

## **Cover Letter**

November 16th, 2014

Stitch It!

Mr. Donald And Mrs. McKenzie

123 Main Street

Oakville, ON, A1B2C3

Dear Mr. and Mrs. McKenzie,

Enclosed we have your Cost Benefits Analysis Document. This document will detail the tangible and intangible benefits of the proposed system. This document will also detail how much it will cost to implement and how long it will take to return on your investment into the system. We will also be giving some recommendations

## **Executive Summary**

Based on our predictions and projected costs, the benefits of a database based system with a website to accompany it would be the most preferable for Stitch It! Though it requires a higher amount of investment and longer amount of time to pay for itself it yields better results in the long term for the business.

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## **Introduction**

This Cost Benefit Analysis document is to examine the costs and benefits for Stitch It! to implement and maintain the proposed systems. This document is broken down from the tangible and intangible cost and benefits that the proposed systems would cause. we have provided based on predicted increases in revenue and costs to show the difference between the system. this document will also provide information on how much it will be to implement and maintain the system and how long it will take to return on the chosen system.

## **Tangible Benefits**

Information systems built and maintained properly will provide tangible benefits to Stitch It, the following are the possible tangible benefits to come from a new implemented information system for Stitch It.

### **Real Time Data or Archived Data:**

This will allow customers and users of the system to pull up real time data from the database on products and services provided within the company. It will also track, record and save information about customers and purchases, remaining debts, credit information and other business essential information. This will help employees do their job more efficiently and users to have a more enjoyable experience placing orders and making purchases. It will also provide sales statistics, what orders need to be filled, and what customers have a balance owing.

### **Increased Revenue:**

An information system can help improve customer and order response time and increase sales revenues. Such as improved data readily available and fewer information clogs in the inventory management section of an information system can help increase sales by reduce the number of stock-outs and back orders in the system. In the customer-relationship management part, easier access to a customer's information can mean the difference between getting and not getting a sale. It also allows the store to monitor a customer's order history and schedule timely sales calls at the right time through the customer's previous ordering habits. Stitch it can also lay off their 2 part time employees and save money there as the system will be doing most of the daily operations as taking orders. The new system will also help them save money on bookkeeping, loss of inventory, warehousing fees due to being able to downgrade and better manage inventory.

### **Better Internal Control:**

A number of different tangible benefits empower the system to make better preventive and detective internal controls. An information storage system allows for better access controls. More accurate and faster reporting, which often equals to on the go real-time feedback and information. Enhances accountability and prevents the chances for abuse of the business assets, fraudulent activity, internal theft and external theft. Also, automatically tracking information not only makes searching for current and earlier documents easier, but also allows you to create and look over complete audit trails for almost any transaction.

<b>Tangible Benefits Calculations</b>	
	SAVINGS
Removal of two employees	15,600
Downgrade to smaller storage of inventory	40,000
Order errors	19200
Accounting fees	15,600
Unclaimed orders	9,000
Paper	1,000
Shipping complications	10,000
<b>TOTAL</b>	<b>110,400</b>

The following is the total savings yearly from the tangible benefits of the proposed new system.

The formula for the tangible benefits:

2 employees at \$15 an hour X 10 hours a week X 52 weeks i a year = \$15,600

Storage of inventory takes up 15% of the goods income

Resolving order complications at 2x cost

Bookkeeping fees at 20 dollars an hour for 15 hours , and doing it for 52 weeks = \$15,600

Savings on orders not picked up from the customer at \$3000 for 2-3 times a year = \$9000

Paper savings are an estimate based on small business paper use

Shipping errors at 2 times a month at \$833.33 times 12 months= \$10,000

## **Tangible Costs**

### **Direct Costs**

The direct costs will include the salary for the programmer, web developer, system analyst, and database designer and server administrator, these are the basic people needed to implement a new information system. The hardware costs will include two desktop computers, a laptop, two servers, database, software, security, fax/copy machine, debit machine, scan system and modem.

