SECTION 4 - RESULTS

4.1 Business Process Evaluation Results

The Addressing Process is less than ideal. The primary strength of the existing process are the people involved who have a demonstrated ability to adapt and cooperate to help the process flow more smoothly. The current staff is experienced and has a thorough knowledge of the process. The primary weaknesses are the lack of searching capabilities due to multiple databases and the lack of standard procedures. Other weaknesses are inconsistent file names and locations, paper copies instead of digital, and no automatic routing. A major objective of the P&D is to improve the level of customer service and much of this can be achieved by better managing the Addressing Procedures.

The Addressing staff is overloaded by approximately 75%. They perform redundant tasks and time is wasted due to inconsistencies in the current system. The system does not provide document tracking, searching capabilities, or an information linking capability between Divisions and Departments.

The figure below shows a cause-effect diagram outlining the major problems and issues for the staff.

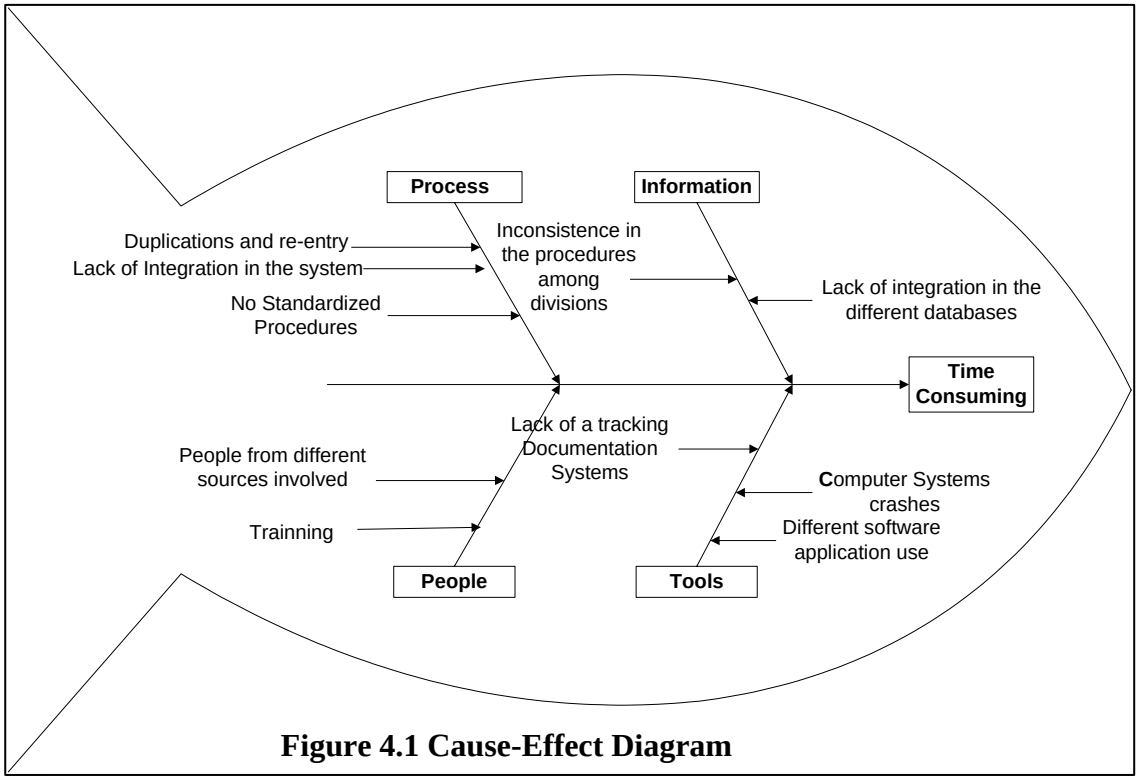

Figure 4.1 Cause-Effect Diagram

Low scores in the evaluation process identify the need for a new system and process development. The Section needs to improve its reliability, responsiveness, and flexibility.

