USAID | GEORGIA
FROM THE AMERICAN PEOPLE

ASSESSMENT OF INFORMATION TECHNOLOGY USE IN GEORGIA'S LOGISTICS INDUSTRY

FINAL

Wednesday, June 20, 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by Deloitte Consulting LLP.

ASSESSMENT OF INFORMATION TECHNOLOGY USE IN GEORGIA'S LOGISTICS INDUSTRY

FINAL

USAID ECONOMIC PROSPERITY INITIATIVE (EPI)

CONTRACT NUMBER: AID-114-C-10-00004

DELOITTE CONSULTING LLP

USAID/CAUCASUS

WEDNESDAY, JUNE 20, 2012

DATA

Author(s): Emilio Campelo

Reviewed By: Vakhtang Marsagishvili, Transport & Logistics Activity Manager

Alan Saffery, Manufacturing & Service Sectors Component Leader

Name of Component: Manufacturing & Service Sectors

Practice Area: Transport & Logistics

Key Words: Technology, data, logistics, trade, government, cargo, industry, customs, organizations, assessment, air, sea, rail, freight forwarder, customs broker, transportation, container, port, terminal, airport, Poti, Batumi, Georgia, Tbilisi, trade facilitation

ABSTRACT

This document provides an assessment of the use of IT in Georgia's logistics industry and a corresponding action plan. During this assessment, representatives from all areas of logistics were interviewed, including sea, rail, road, air, freight forwarders and logistics associations. The plan describes the vision for a trade net for all players involved in the logistics industry. The action plan was developed using the IT Standard Systems Develop Life Cycle (SDLC) and Deloitte's Portal Methodology modified to reflect the specific requirements from this assessment.

ABBREVIATIONS

APM	A.P. Moller
APS	Application Service Providers
ASYCUDA	Automated System for Customs Data
CTC	Caucasus Trade Corridor
DTTN	Digital Trade and Transportation Network
EPI	Economic Prosperity Initiative
GCNet	Ghana Community Network Service Limited
ICT	Information and Communications Technology
IT	Information Technology
ISO	International Organization for Standardization
NSW	National Single Window
PMO	Program Management Office
SDLC	Systems Development Life Cycle
SW	Single Window
TNP	Trade Network Portal
TradeNet	Singapore Trade Network
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UN-CEFACT	UN Centre for Trade Facilitation
WCO	World Customs Organization
WTO	World Trade Organization

CONTENTS

I. EXECUTIVE SUMMARY

In the current world of international trade, technology has grown to become a necessity and now plays an integral part in efficiently processing cargo. To be part of the international arena, one needs to use technology to connect the all the players involved in cargo processing.

Logistics sector representatives from all four modes of transportation, air, sea, road, and rail, were interviewed. Other organizations involved in logistics such as customs brokers, logistics providers, freight forwarders, and technology companies were also interviewed. At seaports, the terminal operators were interviewed to understand the multi-modal issues involved. Government agencies were interviewed, such as the Revenue Service and Data Exchange Agency, to obtain a perspective on their strategic position related to cargo processing. Interviews were designed to capture both use and perceptions of technology.

The vast majority of the Georgian stakeholders involved in logistics understand that technology directly impacts trade facilitation and business. Indeed, most of the major organizations in the industry rely heavily on technology, although they tend to implement technology alone, without a coordinated approach. Technology must also be implemented correctly to provide benefits. Implementation involves people, processes, and technology; all of which are required for business to be conducted efficiently.

Repeating themes expressed by interviewees were data coordination, data harmonization, and a holistic view of data. Data is the main driver in any system. Without data, there is a lack of information and subsequently a lack of functionality. Many of the logistics companies mentioned the lack of data on the location and status of the cargo. Most systems fail over time not on the technology being implemented but on the functionality available, which is a direct result of capturing the appropriate data at the appropriate time. By providing more data to the users, one can create functionality and consequently connectivity between all the participants in the cargo movement process.

The creation of a Trade Network Portal (TNP) would:

- Increase the efficiency of operations
- Reduce technology and business risks
- Increase transparency
- Increase flexibility and responsiveness to business customers
- Address gaps in process, delivery and organization resulting from legacy and historical practices
- Incorporate elements of current technology (leading practices) in data and functionality
- Integrate cargo processes
- Provide training to all stakeholders

The initial observation and assessment of the major stakeholders (customs, trade, government and technology) suggests that they are on par, in some areas, with many countries in the world. It is not the norm to see the advancement of government and customs

along with the trade. In most of the world, it is trade that drives change and advancement in the area of technology adoption. In Georgia, all have the vision to move ahead with the implementation and advancement of technology.

The building blocks are in place to expand the use of technology in a more coordinated way. Many of the government agencies involved in the logistics industry already use technology. For example, the Revenue Service uses ASYCUDA World, an internet-based software application. Information on cargo can be entered into the system to perform the clearance process online. Financial institutions are also using technology to assist with payments from logistics providers.

The following list is a synopsis of the information from the interviews performed. There were five main areas mentioned by the interviewees as concerns for the future:

- Lack of consistent data on a real-time basis
- Need for more automation (logistics-related)
- A need for a more integrated system
- Smaller organizations lack the ability to use technology
- Need for an expansion of customs functionality
- Standardized processing of information

Georgia should proceed with the development of a TNP. The Data Exchange Agency has agreed to be the sponsor or lead organization. They are setting the standards involved in processing data and developing data processing infrastructure in Georgia.

The TNP will provide a publically-available set of interface specifications for interaction between government and trade systems. It will also encourage competition among suppliers of different solutions, driving down costs. There will be no need to impose single system architecture on trade; any system and distribution of operations should be acceptable, as long as it complies with the data definitions and other protocol specifications set by the lead government agency.

Implementation should be gradual and progressive. Early benefits can be demonstrated to grow the appetite for continued development by trade and government. Initially, the major step will be to show progress and a commitment to the concept of a trade network.

II. APPENDICES

A. BACKGROUND

B. METHODOLOGY

C. FINDINGS

D. RECOMMENDATIONS

E. ADDITIONAL INFORMATION

A. BACKGROUND

SCOPE

Due to its strategic location between the Black and Caspian seas, its regional advantages as a place to do business and its desire to become a regional service hub, Georgia has growing, but still nascent, logistics and transportation sectors. Despite the economic downturn and war in 2008, the value of the Georgian transportation sector (in U.S. dollars) has continued to increase, growing six-fold since 2000. Improvements in the competitiveness of agricultural, manufacturing, and service sectors (such as tourism), in transportation infrastructure and in air routes will simultaneously enhance transportation, logistics and other sectors. Transport and logistics can be pivotal and catalytic for a broad segment of the economy, identified as crosscutting sectors by EPI. In order to fully understand the potential impact of transport and logistics' on the economy, it is critical to understand their impact on other sectors.

As the EPI-targeted value chains grow, there will be an increased need for expanded technology and communications. The complexity of the Caucasus Trade Corridor (CTC) distribution network, both domestic and international, will require new levels of information sharing, product visibility, and data velocity. The challenge of this consultancy is to assess the current use and availability of logistics technology tools in Georgia and to show how they can strengthen competitiveness, increase sales, and improve service reliability, visibility, and information velocity.

OBJECTIVE

The objective of this document is to assess and report on the current availability of technology services for the logistics industry in Georgia. The research will include best practices and current technology trends in the United States, European Union, and other active logistics centers that would leverage the CTC as potential logistics customers. The research will also determine the applicability and feasibility of implementing such technologies in Georgia's logistics community.

APPROACH

This document has been prepared with the aforementioned concepts, objectives, and observations in mind. The subject matter addressed is relevant to realizing the benefits of technology to enhance trade facilitation in Georgia. The approach was taken to assess the current state of trade facilitation in relation to technology use. This is the first step in determining the feasibility of technology implementation. It also provides background information on the willingness among stakeholders to move forward with technology.

In order to undertake the assessment, a list of major stakeholders was compiled. These stakeholders were all involved in the business or facilitation of trade. All modes of transportation were involved, including land, air, sea, and rail. Government agencies and associations including the Freight Forwarders Association and the Logistics Association were also involved.

INTERVIEW PARTICIPANTS

Appendix E lists all those that were interviewed for the assessment. They include:

- Information Technology Organizations
- Transportation Organizations
- EPI personnel, and
- Government Representatives

All key participants in the logistics industry, including freight forwarders, customs brokers, and all modes of transportation were included. Associations involved in the promotion of the logistics industry, such as the Freight Forwarders Association of Georgia and the Georgia Logistics Association, were also interviewed alongside Governmental bodies and technology companies, which provided an insight into the maturity of the technology field within Georgia. All of these organizations, associations, businesses, and agencies were chosen to provide a current baseline on technology maturity and its adoption within the logistics industry.

B. METHODOLOGY

ROADMAP FOR THE FUTURE

A ROADMAP FOR SUCCESS

The roadmap for success is long and complex. It will take extensive coordination among the various stakeholders, but will yield significant benefits to all of them. All stakeholders should have an understanding of the final objective in mind when they are moving along this roadmap.