## Indirect Costs

You will need a network administrator to maintain all your switches, hubs and modems to make sure everything is in working order. I would also recommend taking out some insurance on all your new equipment to protect against theft and fraud. I have included a copy machine in the direct costs so you won't have to worry about paying a monthly fee.

## Development Costs

These are onetime costs that come with the installation of your new system, fees range from the salaries of the development team implementing the new system such as the programmer, analyst, database designer, and website developer, programs for the system to operate, software you will buy to track your inventory, customers, shipping, vendors and other information you deem important. This will also include any hardware you buy to implement the new system. The software purchases required to implement the system you require will also be a development cost as their will be several pieces of software to implement on this system ranging from business software like MS Word, Excel, Access to software to operate the system like php, javascript, html, sql and other programming languages. Also any training you may require to learn the new system

## Operational Costs

The operational costs will be the costs to keep the system functional and operational after it has been implemented. This will be the monthly internet bill which you will need in order to keep customer orders coming in and out. The cost of the system administrator to maintain your system and keep everything functional in case problems in the system arise. System maintenance required to keep everything operational and functioning the way it is suppose too be. Also it may include the fees to train new employees you decide to hire or keep on to learn the new system. Product licensing fees and updates may also occur annually on software.

## Variable Costs

These will be the monthly fees you incur from using the system, such items may include printer paper, debit/credit card machine paper, telephone charges, keyboard, and mouse pads used during the duration of the system.

TANGIBLE COSTS	PRICE
PROGRAMMER SALARY	\$8,000
ANALYST SALARY	\$11,000
WEB DEVELOPER SALARY	\$16,000
PERSONAL COMPUTER	\$2,000
PERSONAL COMPUTER	\$2,000
SERVER 1	\$1,000
SERVER 2	\$2,000
DEBIT MACHINE	\$750
DATABASE	\$10,000

WEBSITE	\$25,000
SOFTWARE	\$25,000
SECURITY	\$10,000
SCAN SYSTEM	\$5,000
MODEM(HUBS, SWITCHES)	\$1,000
BUSINESS SOFTWARE(WORD, EXCEL)	\$1,000
SCANNER/FAX/PRINTER/COPIER	\$1,500
LAPTOP	\$1,500
SERVER ADMINISTRATOR	\$10,000
DATABASE DESIGNER	\$8,000
TOTAL	\$139,750

#### Salary Calculations

Programmers Salary = \$25 HR X 40 HOURS WEEK X 8 WEEKS = 8000

System analysis salary = \$34.375 HR X 40 HOURS WEEK X 8 WEEKS = 11000

Web developers salary = \$50 HR X 40 HOURS WEEK X 8 WEEK = 16000

Server administrator salary = \$31.25 X 40 HOURS WEEK X 8 WEEKS = 10,000

Database manager = \$25 HR X 40 HOURS WEEK X 8 WEEKS = 8000

These are based on salaries for the 2 months to train and implement the system.

## Intangible Benefits

Information systems built and maintained properly will also provide intangible benefits to Stitch It, the following are the possible intangible benefits to come from a new implemented information system for Stitch It.

#### Improved Employee Moral:

A new system will help everyday with making every day tedious tasks a lot easier and a lot less time consuming, like filling out orders by hand, writing and storing customer information in a file cabinet system. Employees will have more time to do more useful things around the store.

#### Save Time:

This is probably the most important intangible benefit as we all know “time is money” implementing a new system will save thousands of hours in manual labour of storing customer orders, information and other information like what items are really selling good at the moment, what needs to be restocked and other vital pieces of information to make every day operations smooth and successful.

**Improve Customer/Employee Satisfaction:**

Customers will be able to place orders from the comfort of their own home, have all their information saved and stored in a database to help provide quicker ordering next time, and will help fix shipping errors and errors with suppliers and wholesalers. It will also help direct customers and users of the system to exactly what they are looking for.