Business changes need to be implemented in order to improve the Addressing Section. The new process needs to the following:

1. Standardize the Addressing Procedures in order to provide training for the Addressing staff.
2. Facilitate better communication within the Section and among Seminole County's Divisions and Departments.
3. Locate the data in one accessible place.
4. Provide a secure tracking notification system.
5. Facilitate trust in the system.
6. Provide information and feedback to the user.
7. Create a reminder system to users.

To achieve these objectives it is recommended that new software and process systems be put into place. Software solutions should be reviewed and implemented. The acceptance of the new system should be monitored and modifications be put into place on a real-time development basis. Solutions that are essentially non-proprietary, flexible, and able to meet exact user needs are needed to meet this objective.

The table below shows how we can improve the Addressing Section working together toward a new system.

Performance Attribute or Category	Performance Metrics	Actual	Parity	Advantage	Superior	Parity Gap	Opportunity
Supply Chain Delivery Reliability (1)	**Perfect order fulfillment**	86.25%	98.0%	92.0%	98.0%	11.75%	11.75%
Supply Chain Responsiveness (2)	**Order fulfillment lead time**	85.0%	98.0%	95.0%	98.0%	13.0%	13.0%
Supply Chain Flexibility (3)	**Supply chain response time**	80.0%	98.0%	95.0%	98.0%	18.0%	18.0%
Supply Chain Cost	**Cost (4)**	100.0%	60.0%	78.0%	60.0%	40.0%	40.0%
	Item return (5)	92.2%	40.0%	50.0%	40.0%	52.2%	52.2%
Profitability (6)	**Operating income**	90.0%	100.0%	95.0%	100.0%	10.0%	10.0%

Actual: Data based on an average of the current process from the business evaluation criteria.

Parity: Data that indicates how employees can improve the process by thinking of an ideal system.

Advantage: Data that indicates the best practices and literature review researches.

Superior: Data that indicates employees can work toward satisfying customer needs by working with new technology.

Parity Gap: Indicates our ideal system and the gap between the current system (Actual) and the ideal system (Superior).

Opportunity: Indicates in percentages how great an improvement will be made.

The terminology used above is standard SCOR terminology. To better understand how this applies to the Addressing Section, the following definitions are supplied:

1. **Reliability**: Describes the performance of the Addressing Section in delivering the service to the correct place, within the required time frame, in the condition required, with the necessary documentation, to the assigned department.
2. **Responsiveness**: Describes how quickly the Addressing Section provides the services to the correct customers.
3. **Flexibility**: Describes the ability of the Addressing Section to respond to customer changes to.
4. **Cost**: Describes the cost associated with operating the Addressing Section in terms of man-hours.

5. **Item Return**: Describe the cost associated when the Addressing Section goes back and forth through the whole process in term of man-hours.
6. **Profitability**: Describes the effectiveness of the Addressing Section in managing assets to support demand satisfaction.

Some of the issues found throughout this business evaluation are listed below:

- Currently, Addressing employees do all of the data entry into the database. The new system will eliminate bad data being entered into the master database. A training level is necessary.

- Addressing employees have to research for building permits information when applications are submitted with incomplete data. To solve this issue, Building employees need to have access to the Addressing database and all scanned data. An integrated system is necessary in this Section. All data needs to be digital and easily queried in order to eliminate unnecessary research for the Addressing Section. The Building Division should develop query screens so that it is simple to get the information that they need. The Building Division and the Addressing Section will design codes or multiple-addresses for the different building permits that need to be routed to verify the addresses. A training level is also necessary.

- The Property Appraiser's Office splits and combines parcels on a daily basis. This can render Situs information invalid. During the current weekly conversion process in HTE, certain property appraiser parcels will not sync with the existing Situs Addressing information. To solve this issue, the current HTE system needs to be replaced with a new system that can identify changes in either database in near real time.

- Occasional requests for Estoppel Permits in the Building Division need to be issued before parcels are inputted into the PAO database. These Estoppel permits create a serious problem with the Addressing data. The solution is to submit site plans and plats digitally.