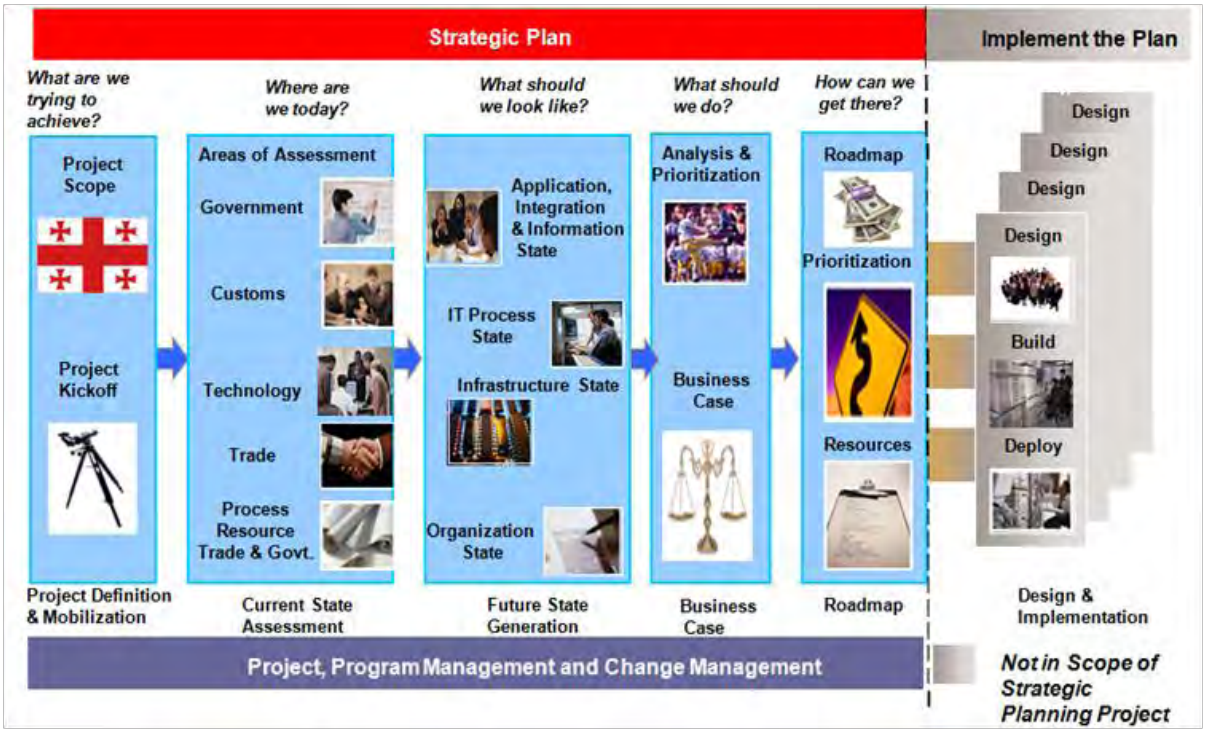


Figure 1: Strategic Plan Roadmap

Strategic planning creates a vision on how information technology and business partners collaborate in the process. It also defines high-level goals as the foundation for long-term technology development, enhancement, and operation. Figure 1 outlines a high-level strategic map for the process that could be followed by the various groups working with EPI in order to achieve the ultimate goal of implementation. It provides a visual depiction of how strategic planning works and the steps for success. Skipping steps is not an option since each one is dependent on accomplishment of the previous one. This is a long road with many different and diverse groups working together in order to achieve the final destination. There are differences between a trategic plan and an implementation plan. Each one has its unique features for success. Figure 2 identifies the typical components of a strategic plan leading to the creation of implementation plans. Strategic thinking requires a great deal of analysis for success and must take into account all aspects of the strategic plan. Implementation is more of a singular event that is part of a larger component. In many cases they are considered to serve the same purpose.

Also a strategic plan should not be confused with a business plan. A business plan is about setting short-term or mid-term goals and defining the steps necessary to achieve them. The strategic plan is typically focused on a business' mid- to long-term goals and explains the basic strategies to achieve them.

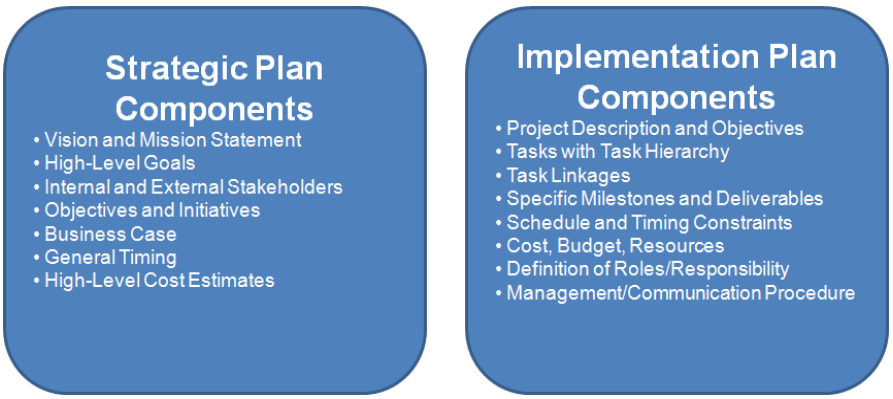


Figure 2: Strategic Plan versus Implementation Plan

FUTURE VISION

From the weeks of interviews and discussions, it is clear the future vision of the logistics industry is a centralized method to transact business within Georgia. This vision comes from the diverse interviews performed with all facets of the Georgian logistics industry. The vision, and more importantly the recommendation, is to continue to move forward at least on the vision and the development of a Trade Network Portal (TNP) otherwise known, in some areas, as a National Single Window (NSW). From the current assessment, all the stakeholders have been working in their own areas on automation for their particular industry. The Government of Georgia, more specifically the Data Exchange Agency, is actively pursuing the development of a TNP. This will tremendously benefit trade facilitation and the people of Georgia.

The following sections will provide background on some of the more successful trade networks around the world. More importantly, high-level action items will be presented in order to begin the process of transforming the logistics industry in Georgia.

CHANGING THE BUSINESS

In 1986, Peter Drucker made the following statement: "…there is nothing more useless than to do efficiently that which shouldn't be done at all." This was a result of observing technology that was primarily used to automate existing manual processes without improving the efficiency of the processes. The processes he observed were somewhat faster but mostly left unchanged and inefficient.

Keeping this in mind, it is clear that a new cultural norm needs to be established for future implementation of technology and a change in the logistics business. A paradigm shift must take place to promote efficient and effective processing. Key players in trade facilitation such as government, financial, and trade organizations must also shift. Many are currently using and implementing new technology processes as they see value in changing their businesses

and the processes involved. Yet major stakeholders must work toward a unified effort in the future.

One cannot implement technology without modifying the processes involved. This would lead to more failed projects. More time needs to be spent on improving the processes rather than the technology.

UNIFIED AND COORDINATED APPROACH

In order to perform a paradigm shift in any industry, there needs to be a unified and coordinated approach to development among stakeholders. Without this unified and coordinated approach, the development of such a large undertaking will not be successful. The disciplined and coordinated approach focusing on improvement in the three areas (government, trade, and customs) will provide the roadmap to accomplish the following:

- Establish priorities to realize the best return on investment
- Align stakeholders with the strategic plan
- Establish a standardized process of identifying needs and managing the appropriate investment
- Create a unified direction of initiatives, which will enhance support from all stakeholders and participants
- Establish a baseline over which improvement can be measured

Figure 3 depicts how the use of IT becomes central once the processes are standardized and simplified. If the overall processes are not simplified and standardized, implementing technology will serve no purpose. In the long run it will frustrate internal and external users, eventually stopping the project. Most projects of any size fail because they spend very little time analyzing the current state. Before moving toward how a future state should operate, it is imperative to understand the current situation.