**Free Advertising:**

Customers who usually enjoy a pleasant shopping experience and get their items in an efficient and timely usually recommend companies and business to their friends and family. Providing an online webpage will help customer reduce the time it takes them to place an order as it can store their info. It will also save time and direct them exactly where they need to go, which improves service and transaction time another reason this person will recommend your business.

**Adaptability:**

Information systems are flexible and can be reprogramed to grow with the need and growth of the business. Often, individual segments of the system can be upgraded and installed without interference of the overall operation of the system. Also the system is adaptable to new or modified system requirements.

OPERATIONAL COSTS	
INTERNET/TELEPHONE	\$1,200
SYSTEM ADMINISTRATOR	\$48,000
SOFTWARE UPDATES AND LICENSE FEES	\$1,500
SYSTEM MAINTENANCE	\$20,000
TRAINING	\$1,500
TOTAL	71,200

Calculations:

Fixed Internet and phone plan \$100 a month  $\times 12 = \$1200$

The rest are salaries previously calculated in the start-up costs.

**Cash Flow Diagram**



## Total Cost of Ownership

System	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Database System						
Parts cost	\$25,250	\$5,250	\$5,500	\$5,750	\$6,000	\$74,750
Salaries	\$37,000	\$1,575	\$1,650	\$1,725	\$1,800	\$59,750
Operational costs	\$20,200	\$2,700	\$2,835	\$2,970	\$3,105	\$ 35,810
Maintenance Costs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	<u>\$80,000</u>
Total cost to own						<u>\$204,060</u>
Database System with Website						
Parts cost	\$52,250	\$5,250	\$5,500	\$5,750	\$6,000	\$74,750
Salaries	\$53,000	\$1,575	\$1,650	\$1,725	\$1,800	\$59,750
Operational costs	\$24,200	\$2,700	\$2,835	\$2,970	\$3,105	\$ 35,810
Maintenance Costs	\$20,000	\$15,000	\$15,000	\$15,000	\$15,000	<u>\$80,000</u>
Total cost to own						<u>\$250,310</u>

## Net Present Value

	Database System					Database System with Website		
Year	Annual Cash flow	Database costs	Discount rate 6%	Present value	Annual cash flow	Database costs		Present Value
0	\$800,000		1/(1+6%)	\$800,000	\$800,000			\$800,000
1	\$880,000	\$97,450	0.96	\$782,550	\$880,000	\$139,750	0.96	\$740,250
2	\$968,000	\$24,525	0.9	\$943,475	\$1,056,000	\$34,525	0.9	\$1,021,475
3	\$1,064,800	\$25,751	0.84	\$1,039,049	\$1,267,200	\$36,251	0.84	\$1,230,949
4	\$1,171,280	\$27,039	0.78	\$1,144,241	\$1,520,640	\$38,064	0.78	\$1,482,576
5	\$1,288,408	\$28,391	0.72	\$1,260,017	\$1,672,704	\$39,967	0.72	\$1,632,737
		NPV <u>\$5,969,332</u>				NPV <u>\$7,368,004</u>		

## Impact on Stitch It!

The projected impact of the proposed system is that for the first year will have a 10% increase of revenue. A projected 20% increase for two years, then down to 10% increases for the remaining two years with the website system. Whereas the basic database system will only yield about 10% per year