- Bad addresses exist in GUI and Situs. These addresses are being used by other Divisions and Departments and additional information is being attached to these bad addresses. To solve this issue a master database and manual and automatic validation tool should be implemented. The

Addressing Section will identify bad addresses through the validation tool, and Addressing employees can manually confirm those addresses before storing the addresses in the master system. The current data in Situs needs to be cleaned up to avoiding transferring bad data into the new system. The current process needs to be improved to expedite communication of possible bad addresses from E-911 personnel to Addressing personnel.

Reliability

Perfect Order Fulfillment: Describes the performance of Addressing Section in delivering the service to the correct place, within the required time frame, in the condition required, with the necessary documentation, to the assigned department.

Criteria	Weight	Score Evaluation	Total
Is the procedure delivered to the correct staff?	25.0%	87.0%	21.75%
Is the procedure reviewed at the right time?	25.0%	85.0%	21.25%
Does the procedure contain the necessary documentation?	25.0%	75.0%	18.75%
Is the procedure assigned to the correct staff?	25.0%	98.0%	24.5%
		Overall Score	86.25%

The procedure is assigned to the correct staff 98% of the time, and is delivered to the correct staff 87% of the time. Situations where the procedure is not delivered to the correct staff are caused by lack of communication and because the requester does not have sufficient information for the procedure type to be issued. The Addressing Section usually reviews the procedure 85% of the time because of a lack of searching capabilities. The procedure contains the necessary documentation 75% of the time.

Responsiveness

Lead Time: Describes how quickly the Addressing Section provides services to the correct customers.

Criteria	Weight	Score Evaluation	Total
Is the procedure provided at the right time to the assigned staff?	50.0%	90.0%	45.0%
Is the procedure provided at the right time for the next step in the process?	50.0%	80.0%	40.0%
		Overall Score	85.0%

The procedure is provided to the assigned staff 90% of the time, and is provided for next step 80% of the time. Delays for the next step in the process occur 20% of the time. Addressing responsiveness is 85%.

Flexibility

Response Time: Describes the ability of the Addressing Section to respond to customer changes.

Criteria	Weight	Score Evaluation	Total
Are the procedure changes communicated to the external customers?	50.0%	80.0%	40.0%
Are the procedure changes communicated to the internal customers?	50.0%	80.0%	40.0%
		Overall Score	80%

The procedure changes are communicated to the external and internal customers 80% of the time. The responsiveness of this Section is 80%. This Section needs to improve the communication tools to provide better service to customers.

Cost

Criteria	Weight	Score Evaluation	Total
Is the procedure associated with any cost?	33.3%	100.0%	33.3%
Is the procedure returned to the previous step?	33.3%	85.0%	28.3%
Is the procedure returned to the assigned Department?	33.3%	92.0%	30.6%
Cost (Based on the first question): Describes the cost associated with operating the Addressing Section in terms of man-hours.			100%
Item Return (Based on questions 2 & 3): Describes the cost associated when the procedures go back and forth through the whole process in terms of man-hours.			88.5%
		Overall Score	92.2%

Unlike the other criteria, a high score in this category indicates a greater opportunity for improvement. The Addressing process typically uses more personnel than is necessary, due to the lack of searching capabilities and data integration.

Profitability

Operating Income: Describes the effectiveness of the Addressing Section in managing assets to support demand satisfaction.

Criteria	Weight	Score Evaluation	Total
Is the procedure requested associated with any income?	100.0%	90.0%	90.0%
		Overall Score	90.0%

4.2. Technical Evaluation Results

The purpose of these criteria and weighting is to assist in the evaluation of software development methodologies (SDM) used in meeting the objectives of the SCI.NET project. The SDM is the utilization of various programming languages and techniques and products in various combinations.

The results on the current interface of Addressing are shown on the following table:

Critical Features of the Software for HTE	*Score*	*Subtotal*
Usability and Integration Overall Weight: 40%	2	0.8
Scalability and Maintainability Overall Weight: 25%	4.5	1.125
Development Cycle Overall Weight: 15%	5.25	0.7875
Security and Reliability: 5%	5	0.25
Solution Provider Capability Overall Weight: 15%	5.25	0.7875
Total evaluation		3.75

Usability and Integration Overall Weight: 40%

Criteria	Weight	Score
The SDM will be able to create and process custom web forms.	30%	0
The SDM will be able to store and retrieve textual and binary data.	30%	10
The SDM will be able to share and retrieve information with other systems.	20%	0
Has the SDM demonstrated successes in development of similar systems?	10%	5
The SDM does not employ proprietary technology.	10%	0
	Total	2

The lack of integration between ArcGIS and HTE is one of the major problems of the system, causing multiple re-entries and an inefficient use of time. The current system cannot create and process custom web forms and store any type of data. A custom (individual) application will provide the highest level of usability and integration because it will be developed specifically to meet the needs of the client with no compromises.