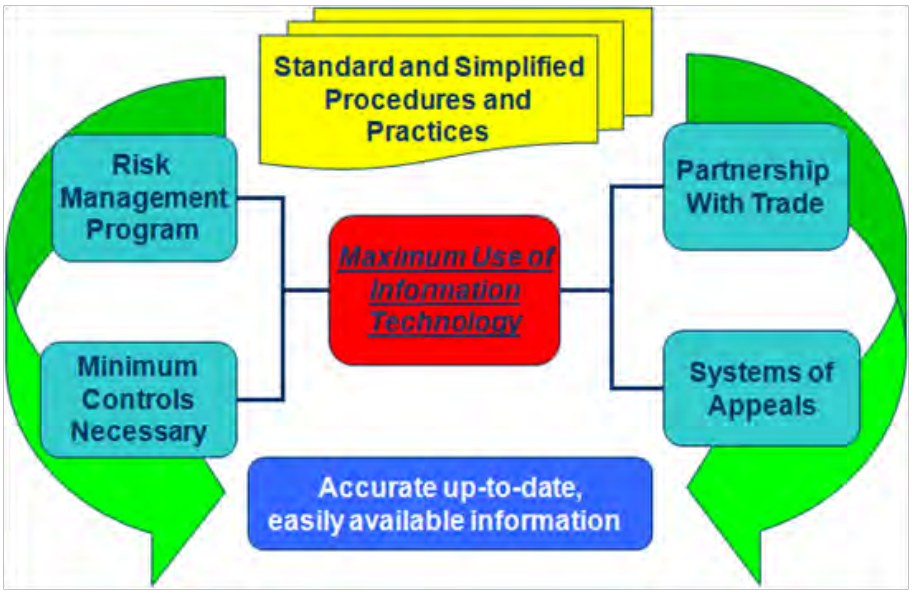


Figure 3: Integrated Flow of Information

CONCEPT OF A TRADE NETWORK

The UN Centre for Trade Facilitation and Electronic Business (UN-CEFACT) defines a Single Window (SW) trade portal as, "a facility that allows parties involved in international trade and transport to lodge standardized information and documents with a single point to fulfill all import, export, and transit-related regulatory requirements" (United Nations Economic Commission for Europe UNECE, 2005, p. 3). It is a one-stop service portal providing an integrated electronic gateway that enables trade-related information and documents to be submitted by exporters, importers, customs brokers, freight forwarders, shipping agents and other players in the international trade chain at a single entry point. This information is then transmitted to customs, quarantine, licensing, port, and other government authorities, as well as to insurance companies, banks, and all other private agencies involved in international trade. A SW portal can also facilitate the payment of duties, taxes, fees and commercial invoices, and the use of various value-adding services, such as e-training and e-marketing.

The UN actively promotes the concept and implementation of SWs due to the enormous benefits it observes from the establishment of SW trade portals by countries. To promote the concept, monitor implementation, and assist countries interested in the adoption of the single window concept, the UN-CEFACT, hosted by the UN Economic Commission for Europe (UNECE), organizes annual workshops and symposia on the subject. The most recent was held in Geneva from May 3 to 5, 2006 (UNECE, 2006a). The UNECE has also issued Recommendation No. 33 that provides guidelines on establishing a single window (UNECE, 2005).

The TNP and SW do not enable members to view the systems of organizations. The members are all separate and run their individual systems. A TNP or SW allows information related to cargo to be sent to a central processing database. When someone is looking for information on the status of their cargo, this central database will retrieve the information. Organizations are only connected through this centralized database.

Figure 4 provides a visual representation of a trade portal. It displays how the flow of information between the various stakeholders will centralize all the information and then distribute it to the appropriate area. It functions as a central processing point for information and a central repository for data. All of the parties involved in the process of logistics are interconnected, with information flowing efficiently. There is no need to physically call for information, thus avoiding potential errors over the phone. The TNP operates like a hub with all the involved parties being the spokes connected to the hub for information.

A Trade Portal is NOT:

- A piece of software or product for sale. Instead, it is software that enables the portal
- A website with just HTML pages put together. Rather, it combines information, transactions, support, and management/governance
- Necessarily expensive
- Specific or limited to one function
- Any web-enabled version of a vendor's product or application

Figure 4: Trade Portal Processing

The TNP enables the logistics process to be a continuous flow of information. High volumes can be processed very quickly and efficiently, which will result in lowering processing times and eventually the costs of cargo movement. Many industries, such as manufacturing, use this concept because it results in reduced manufacturing costs by eliminating downtime on a production line.

Figure 5 depicts the continuous process involved in logistics. All the functions in the process should be continuous and interconnected. The trade portal assists this continuous process by connecting all of the required parties together.

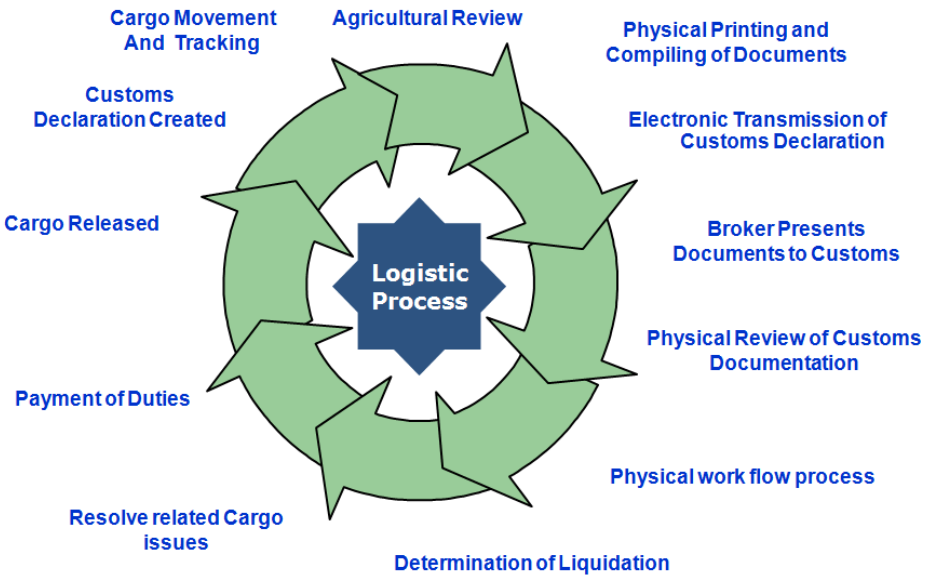


Figure 5: Continuous Logistics Process

BENEFITS OF A TRADE NETWORK

Supporting actors, such as the private sector and government institutions, develop trade facilitation portals or gateways. These gateways are typically designed to process trade information submitted electronically by traders and forward it in the appropriate format to all the relevant agencies for approval and/or further action. Trade facilitation gateways providing trade gate services have largely been developed at the national level (e.g., Singapore TradeNet). Regional portals have also been created.

The goal of trade facilitation portals is to improve the operational efficiency and effectiveness of procedures, documentation flow, and data exchange in international trade transactions. This improved efficiency and effectiveness is best achieved when the principles of trade facilitation and promotion join with electronic commerce (UNESCAP, 1999). Through the application of Information and Communications Technology (ICT), paper documents are replaced with electronic equivalents, but not exact substitution, leading to the simplification, rationalization and streamlining of trade procedures and transactions (Schware & Kimberley, 1995).

Some benefits of a TNP to government are:

- Automation of customs clearance (e.g. through green channel rapid clearance procedures relying on pre-filed entries)
- Minimization of commercial information required
- Simplification of approval procedures (e.g. through authorization of traders)
- Facilitation of quick response (QR) and Just-In-Time (JIT) strategies
- Optimum use of standards for information formats and layouts, for codes, and for procedures
- Co-ordination of the provision of information to different government agencies concerned with import and export
- Rationalization of controls and verifications (e.g. minimization of cargo checks)
- Elimination of multiple document submissions ('Single Administrative Document')
- Remote filing
- Seamless integration of transactions between exporting and importing administrations
- Control of illegal activities, such as systematic under-invoicing
- Improvement of access to information (data)
- Efficient, secure and timely settling of trade transactions and customs duty payments

There are also a number of potential benefits for users of trade portals, namely:

- Access to export markets that are now increasingly requiring all trade transactions to be undertaken electronically
- The removal of internal barriers to trade such as having to physically move between ministries and agencies for each shipment, standing in lines, and having to transact business between 9 am and 5 pm only

- Improved customer satisfaction through the availability of 24/7 web-based information services
- Reduced labor costs through the replacement of labor intensive tasks with an automated electronic communication system
- Less re-keying of information as once the data is keyed into the system it is used for a number of different transactions and sent to all parties involved in the trade processes
- Reduced risk of error
- Reduced inventory requirements and inventory carrying costs and improved cash flow
- Longer service hours and faster response time to market needs
- Faster processing of various governmental applications submitted electronically

REVIEW OF TRADE NETWORKS

There are many examples of trade portals worldwide. The original and most famous portal is the one created for Singapore in the late 1980's called Trade Net. It has been a tremendous success story for trade in Singapore. The portal's functionality has expanded over the years, constantly evolving with trade. It is important to note that trade portals will forever be changing because of technology. Table T-5 in the Additional Information Appendix has a listing of various types of trade portals implemented around the world. The table displays the portal type, the scope of the portal, along with the name and area involved.

The following paragraphs will review three TNP's to show how different groups implemented this concept. The possibilities of a TNP are endless depending on one's vision. As the TNP matures, different areas will come into play and be added. The main purpose is to unify and simplify the process of cargo clearance and provide status. A TNP can also be a learning center, a message center related to customs regulations, or a distribution system for new laws related to trade and cargo.

SINGAPORE'S TRADE NETWORK (TRADENET)

Singapore's Trade Net is the oldest and has set the path for all future trade networks developed around the world. It is by far the most reviewed and duplicated as a baseline for the development of trade networks by other countries. It has set the bar for best practices in implementing the concept of a single window (trade network). This trade network has also evolved over its 25-year existence. Over time it added functionality, utilizing the ever-changing world of technology. When it was initially implemented, the internet was not an option. Now the internet has become an integral part in expanding the use of TNP.