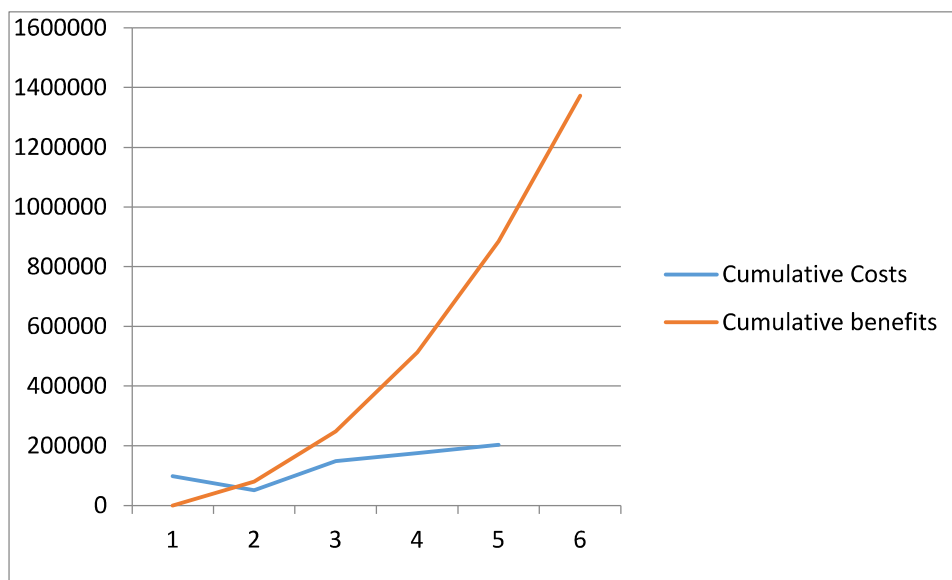
## Return On Investment

Year	Cost	Cumulative Costs	Benefits	Cumulative benefits	Cost	Cumulative Costs	Benefits	Cumulative Benefits
0								
1	97450	97450	80000	80000	139750	139750	8000	8000
2	24525	50276	168000	248000	34525	70776	256000	264000
3	25751	147726	264800	512800	36251	210526	467200	731200
4	27039	174765	371280	884080	38064	248590	720640	1451840
5	28391	203156	488408	1372488	39967	288557	872704	2324544
		Return on investment		576%				706%

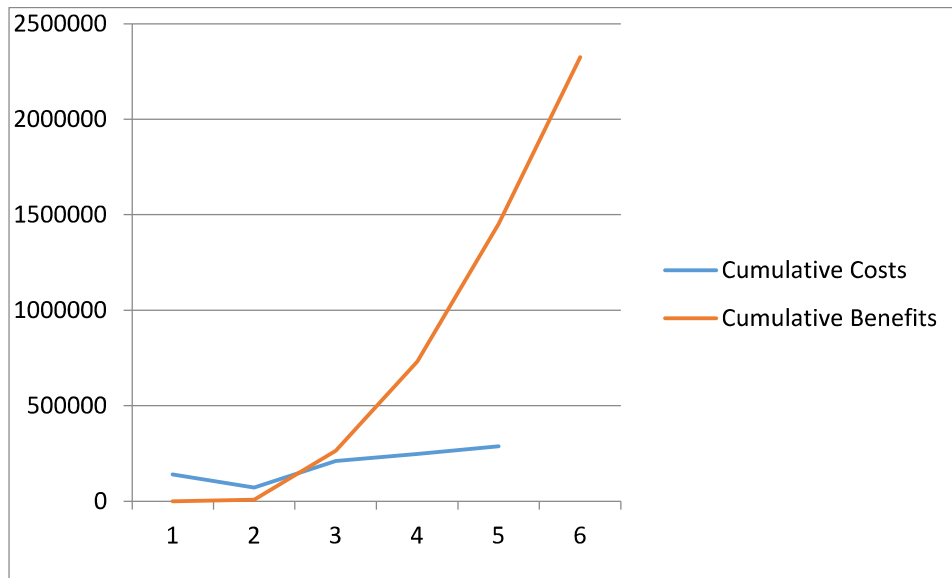
## Impact on Stitch It!

Thought the initial cost his higher the return on your investment is greater benefit in the long run to chose the database with a website option.

## Payback period



Return on investment predicted in 1 year and 9 months to pay for itself. 576%



Return on investment predicted in 2 years 6 months to pay for itself. 706%

### Impact on Stitch It!

Though it has a higher cost of implementation and takes longer to pay for itself it will return almost 200% more the other option

### Recommendations

For the optimum value back on your investment we would recommend the database system with a website. Though it requires a bigger investment and time to pay for itself but its rewards to the predicted increase in revenue will be almost 200% more than the other system.