Scalability and Maintainability Overall Weight: 25%

Criteria	Weight	Score
The selected SDM will utilize a technology that can be supported with the existing knowledge base of the IT Department employees.	10%	10
The selected SDM will utilize a technology that can be supported by the IT Department without maintenance difficulties.	15%	5
Potential employees can be hired with expertise in the SDM.	10%	0
Hardware and Software support systems necessary for the SDM will be available for the projected life of the software.	5%	0
The software supplier does not have a demonstrated history of supporting software systems (or provides a feasible low cost upgrade ability).	5%	5
Assistance is available from any software suppliers for issues with the software.	15%	0
The SDM has a demonstrated ability to add/modify functionality after the primary development cycle.	15%	0
Software supplied by the vendors does not require a maintenance plan or agreement (However maintenance should be available).	15%	5
	Total	4.5

This criterion evaluates how the product can be maintained. The HTE based solution requires support on a prepay basis, with County expertise in the supporting GIS system. The principal shortcoming of this criterion is the lack of ability to obtain cost effective updates and finding staff with the ability to know and understand the Seminole County business environment. The support of the IT Department at Seminole County is fundamental to fulfilling the requirement of scalability and maintainability.

Development Cycle Overall Weight: 15%

Criteria	Weight	Score
Documentation and examples exist for the SDM for the required elements of the system.	25%	2
The SDM demonstrates relative ease of development for the system requirements.	30%	5
The SDM has minimal requirements for the setup of development and production environments.	20%	5
The SDM demonstrates an ease of transfer of compiled or interpreted code or subsystems from the development to the production environment.	25%	0
	Total	5.25

The lack of documentation of the structure of HTE and the procedures for how to interface with GIS is one of the principal issues found during the technical evaluation phases of the SCI.NET project. A custom solution would require the development of support tools and code including documentation.

Security and Reliability: 5%

Criteria	Weight	Score
The SDM provides necessary security features.	100%	5
	Total	5

The current system does not provide any level of security. The high level of security needed in most of the Addressing Procedures should be satisfied by the new system.

Solution Provider Capability Overall Weight: 15%

Criteria	Weight	Score
The vendor has positive references from other clients.	15%	5
The vendor is the original developer of the software.	40%	10
The vendor has demonstrated expertise in support of the software.	20%	0
The vendor charges reasonable amounts for updates or requested changes to software.	20%	0
The vendor does not charge for supplying an estimate for required software changes.	5%	0
	Total	5.25

A new system is needed that provides an automatic updating system and linking capability. Multiple databases such as Situs, Oracle, and HTE data were observed during this evaluation.

When a re-Addressing request is received, the Addressing staff needs to interact with HTE system and GIS. First, the staff needs to verify the customer's information on the maps provided by the GIS system. Although the GIS system has editing capabilities for geo-databases, the complexity of the data input processes and a lack of live data exchange with HTE makes it difficult to use the system, therefore, ArcGIS is primarily used to verify information.

Another issue shown in this evaluation is the lack of ability to import multi-Addressing when users interact with GIS. In order to complete some immediate building processes, the Addressing staff uses the HTE system to modify the information. Once the request is satisfied, there is a need to edit all the databases with the current information as the HTE system is not linked with any other system.

The evaluation criteria used by the UCF team shows that the current system of Situs and ArcGIS received an overall score of 3.750/10, which is considered a low level of satisfaction by the evaluators.

Some of the critical weaknesses in this interface are:

- The SDM cannot create and process custom web forms.
- The SDM does not interface with other systems (GIS, Oracle).
- The SDM does not have easy interfaces for the production environment.