A.M Craft Website Improvement: Cost-benefit Analysis Report

Deliverable 3: Cost-Benefit Analysis Report

Group 9: Anvesha Tyagi, Matthew Guo, Quang Nguyen, and Sanika Kulkarni

BUS4-110B

Jalal Sarabadani

System Analysis and Design

Assigned Tasks

Team Member Name	Assigned Task
Anvesha Tyagi	Task 1
Anvesha Tyagi	Task 2
Matthew Guo	Task 3
Quang Nguyen	Task 4
Sanika Kulkarni	Task 5

Task 1 - Tangible and Intangible Benefits

The top five tangible benefits that our team identified for redesigning A.M Craft's website are low maintenance cost, high customer retention, improved marketing effectiveness, increased revenue, and business scalability.

1. Lower Maintenance Cost: A redesign of the website with a clear menu reduces the need for constant site maintenance. We would measure this by tracking the maintenance hours and labor costs compared to the previous site.
2. High Customer Retention: A simple and organized layout will result in the high customer usage, completing their desired action. We would measure this with the help of analytical tools to track site visits, returners, form submissions and compare it to the previous site. Set up a reference for retention rate.
3. Improved Marketing Effectiveness: A redesigned website will be easier to promote and the simplicity will improve customer engagement resulting in higher conversion rates. We would measure this by observing the conversion rates from campaigns after the redesign and track click-through rates.
4. Increased Revenue: The improved site will be more accessible for customers to find and make their desired purchases. We will measure this by comparing the revenue data from before and after redesign.
5. Business Scalability - Through the redesigned website, our team is achieving tangible productivity improvements that warrant measurable, scalable growth.

The top five intangible benefits that our team identifies are customer satisfaction, customer satisfaction, increased brand recognition, increased customer trust, better competitive advantage and increased employee morale.

1. Customer Satisfaction: An organized website with fewer words and more graphics and one main menu will enhance user experience leading to the customers to be satisfied.
2. Increased Brand Recognition/Reputation: A professional website increases brand identity within the community
3. Increased Customer Trust: A website with a clear main menu and visuals of the items will increase customers trust leading to constant visits.

4. Better Competitive Advantage: A unique and professional website helps A.M Craft stand out from its local competitors.
5. Increased Employee Morale: When the business invests in improvements which would lead to more customers and overall positive feedback it increases their morale.

Task 2 - Tangible and Intangible Costs

The top five tangible costs that our team identified for redesigning A.M Craft's website are costs of high-quality photos and media, data security and compliance costs, implementation expenses, testing and quality assurance, and design and development expenses.

1. Cost of High-Quality Photos and Media: The website needs professional photos and media to improve its visual and overall attractiveness. We will measure this by comparing different rates for photographers in the local area. Consider the cost of licenses if we use stock photos.
2. Data Security and Compliance Costs: Need security systems and compliance procedures to protect customer and business data. This will be measured by the costs for data security and protection services.
3. Implementation Expenses: The operational costs needed to transition to the new website such as domain fee, server migrations, and all other works needed to publish the site. Research and list all the expenses for domains, servers and all external/internal tools required for the site to go live.
4. Testing and Quality Assurance: Testing is required and necessary to make sure the website is user friendly and functioning as intended. This can be measured by the hourly rate of QA testers or expense of automated testing.
5. Design and Development Expenses: There will be design and development costs required such as layouts, graphics, UI, and other functionality improvements. This would be measured by comparing different quotas of Designers to hire, or consider costs to obtain certain graphic licenses for usage.

The top five intangible costs that our team identified for redesigning A.M Craft's website are adoption resistance, opportunity cost, loss of brand reputation, customer loyalty, and decreased familiarity.

1. Adoption Resistance - Employees may not want to learn how to work the new site, when it comes to updating the menu items.
2. Opportunity Cost - Other departments or priorities will be given up for the website redesign (halt on other projects*)*.

3. Loss of Brand Reputation - a digital experience that lacks consistency in messaging, and branding can lower brand institutions. An inconsistent online experience can hurt trust and confuse customers. Failed launches, like special drinks, can also damage loyalty and reputation.
4. Customer Loyalty - Customer might not like the current redesign and not shop at AM craft
5. Decreased Familiarity - A redesign of the current website might not appeal to the local communities while focusing more on the general audience.