Two countries use TradeNet: Singapore and Mauritius, which was the second country to adopt the use of a trade network. Functionality that is part of TradeNet is as follows:

- Document Exchange (DocX)
- Integrated Multimodal Solution
- Overseas Highway Customs
- Overseas Highway Manifest

- RosettaNet Automated Enablement (RAE)
- Shipping Line Linkages
- Title Registry
- Trade Declarations

These functions are constantly reviewed and updated to keep TradeNet at the leading edge of trade networks.

GHANA COMMUNITY NETWORK SERVICES LIMITED (GCNET)

GCNet was established to develop and operate a customized electronic system for processing trade and customs documents. To optimize this service, GCNet was designed to provide information about services, including:

- How to access GCNet
- Procedures for electronic clearance
- Various codes used during clearance (HS, CPC, Duty and Tax, Freight Station and Warehouse)
- The status of arriving carriers and the rotation numbers assigned to them by customs
- Indicative value of used vehicles

GCNet is also geared to provide useful information on shareholders of GCNet and other key stakeholders, especially those engaged in trade and customs-related operations. It highlights what these organizations do, their "modus operandi", and how they can be contacted.

Other useful information such as upcoming events or developments in GCNet's focal area of operation (e.g. conferences, fairs, Government policy initiatives, WTO and WCO decisions, technological developments in ICT, etc.), are featured regularly on the portal. This is a fully-featured portal that has expanded into an informational portal for participants. Over time, this feature has provided unified community involvement in the portal.

HONG KONG'S DIGITAL TRADE AND TRANSPORTATION NETWORK (DTTN)

Hong Kong developed the Digital Trade and Transportation Network (DTTN) based on the TradeNet concept, but has developed it to incorporate many other industries. The DTTN is a community platform that connects organizations in the trade, logistics, and financial industries, enabling them to exchange business documents electronically with their trading partners. The existence of a community e-platform with defined standards and protocols attracts software vendors to develop value-added services, which further improve user operational efficiency. These value-added services come only when the network has been established and all required organizations are connected to the network. This shows that the functionality and reach of a trade network has no bounds. It is only limited by the vision one has for the trade network.

The DTTN includes nine major communities:

1. Buyers/Importers
2. Sellers/Exporters
3. Freight forwarders, including third party logistics service providers

4. Carriers/Portals (e.g. Inttra, GTNexus, Traxon)
5. Terminals
6. Government and its agencies
7. Banks and financial institutions
8. Insurance companies
9. Inspection agencies

The DTTN complements Application Service Providers (ASPs), software vendors, and global service providers. It has helped to promote a greater initiation of e-business in the region to the ultimate benefit of the commercial sectors.

TRADE NETWORK OVERVIEW

The abovementioned trade networks are just a few of the various ways trade networks can be used. Each focuses on the basic function of trade but also provides other value-added services. These services are dependent on the maturity level of the business environment. The three services selected provide a general overview of the functionality in trade networks.

Georgia should review the various trade networks and begin to develop what their network will and will not provide to its stakeholders. This overview provides at least a foundation to begin to understand how the trade network could function. It is important to review what best practices are for the leaders in the industry. Then, one should take into consideration the evolution of trade networks. They were created following several years of analysis, design, development, and implementation. However, all trade networks have involved a structured framework.

C. FINDINGS

GENERAL OBSERVATIONS

The World Trade Organization (WTO) defines trade facilitation as: 'The simplification and harmonization of international trade procedures where trade procedures are the 'activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade' (WTO,1998).

The initial observation and assessment of the major stakeholders (customs, trade, government, and technology) suggests they are on par in some areas with many countries around the world. It is not the norm to see the advancement of government and customs along with trade; in most countries, it is trade that drives change and advancement in the area of technology assistance. In Georgia, all stakeholders are continuing with the implementation and advancement of technology.

Most of the smaller organizations are less involved in the use of technology, primarily sending and receiving emails. Implementing expensive systems and technology is not feasible for them due to cost. These organizations are small and handle very limited amounts of information. However, the major players in this arena have implemented technology, and are also looking to expand. These organizations need to utilize technology to continue to grow and expand their business. They are on par with many organizations of their size in the business of logistics.

Repeating themes that were expressed by different interviewees were the lack of data coordination, data harmonization, and holistic view of data. Data is the main driver in any system; without data there is a lack of information and subsequently a lack of functionality. This was a major point during the interviews conducted with many of the logistics companies; they mentioned the lack of data on location and status of cargo. Most systems fail over time not because of the technology being implemented but because of the functionality available, which is a direct result of capturing the appropriate data at the appropriate time. By providing more data to the users, functionality can be created and consequently connectivity between all the participants in cargo can be achieved.

The following list is a synopsis of the information gathered from the interviews. There were five areas mentioned to be addressed which are of concern for the future:

- Lack of consistent data on a real-time basis
- Need for more automation (logistics related)
- A more integrated system
- Smaller organizations lack of and ability to use technology
- Expansion of customs functionality
- Standardized processing of information

The following paragraphs provide a further breakdown of the various areas of the logistics industry that were interviewed: customs, government, trade and technology.

CUSTOMS

This current assessment of Georgian customs is only related to the use of technology and not any of the policies enforced by customs. The current observation of Georgian customs is that it has done a good job in the area of technology with the implementation of Automated System for Customs Data (ASYCUDA). The United Nations Conference on Trade and Development (UNCTAD) retains overall responsibility for all aspects of ASYCUDA development.

The ASYCUDA software is a computerized customs management system covering all import and export procedures, as well as other recognized customs regimes, including transit and warehousing. It takes into account international codes and standards established by the International Organization for Standardization (ISO), World Customs Organization (WCO), and United Nations (UN). It was designed to simplify and automate customs procedures and has been employed by a number of customs administrations around the world. For any modern customs organization, technology plays a key role. In today's world, speed is of the essence in the movement of cargo, and technology is the tool to speed the processing of this cargo. Most importantly, the software is being used and is also being expanded. Automation, especially for customs, is the opportunity to eliminate many of the bottlenecks that exist in a manually operated customs organization. The elimination of processing paper and utilizing systems to perform risk assessments is a determinant of trade facilitation. Georgian customs has one of the key foundation components to use technology in trade facilitation. This enables integration with trade and government agencies involved in trade facilitation.

One example of how ASYCUDA can assist in the utilization of automation related to improving trade facilitation is the new Automotive Terminal at the Port of Poti. During the consultant's visit and interview with the Port of Poti a tour and review was given of this new type of processing. It is a perfect example of how single window processing works. The Automotive Terminal combines clearing agents, customs, banks, and terminal systems to clear the cargo. Since they are all interconnected, all is performed at the same location, without the need to go from one area of the port to another. This is made possible due to the implementation of ASYCUDA that allows connections between the financial institutions, agents, and terminal. This confirms that this type of processing can be designed, accomplished, and expanded in Georgia.

TRADE

Trade is a very expansive and varied business model with air and sea terminal operators, organizations involved in the processing of cargo, and the government involved in the clearing and collection of duties. All of these areas needed to be, and were, interviewed. The consultant touched on the various aspects involved in the movement and clearance of cargo.

The purpose of the interviews was to provide an assessment of the current use of technology within the organizations as well as their vision for the future. It is important to understand the vision these companies have for implementing new technology. It was very clear the companies have a handle on their present technology and a plan for the future. Most of the companies are on par technology-wise with many other companies globally that are involved in the logistics industry. More importantly, they are looking to future technology implementation.

As with any industry, the small to medium-sized organizations have a more difficult time investing and using technology. They still perform many of the functions manually and do not plan to become involved with technology. These companies would benefit from expanding

the use of technology, especially the internet. Technology today does not need to have heavy monetary investment.

GEORGIAN RAILWAY

An example of an organization implementing new functionality is the Georgian Railway. The Georgian Railway is looking to provide a Short Message Service (SMS) system for notifying customers that cargo has arrived, been cleared, and pick up times. This is a new service where the customer can log in and receive notices on their cargo in real-time. Implementing this function shows a concern for customer relationships, even though they are the only railway operator in Georgia. They see the need to provide advanced functions within their systems, and help the customers gain much needed information on the status of their cargo.

LASARE

Others include Lasare, which is the organization that processes air cargo. It has a very modern and updated location at Tbilisi International Airport, along with efficient processes and systems. The organization has security in and out of the location that is monitored via screen at a security guard desk. Its facility is open and operating 24 hours a day for accepting and retrieving cargo. All functions for clearing cargo can be performed at this one location, which exemplifies implementing efficiency and technology.

Lasare uses a corporate system utilized by companies involved in air cargo (e.g. Turkish Airlines, Lufthansa). Lasare has the standard system for finance, warehousing, and tracking. At the present time they are also expanding the ability for customers to track their cargo via the internet, eliminating the need to call different departments for information. A new website will be implemented by the fall of 2011, where customers will be able to type in the airway bill number and check the status of their cargo. Although they are the major air cargo company, they are listening to customers' needs by developing more customer-focused processes and applications.

