Interestingly enough, the specific response to the Survey from two banks indicated a need to purchase the following applications:

1. Client Relationship Management (CRM)
2. Project Management
3. e-Procurement and Inventory
4. Document Management and Archiving System
5. Dynamic Workflow System Builder and Notifications
6. Mobile Applications
7. KBM
8. Servers
9. Storage

These banks commit to buy from their approved list of vendors, which also calls for PITA, if it chooses to do business development services to its members, is to make sure that their qualified members become listed as approved vendors at these banks.

To further qualify the above findings, a discussion with Mr. Saad Al-Khatib who was conducting a diagnostic study on the financial services for the Sector Diagnostic study with PalTrade, brainstormed the possible economic linkages with the ICT sector. Based on Saad's developed insights, the below table presents his analysis on the needs of the Financial sector:

Sector: Financial Services and Insurance	Clustering Opportunities	Marketing Opportunities	Obstacles Hindering Product Development
Linkages with ICT	<ol style="list-style-type: none"> <li>1. Creation of financial software in Arabic local and export use</li> <li>2. Creation of an online e-purchasing system – e-transactions portal</li> </ol>	<ol style="list-style-type: none"> <li>1. Marketing of financial services online</li> <li>2. Creation of Web portal and pages for financial services companies</li> <li>3. Jointly marketing financial services software</li> </ol>	<ol style="list-style-type: none"> <li>1. Lines of communications between service providers needs to be developed</li> <li>2. Start of joint product development</li> <li>3. Regulatory framework for e-transactions</li> </ol>

Table 32: Financial Sector Validation

### Other Professional Services

Another discussion took place with one of PalTrade assigned local experts on the professional services sector. Mr. Majed nazzal presented possible economic linkages with the ICT sector based on his interviews that he has conducted with the Professional Sector, as in the below table:

Target Sector Linkages	Clustering Opportunities	IT Solution	Obstacles Hindering Product Development
Accounting Offices Professional Sector	<ol style="list-style-type: none"> <li>1. To Be Determined TBD</li> <li>2. Cloud Computing Software</li> </ol>	<ol style="list-style-type: none"> <li>1. Enterprise Resource Planning (ERP)</li> <li>3. Access to Trade Information and Business Opportunities in Foreign Markets</li> <li>4. Due diligence / Application processing</li> </ol>	<ol style="list-style-type: none"> <li>1. High Investment Cost</li> <li>2. Low Return on Investment in the near future or Feasibility and absence of information about capabilities in the sector</li> <li>3. Instability of Political Situation</li> <li>4. Small Sized Accounting Companies have little funding capability to pay for solutions individually.</li> </ol>
Legal Practices Professional Sector	<ol style="list-style-type: none"> <li>1. To Be Determined TBD</li> <li>2. Cloud Computing</li> <li>3. Software</li> </ol>	<ol style="list-style-type: none"> <li>1. ERP</li> <li>2. Document</li> <li>3. Management System</li> </ol>	As Above

Auditors Offices	<ol style="list-style-type: none"> <li>1. Can branch into IT Audit (not just Financial) Services with IT Consultants to export such service</li> <li>2. Subscription Access to Databases Collectively</li> </ol>	<ol style="list-style-type: none"> <li>1. Linkages with IT Audit Experts for IT Audit Consultation</li> <li>2. IT Security Audit Consultation</li> <li>4. IT Security Consultation</li> </ol>	As Above
Design Houses and Engineers	<ol style="list-style-type: none"> <li>1. Subscription Access - Databases</li> </ol>	<ol style="list-style-type: none"> <li>1. Graphic Design</li> <li>2. Rendering</li> <li>3. Auto Cad Designs</li> <li>4. GIS Applications</li> </ol>	As Above
Consulting Firms	<ol style="list-style-type: none"> <li>1. Subscription Access - Databases</li> </ol>	<ol style="list-style-type: none"> <li>1. Content Development for Tourism and Government Sector Websites and Portal</li> <li>2. Due diligence / application processing</li> </ol>	As Above
Advertising and PR	<ol style="list-style-type: none"> <li>1. Subscription Access -Databases</li> </ol>	<ol style="list-style-type: none"> <li>1 Not Clear Yet</li> </ol>	As Above
Public Polling	<ol style="list-style-type: none"> <li>1. Subscription Access to Databases</li> </ol>	<ol style="list-style-type: none"> <li>1. Mobile Apps for Survey Informatics,</li> <li>2. Data Collection and Analysis</li> <li>3. Access to Trade Information and Business Opportunities in Foreign Markets</li> </ol>	As Above

**Table 33 Professional Sector Validation**