A.P. MOLLER

On their website, A.P. Moller (APM) says: "We employ the most modern and technologically advanced terminal handling equipment available to minimize power usage and the emission of pollutants and greenhouse gases. We invest in innovative solutions and partner with other far-thinking industry pioneers." This description explains why it is the number one terminal operator in the world; operating their facilities very efficiently. Technology is at the center of its operations and enables them to run these terminals efficiently.

Technology is going to be a major shift for the internal users at the port, but it will have a much larger impact on the external users. In order to maintain their number one status, they are constantly evolving their operations. Two interviews were conducted, at the Port of Poti and with APM, to understand the vision they had for the port in the area of technology. The first interview came only a few weeks after signing the contract and therefore resulted in very little information.

From the first interview the consultant was informed that an IT Specialist from APM was coming with a plan for the port. A second interview with the IT Specialist was then held to get an idea on actual future plans. There is presently a six month review and implementation of an IT infrastructure. This only concerns communications within the port, which would be Wi-Fi, LAN, and WAN connectivity; installing and implementing the software APM uses at their ports. The philosophy of APM is to have consistency in the ports that they operate around

the world. After six months of infrastructure development, introduction of the software required for port operations will begin. These systems will be typical for terminal operators, such as Terminal Operating Systems (TOS), Gate In/Out System, Scheduling Systems, and commencing to the APM Enterprise Resource Planning (ERP) System.

The involvement of APM at the Port of Poti will have a dramatic impact on technology and operations. Internal, but especially external users, will see a major change in the way business is conducted at the port. Technology is at the forefront of running an efficient port as APM does.

GOVERNMENT

In many countries, government is a major area of concern since they are always catching up with the private sector. However, in Georgia, they are at the forefront of automation. From the various interviews performed with trade partners and financial institutions, they mention that they are connected with Government to make payments and submit required information on cargo. Automation within Government is extremely important for trade facilitation. Both private citizens and the logistics business community have embraced this concept of e-Government.

This automation was apparent at the Port of Poti by bringing all responsible parties for clearing automotive cargo under one roof. The Port of Poti has also interconnected all of the groups involved so it became a seamless, automated process.

One of the main repeating themes from the interviews conducted is the need for more integration, especially among all of the government agencies and trade organizations. The focus for Government needs to be geared toward expanding integration, and the Data Exchange Agency is taking on this initiative.

DATA EXCHANGE AGENCY

The one area where e-Government is going to have a major impact on trade facilitation is on data exchange. The Data Exchange Agency has a vision to develop a Trade Network, similar to various networks developed in other areas of the world, and sees itself as the central body for maintaining and distributing this data.

The vision is to have all of the participants in cargo processing connected together, with the Data Exchange Agency as the central processor. This would not be a direct connection among the various organizations, but a central data repository for the information on cargo. Any time a function is performed related to cargo, a message is sent to the central repository. Any user that is a member of the Trade Net can then check the status of their particular cargo. The Data Exchange Agency is presently in the process of developing the standards of use for this connection. They are also in the process of developing the infrastructure that would be used to process the data from all of the member organizations.

TECHNOLOGY

The availability of an efficient and inexpensive telecommunications infrastructure is a prerequisite for effective implementation of technology in trade facilitation. This would provide the ability to communicate efficiently and inexpensively within and across borders. These are available within Georgia and are being used by government, customs, and trade.

Georgia also has organizations in the field of technology that can assist in the area of infrastructure development, as well as development of systems if required. These technology

partners (e.g. APEX, Delta Systems, GREENNET, etc.) are providing all the leading technologies within Georgia, as well as international ones. Technology partners are a very important commodity as the development of advanced functionality becomes more involved and requires advanced systems integration and development experience.

DELTA SYSTEMS

Delta Systems offers solutions in the following major areas:

IT Infrastructure	**Management Information Systems**
Networking	Enterprise Resource Planning
Unified Communications	Business Intelligence
Microsoft Solutions	Document Management
Virtualization	Software Development
Data Centers	
Information Security	

Delta Systems has locations in New York and Germany, and is expanding to countries within the region. They have partnerships and are certified in various specialties such as: Microsoft Gold Certified Partner, Oracle Gold Partner, VmWare Solution Provider, Cisco Silver Certified Partner, Symantec Silver Partner, IBM Advanced Partner, Hewlett Packard (HP) Reseller, RedHat Ready/Tier 1 Partner, Microstrategy Partner, and DocsVision Partner. They also can provide assistance for newer technologies such as cloud computing, custom development, systems integration, ERP Systems, and network infrastructure.

GREENNET

GREENNET is a progressive company that offers quality solutions in:

- Network Design
- IT Consulting
- Equipment Supply
- Installation
- Technical Support 24/7
- Professional Training

GREENNET has years of experience in networking and telecommunication that enables them to provide clients with solutions that ensure stability, cost-efficiency, scalability and ultimate performance. They serve a wide range of clients including many of Georgia's leading enterprises, telecommunication companies, banks, government bodies, non-governmental, regional, and international organizations. They have established long-term partnerships with global leaders in the IT industry, including Cisco Systems, Sun, HP, Microsoft, Tyco Electronics, Zyxel, Jabra, PGP and many others. GREENNET also has the required certifications in software engineering from Microsoft and hardware engineering by CISCO.

D. RECOMMENDATIONS

A PLAN OF ACTION

BEST PRACTICES IN DEVELOPING TRADE NETWORKS

Table T-6 in the 'Additional Information' Appendix depicts the principles behind the trade network and the corresponding business impact each will have. This paradigm shift in Georgia's logistics industry will shape the way business is performed for years to come.

A review of the best practices when one is planning and designing a trade portal is necessary before developing an action plan. Figure 6 lists best practice in the areas of planning and design:

Area	Best Practice
Understand the business problem or goal	Trade portals suffer from the same type of factors as portals in general. Many want a portal, but do not really know why they want it. This should not be a technology in search of a business problem. Trade portals should directly support the initiatives of businesses and involve government, and secondly support IT. Top-to-bottom support for the portal initiative should be assured, including the sponsor.
Avoid risk in over-analyzing requirements	When analyzing, there is still a tendency to over-analyze technology solution decisions. While due diligence is required, organizations should not spend several months doing a market survey, sending out RFQs, RFPs, etc. They should understand the requirements of the involved parties, utilize technology and industry reviews of the portal products and vendors, and use IT research companies to help compile a shortlist. They should then become very familiar with the vendors or products on the shortlist, and bring two to three in-house for hands-on testing and use. Finally, before a trade wide commitment is made, the most-qualified vendor should potentially be brought in for a pilot. As requirements are generated, the sponsor should understand what kinds of portals it will be deploying.
Plan & budget costs appropriately	There needs to be a plan to spend one to three times the acquisition cost of the portal on the development, deployment, maintenance, and support of the portal during a two-year time frame. There should be a plan for a major shift in resources and timing when the portal evolves from r.1.0 to subsequent releases, and a plan for significant extra effort as back-end applications are upgraded.
Mitigate risks	Design and implement in a modular fashion to accommodate for continuous change and growth Line up executive/agency sponsorship to ensure the acceptance of new business processes and models, the sharing of information and the ability to continuously change

	Ensure an early win. Know the business well enough to understand where this early win can occur
Wade through the vendor hype	As part of the due diligence exercise for logically selecting a portal product/vendor — on the basis of facts, rather than on emotions — the sponsor should separate the hype from the reality. They should determine vendor criteria, and measure each vendor against each requirement. The sponsor should not simply accept the vendor's word. They should ask for proof points, and better yet, production implementations that allow them to talk with previous customers of the portal vendor. A reliable reference account is worth 1,000 white papers.
Seek professional assistance	Almost every organization that implements a trade wide portal product will do so with the help of a professional services organization. The concepts and technologies of trade portals are new to many organizations. They should use the experience of professional service organizations to short-cut the development and deployment effort, and to apply their lessons learned to the situation. If the plan is to take over support and ongoing development of the portal, sponsors should add a clause to the contract which allows for the transfer of knowledge and skills to their internal staff. However, organizations should make sure their staff can take over portal support and future development/deployment so that they are not forever locked into the professional services firm. Outsourcing the operations of the portal is an option that must also be explored. If outsourcing or hosting is selected, they should understand that this is mostly an unproven model, but should also be aware that many service providers have portal offerings and should be considered.

Figure 6: Best Practices for Plan and Design

After the plan and design phases best practice must be employed in the areas of building and delivering the project. The following table (Figure 7) lists best practice in the building and delivery stages:

Area	Best Practice
Develop and deploy iteratively	The worst practice for deploying any trade portal is to gather requirements, disappear for six months, and then launch the "completed" portal. This strategy is doomed to failure. It is better to gather requirements, spend no more than six weeks building a pilot, test out the pilot, then iterate further development. Some vendors even offer a "Quick Start" program that delivers the first workable version of the portal in two weeks or less. After the first release of the portal is deployed, then add layers of functionality, repository access and applications.
Deploy horizontally	One should deploy the portal horizontally. In other words, an all-encompassing trade-wide launch should not be undertaken all at once. An internally facing portal should be introduced department by department, or an externally facing portal to logical groups of business/trading partners.

	A trade portal is a journey, not a destination. One may never actually "finish" the portal. As the business evolves, so too will the portal.
Use The Rational Unified Process methodology	Rational Unified Process (RUP) methodology provides a disciplined approach to assigning tasks and responsibilities within a development organization. Its goal is to ensure the production of high-quality software that meets the needs of its end users within a predictable schedule and budget.

Figure 7: Best Practices for Build and Deliver

A PLAN OF ACTION

The action plan has been developed from a combination of SDLC and Deloitte methodologies for the development of an Enterprise Portal. The combination of the two and the modification of the methodology to reflect the requirements from the assessment have created the action plan.

This is a high to medium-level action plan and needs to be broken down into further detailed actionable items. Also, there needs to be a discussion and review to determine if there are any missing items or if items need to be removed. As with any project of this magnitude, a constant review is required as more information becomes available.

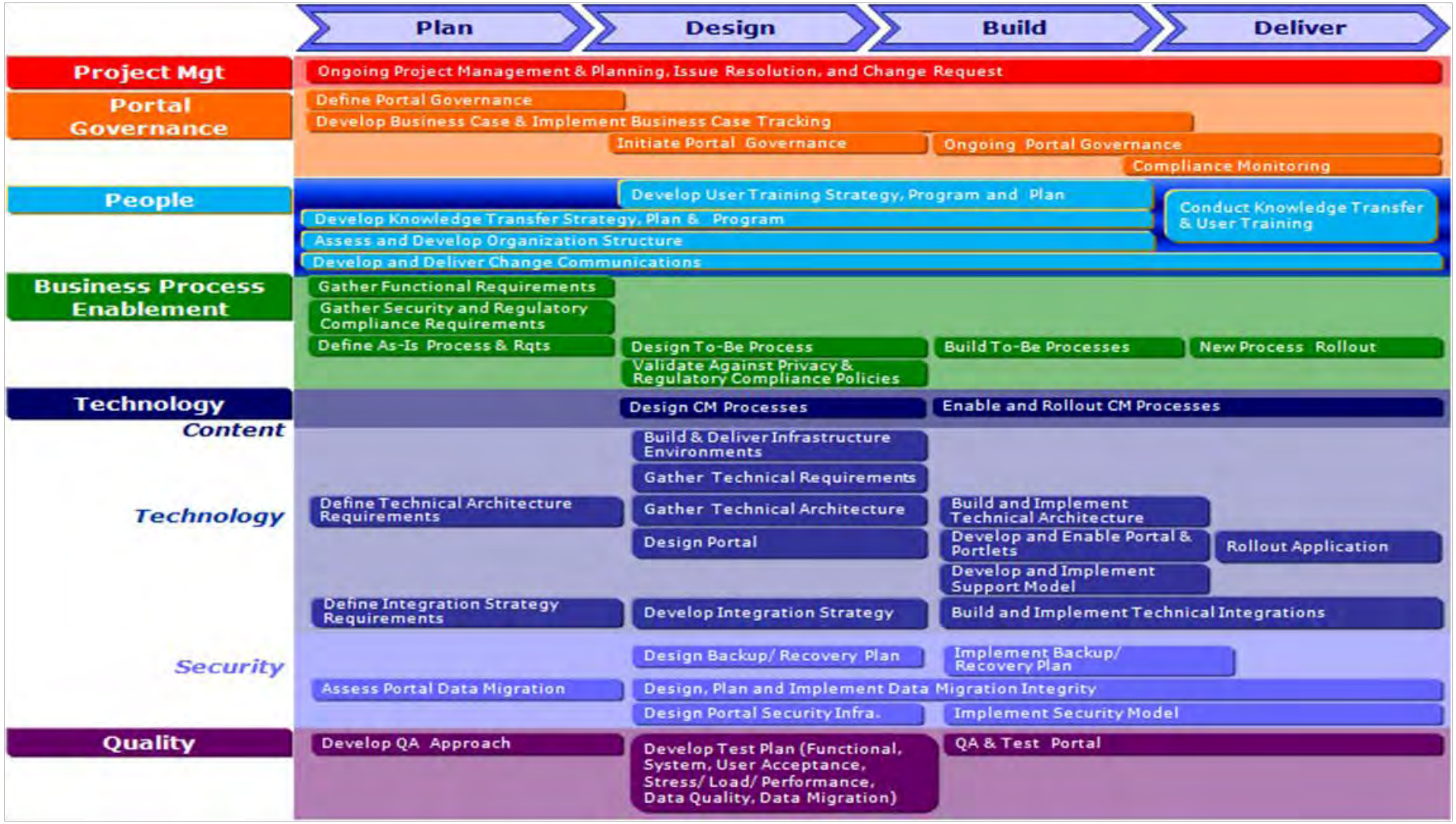
For clarification, installing means the system has been installed and is ready to use, while implementation is something quite different. Table T-7 in the 'Additional Information' appendix depicts a one-to-one reference on the differences between the two approaches. This is important to know and understand when developing a concept like a TNP that requires an implementation process as well as installation. There are many other areas that need to be involved and modified for successful implementation. Most are not related to any technology being implemented but are just as important such as security, communications, and business process reengineering and training.

STRATEGY FOR DEVELOPMENT

The following page displays the various stages involved in the development of a TNP, along with high-level items to accomplish by the various tracks. This follows the normal system developmental lifecycle with the standard stages of a development plan - design, build, and deliver - and also incorporates Deloitte's Portal Methodology.

Following the development stages high-level display are the various tracks and corresponding breakdown of the tracks. These tracks list the high-level tasks that should be performed and displayed under each of the stages. Further on, there is a detailed breakdown on what can be done in each one of the high-level tasks. Again, this is not the final plan, but is more of an initial starting or discussion point. All can be modified with both the government and industry. These modifications should be performed so that everyone is comfortable with what needs to be accomplished, the processes involved and the schedule of deliverables. It is extremely important that time is taken to perform the planning phase, while many projects do not take the necessary time.

HIGH LEVEL STAGES OF DEVELOPMENT



DETAILED ACTION TRACKS

PROJECT MANAGEMENT TRACK

	Plan	Design	Build	Deliver
Description	Develop on-going project management and planning. Produce a project communications plan. Create a process to manage issue resolutions and change requests.			
Key Deliverables	• Organization management – Project Management Office (PMO) • Logistics management • Communications management • Procurement management • Financial management • Risk/issues management • Scope/change management • Quality management • Integration management			
Value	• To define and manage the scope of project work so that it complies with the project requirements and budget • To establish the strategy for scope change and monitor the critical success factors and project objectives • To develop, execute and monitor the processes for managing project issues and change requests • To establish the project sponsor or lead government organization • To establish a Trade Advisory Board, and a Government Agency Working Group			

PORTAL GOVERNANCE TRACK

	Plan	Design	Build	Deliver
Description	Establish the governance structure, operating policies and procedures, and framework for continuous enterprise activities.	Introduce the Business Case, to define its scope and goals, and to obtain the client's agreement on the approach to developing it.	Create a detailed plan for acquiring and deploying resources so that implementation can proceed according to plan. Establish communications for Business Continuity Plan.	Identify and monitor policy and procedural compliance and ensure that there are no violations.
Key Deliverables	• Portal Governance Strategies • Portal Governance Charter • Business Case Scope • Business Case Opportunities Assessment	• Business Case Tracking System • Program Management Framework	• Business Case Tracking System • Business Continuity Plan	• Program Resource Management • Business Continuity Plan • Compliance is Monitored
Value	• To establish portal governance committee and model from government and trade • To develop business case and involve stakeholders (trade, government) • To assess the trade and governments needs through gathering and analyzing current data and conducting interviews • To develop a business case and establish criteria, costs and benefits			

HUMAN RESOURCE TRACK

	Plan	Design	Build	Deliver
Description	Key people-related risks will be identified. Leadership alignment around the portal will be facilitated. Key stakeholders and their issues will be identified. A communication strategy and plan will be created	The impact of the portal on the organization will be identified and analyzed. Skill requirements will be determined. A strategy to enroll stakeholders will be developed	Communication to support the portal deployment will be created. Training curricula and materials will be developed. A change network to enroll stakeholders will be created	End user and project training will be delivered near launch. Front line leaders will be coached to support the deployment. Role and job descriptions will be revised. New reward & recognition plans will be deployed
Key Deliverables	• Project Team Training Approach • User Experience Guide • Portal Requirements Definition • Capability Transfer Strategy and Plan • Communications Management Assessment • Initial Stakeholder Communications • Leadership Assessment	• Usability Study Findings • Portal Information Architecture Requirements • Portal User Interface Design • End-User Learning Strategy • Organization Structure Design	• Capability Transfer Program • End-User Learning Program Design • Organization Transition Strategy	• End-User Learning Program Design
Value	• To develop and deliver change communications • To develop and conduct knowledge transfer and user training • To ensure a successful transfer of all key competencies and a smooth transition of project			

BUSINESS PROCESS TRACK

	Plan	Design	Build	Deliver
Description	Gather and define function, security, regulatory compliance requirements. Define as-is process and requirements.	Design business processes. Roles and responsibilities will be fleshed out. To-be processes will be defined. Collect and analyze best practices that have been used on projects for future developments.	Achieve business process vision buy-in.	Implement new process elements necessary for successful project completion, to establish procedures that monitor new process performance, and to document lessons learned for future engagements.
Key Deliverables	• Conceptual Design • Process Scope • Localization, Security, Privacy, and Regulatory Compliance Requirements • As-Is Processes for Localization, Security, Privacy, and Regulatory Compliance • Internal Assessment • External Assessment	• Best Practices/References Industry Prints • Conceptual Design • To-Be Business Process for both the Trade and Government • Initial security requirements	• Localization, Security, Privacy, and Regulatory Compliance Business Processes	• Localization, Security, Privacy, and Regulatory Compliance Business Processes • Continuous Improvement Metrics List • Performance Assessment Plan
Value	• To document the various trade and government current process and assessing the current business environment • To gather functional, security and regulatory compliance requirements • To validate against privacy and regulatory compliance policies • To align project goals and objectives of a portal project with the current business processes of both the Trade and Government			

TECHNOLOGY TRACK

	Plan	Design	Build	Deliver
Description	Develop the look and feel and user interface of the portal. Assess the architecture and content needs for a cross enterprise portal. Design information architecture.	Outline the business and functional requirements and flow of events and participants in the process.	Roll-out all components of the portal including portlets, codes, databases, and enable content management system. Establish an architectural foundation, and eliminate the highest risk elements from the project.	Define and document the initial and long-term roles, responsibilities, skill sets, tools, and technologies needed for a production support organization, including an end-user help desk.
Key Deliverables	• Technical Infrastructure Requirements • Technical Infrastructure Assessment • Security (cyber) Assessment • Portal Data Migration and Integrity Assessment and Technical Specification	• Portal Conceptual Architecture • Technical Architecture and Security Design • Portal Content Management Process • Portal Technical Specifications • Middleware Technical Requirements and Architecture Design	• Portal Content Management Process • Portal Application and Portlets • Technical Infrastructure Test Plan • Support Organization Assessment and Design • Middleware Interfaces • Data Migration Programs	• Deliver Software Application • Portal Application and Portlets
Value	• To gather technical requirements both from the Trade and Government • To design the information architecture and define content and document requirements • To assess the current existing IT architecture infrastructure and design the best architectural foundation for mitigating risk • To provide the technical infrastructure required for databases, networks, hardware and third-party software • To design, develop and enable Portlets • To design, develop and enable the Portal • To design and implement a backup/recovery plan			

QUALITY TRACK

	Plan	Design	Build	Deliver
Description	Establish what testing activities are to be performed, their timing and objectives, and to identify and address the risks and contingencies associated with those activities.	Define every component and work stream within the scope of the functional unit, integration, system test, and user acceptance test to be performed, and to define the requirements of the testing activities.	Develop a work plan for the functional unit, integration, system test, and user acceptance test.	Perform functional unit, integration, system test, and user acceptance test.
Key Deliverables	• Overall Testing Approach • Infrastructure Test Scope Statement • System Test Scope Statement • Integration Test Scope Statement • User-Acceptance Test Scope Statement	• Test Requirements • Systems Test Plan • Portal Security Test Plan	• System Test Work plan • Integration Test Work plan • User-Acceptance Test Work plan • Portal Security Test Work plan	• System Test Conducted • Integration Test Conducted • User-Acceptance Test Conducted • Portal Security Test Conducted
Value	• To develop quality assurance approach and plan, including formal test plans, test scripts and expected results • To define procedures to ensure an audit trail for testing activities is created • To perform tests • To document feedback from internal and external users for future phases or iterations			

CONCLUSION

This assessment of IT use in Georgia's logistics industry justifies the recommendation to proceed in the development of a TNP. The logistics industry is mature and the industry has developed and implemented technology to assist their particular businesses. There is also a lead government agency willing to take on this endeavor and become its sponsor. From the interviews performed with the various players within the logistics community, a repeating theme was the requirement for more integration between industry and government agencies in cargo-processing. The excitement and willingness to assist in providing requirements to develop the TNP is also present in the various logistics organizations.

The development of a TNP for Georgia will bring together the various efforts organizations are pursuing on their own into one unified approach that will provide tremendous benefits to all of the organizations (small, medium, and large) involved with logistics in Georgia. Evidence from the various TNPs mentioned and implemented in other parts of the world demonstrates a positive influence on trade facilitation, yet each approached the concept of a TNP a little differently. There is no right or wrong way to the amount of information incorporated or processes involved in a TNP. All depends on the requirements of industry and government users involved in TNP development. Most importantly, the development effort will take time to achieve a truly viable TNP. The sponsor needs to have strong project management skills to keep the project moving. There will be times when it will seem the project is stalling. Having a strong project management officer will keep it going.

These are truly thrilling times for Georgia with the significant changes within both business and government. Financial and government transactions are being performed online. A new customs system implemented the software ASYCUDA World, another online processor of cargo information. Developing and implementing a TNP will be the force that brings together various online processing systems into one central location. This TNP will be an exciting project, not just for analysis and development purposes, but for the overall positive impact on the logistics industry and the people of Georgia.

E. ADDITIONAL INFORMATION

Org.	Position	Name	Office No.	Description
UGT	Enterprise Business Systems Unit Manager	George Nanobashvili	995-32-220505	Provides software development of enterprise-wide applications to large organizations. Main issue for them and organizations is the lack of resources to provide solutions for business needs.
Apex	Director	Vladimir Tsitskishvili	995-32-221355	Mainly deals with large organizations; not medium or small. Mostly a software developer but also providing maintenance to the software developed. Most of the development is done from scratch depending on organizations requirements. Does not see expansion in the area of small – medium-sized companies related to software development and implementation due to the costs.
GREENNET	Commercial Director	George Danelia	995-32-555700	Strong company in IT infrastructure with very good background in working with Georgian organizations. Main clients are in the fields of telecoms, finance and Government. But interested in expanding into the Commercial/ Enterprise area. Also involved in the development of software for organizations' needs. Presently in discussions with the Port of Poti on future implementation.
Delta Systems	Executive Director	George Katsia	995-32-509575	IT company involved in all facets of software development and maintenance. Has presence in U.S. and Europe.

Azry	CTO	David Japaridze	995-32-555444	Primarily working with banking and finance organizations. Involved in the mobile processing of payments for electricity and gas. Presently involved with the transit system to install monitors at bus stops to notify about oncoming buses. This functionality can be very important when there is a need for tracking trucks.

Figure T-1: List of Technology Organizations Interviewed

Org.	Position	Name	Office No.	Description
A.P. Moller	Head of IT Department at Poti Port	Irakli Kandaria	995-393-77777	Main Terminal Operator at Poti Seaport. Recently (April, 2011) purchased 80% of Poti Seaport. Number one terminal operator in the world. Operations at the port will be changing for internal and external users. Emphasis will be on safety and also the implementation of technology for internal port operations. It heavily uses technology to interface with its external users/clients.
A.P. Moller	IT Specialist			Second meeting with APM involved discussion on vision for Poti Port related to technology. Presently, APM is performing infrastructure insertion for future software installation. This is a six month project, following which they will perform the installation and use of software. They will be installing the normal port-related software; Terminal Operating Systems (TOS), Gate In/Out System, Scheduling Systems, and the APM Enterprise Resource Planning (ERP) System.

Batumi International Container Terminal LLC	CEO	Capt. Jan Nowak	995-422-76452	The terminal operator is International Container Terminal Services, Inc. out of Manila, Philippines. They operate terminals throughout the world; Batumi being one of them. There is presently only one shipping line calling at Batumi; the Mediterranean Shipping Company (MSC). Main cargo at this time is scrap due to its rail connection. Looking to expand the business of containers in the future. Also working on the physical infrastructure of the port by developing a new gate operations complex on undeveloped land. Presently working on the development of a modern office building that will house customs, banks and agents similar Poti Port.
Batumi International Container Terminal LLC	Marketing Manager	Ketevan Oragvelidze	995-422-76452	
Georgian Railway	Head of Business Analysis Department	Giorgi Cimakuridze		National Rail Carrier. Presently looking at expanding the information for its users by implementing an SMS concept for cargo notification. At this time, does not see a need for GPS on trains to determine location, but a possibility in the future.

Georgian Railway Transcontainer Ltd	General Director	Ramaz Japaridze	995-32-198812	This is a new organization within Georgian Railway to handle expansion of transporting container cargo on the rails. A 100% subsidiary of Georgian Railway. Presently have a terminal in Tbilisi, and will be expanding to Batumi and Poti Ports. At the present time they are not driven by technology, but are initially looking at accounting and financial systems. In the future, they also see a need for a Terminal Management System.
Georgian Logistics Association	Secretary General	George Doborjginidze		New organization with 30 members. Trying to improve knowledge of international logistics and the benefits of Enterprise Resource Planning (ERP) within the organization. In addition, looking toward to the future by creating a Logistics Track in the university to keep expanding and elevating the business of logistics.
Lasare Ltd	Director	Sergo Lasareishvili	995-32-948125	Air Cargo terminal operator. Very progressive and efficiently run organization. Currently running at about 1/3 capacity and looking to expand the handling of cargo. In the area related to IT, they have developed processes and systems to allow customers a single window concept for cargo handling/ clearance. Customers can perform all functions on the clearing of cargo at Lasare, and do not need to move between locations. In addition, it performs the cargo clearance processing for FEDEX, DHL and UPS. Looking to continue to implement new technology.

Association of Freight Forwarders of Georgia	Secretary General	Zurab Shengelia	995-32-362939/940827	Association of Freight Forwarders provides training and also exchange of knowledge between the various members.
Association of Freight Forwarders of Georgia	Expert	Nikoloz Zardiashvili	995-32-940827	Involved in the international transportation of cargo within Georgia and the region. Very progressive in the use of technology for trade facilitation.
Caucasus Trans Express	Director	Gia Danelia	995-32-375715/16/ 17	Involved in the international transportation of cargo within Georgia and the region. Very progressive in the use of technology for trade facilitation.
Hapag-Lloyd	General Manager	Irakli Bokuchava	995-32-922264	Agent for Hapag-Lloyd in Georgia. Handling the processing of cargo for the carrier. It is a small company and agent for Hapag-Lloyd
TRACECA Permanent Secretariat	Secretary General	Eduard Burjukov	99412-5982718	
TRACECA Permanent Secretariat	Project Supervisor	Silvia Maffi	3902-57410380	
TRACECA Permanent Secretariat	Team Leader	Udo Witulski	99412-4985673	
Azerbaijan Railway JSC	Lead Expert	Elmar Farajov	99412-4994698	
Georgian Transit	General Director	Lasha Gvetadze	995-32-241818	

PACE Georgia Ltd.	Managing Director	Irakli Tateishvili	995-32-914708	Customs broker for all types of cargo movement in Georgia. Largest company performing this function within Georgia and the region. System development is performed in house, except for financial systems run using Oracle. Also have concern on the lack of information on cargo transit.

Figure T-2: List of Transportation Organizations Interviewed

Org.	Position	Name	Office No.	Description
EPI Georgia	Business Enabling Environment Deputy Component Leader	Nato Beruashvili		Interviewed as part of EPI-related projects review.
EPI Georgia	ICT Crosscutting Manager	Malkhaz Nikolashvili		
EPI Georgia	Customs/Trade Manager	Bondo Bolkvadze		Interviewed for the customs processes involved with Georgian Customs.

Figure T-3: List of EPI Staff Interviewed

Org.	Position	Name	Office No.	Description
Ministry of Economy and Sustainable Development of Georgia	Deputy Minister	George Karbelashvili	995-32-991100	Part of the TRACECA Meeting.

EPI Georgia	Customs Advisor	Bert Cunningham	995-32-438927	Knowledge of Georgian Customs procedures. Provided an insight into the use of technology and risk management within the organization. ASYCUDA is not fully implemented and the functionality should be expanded. Industry is happy with the implementation of ASYCUDA. The In-Transit monitoring system is weak and needs to be improved. Since 65% of the cargo coming into Georgia is In-Transit. Need to build up the Customs procedures for In-Transit. Presently there is no scanning performed on cargo leaving the country, even though there is a scanner at the port.
The Ministry of Finance and Economy of the Autonomous Republic of Adjara	Minister	Vazha Bolkvadze	+995 (222) 7 35 10	
Data Exchange Agency	Director	Irakli Gvenetadze	995-32-143981	Agency responsible for the exchange of data within the Georgian Government. Also the main agency with the vision to create a Trade Net. See them as the lead agency in the development of Trade Net.

Figure T-4: List of Government Agencies Interviewed

Type	Scope	Area/Name
Pre-Single Window Portals	National	85 plus countries that are utilizing UNCTAD's ASYCUDA World
Single Window Portals	National	Hong Kong (DTTN) Japan (NACCS) Singapore (TradeNet) Mauritius (TradeNet) United States (ITDS) Ghana (GCNet)

Regional Multinational Portals	Multinational Regional	ASEAN Single Window Initiative The European Commission's Single Window Initiative

Figure T-5: Types of Trade Portals

Principles	Business Impact
Transparency, Communications, Consultation and Cooperation	• Traders become an integral part of developing streamlined procedures and rules; • Reduces corruption due to enhanced transparency; • Increases trade-related security since trade would be based on a model of trust and partnership rather than a model of enforced compliance.
Simplification, Practicability, and Efficiency.	• A transparent and consultative process of developing rules and procedures would result in a simplified, practical, and efficient system that works in the region; • Simplified transaction requirements ensure sustainability since these would reduce compliance costs for traders; • Simplified and practical rules are especially important in reducing compliance costs for Small and Medium Enterprises (SMEs) which have higher barriers to entry.
Non-discrimination, Consistency, Predictability and Due Process	• Non-discriminatory rules allow businesses to maximize profits since investment and export decisions are based on market principles; • Consistency and Predictability have "reputation" impacts for domestic business that benefit from greater foreign investment and enhanced trading opportunities; • Due process ensures stakeholders have access to adequate legal appeal procedures – adding greater certainty to trade transactions.
Harmonization, Standardization, and Recognition	• Reduces product development, marketing, inventory and placement costs for new products since standards across economies are harmonized and recognized; • For products with short shelf lives; harmonization, standardization, and recognition significantly reduce time delays related to multiple products tested in different markets; • Reduces burden on regulatory authorities because the need for re-testing and re-certification is reduced.
Modernization and the Use of New Technology	• Shorter clearance time due to paperless trading reduces cost of shipment, time-to-markets, and inventory costs; • Simplified electronic documentation requirements reduces staff time and agents' fees resulting in increased business efficiency; • Ensures greater security for public due to use of high-tech security features like e-signatures, automated risk analysis, and enhanced cyber

	security.

Figure T-6: Business Impact of Trade Networks

Install	Implement
New Application/upgrade installed	Application/upgrade installed
Some equipment change	Some equipment change
No process change	Process improvement changes
Little or no benefit	Increased efficiency
Little or no training	System and process training
No real improvement	Continuous improvement

Figure T-7: Install versus Implement

References
BPI Methodology v2.1 (28 Sept. 2001), S. McMillan, UNEITD Application Group
ISO Enterprise Portal Offering Methodology, Deloitte Global Consulting, LLC.
Business Process Improvement, The Advantage of Clarity, The FRAME Group PTY Limited.
Seminar on Customs Automation, 23-25 May, 2007, Beijing People's Republic of China, Arlan Brucal.
The Evolution of Electronic Trade Facilitation: Towards a Global Single Window Trade Portal Jim McMaster, University of the South Pacific, Graduate School of Business, Suva, Fiji Islands.
Singapore Customs Media Release, New TRADENET Version 4.0 and TRADEXCHANGE to Enhance Singapore's Competiveness, Singapore Customs, 30 October 2007.
Enterprise Portal Overview, v2.0, Discussions Document, Deloitte, May, 2007.
United Nations Economic Commission for Europe, The Single Window Concept, April, 2003.
Client X IS Strategy: Accelerating Value Realization 2008-2012, Section I: Executive Summary, October, 2008.
APEC's Second Trade Facilitation Action Plan, The APEC Secretariat, Singapore, 2007.
IV. Trade Facilitation and Electronic Commerce as Catalysts for Integration.
Public-Private Sector Cooperation in Trade Facilitation Community Networks for Trade Facilitation - An Implementer's Perspective, Raymond Wee Former Manager of Mauritius Network Services LTD, in Appreciation of the Public and Private Sectors of the Republic of Mauritius, International Forum on Trade Facilitation, Geneva, 29 May 2002.
Presentation: Connecting The Trade Community, TRADENET, SGS.
Towards A Single Window Trading Environment: Best Practice in Single Window Implementation: Case of Singapore's TRADENET, UNNExT, Brief No. 02, March 2010.
The UN/CEFACT Vision for Information Exchange in International Trade Regional Workshop on "Trade Facilitation through the Application of the Single Window", Cairo, Egypt, 11-12 July, 2007.
UNCTAD Technical Assistance in Trade Facilitation, Division for Services Infrastructure For Development and Trade Efficiency, Palais des Nations, CH-1211 Geneva 10, Switzerland.
Tradenet in Ghana Best Practice of the Use of Information Technology, Draft, January 28, 2004, Luc De Wulf.

Figure T-8: List of References

USAID Economic Prosperity Initiative (EPI)
6 Samgebro St.
Tbilisi, Georgia

Phone: +995 32 43 89 24/25/26

Fax: +995 32 43 89 27