Task 3 - One Time and Recurring Costs

3 One-Time Costs:

1. Domain Registration Fee: This is the initial fee for registering a new domain to create a new website.
2. Development Expenses: This is the initial fee for the redesign and covers the main functionality of the revamped website
3. Design Expenses: This includes all the revamped graphics such as the universal menu, logos, and new graphics.

3 Recurring Costs:

1. Domain Renewal: This is the yearly recurring cost to renew the licensing for the domain
2. Maintenance: This is the yearly recurring cost to ensure the website is running smoothly and normally
3. Data security and compliance costs: This is a recurring cost to ensure all data is protected from cyber attacks

		Your Project		Alternative B		Alternative C	
	Weight	Rating	Score	Rating	Score	Rating	Score
One Time Costs							
Domain Registration	10	3	30	1	10	3	30
Development Expenses	35	3	105	5	175	4	140
Design Expenses	15	4	60	3	45	2	30
Total	**60**		**195**		**230**		**200**
Recurring Costs							
Domain Renewal	5	2	10	3	15	1	5
Maintenance	20	4	80	4	80	5	100
Data Security and Compliance Costs	15	5	75	4	60	5	75
Total	**40**		**165**		**155**		**180**
Total Costs	**100**		**360**		**385**		**380**

While making the scoring model for AM Craft redesign, we created a presentation of our project versus our competitors. We based this scoring model on three one-time costs and three recurring costs with the ranges from 1 - 5, 1 being the most cost-effective and 5 being the most expensive. The three one-time costs were domain registration, development, and design expenses; the three recurring costs were domain renewal, maintenance, data security, and compliance. The weight of each cost was determined by how essential they were to the project. Based on these criteria, domain registration was given a ten because a domain is needed if they want to start coding and creating the new website. Development expenses were given a 35 because it was essential for the development team to code the basic functions. Design expenses were given a 15 because it required the designers to create a design with a newly updated menu log with brand-new logos to fit the new aesthetics of AM Craft.

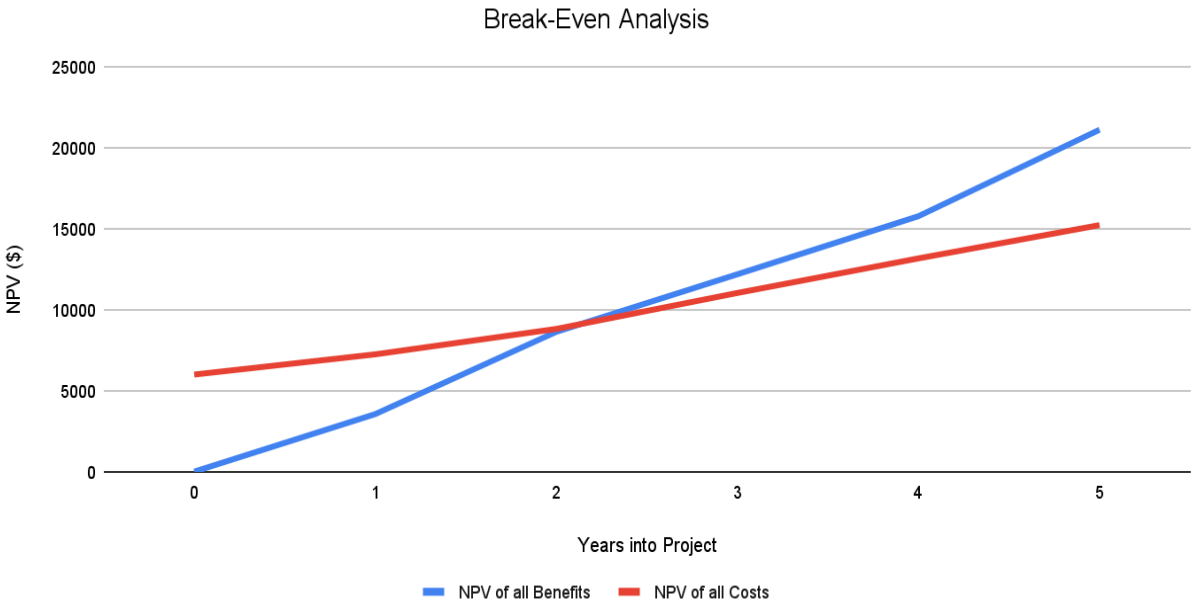
For our recurring costs, we determined that the domain renewal was not as important as the other costs but still essential to keep the website running, so we gave it a 5. Maintenance is necessary for this website because it needs to be professional and transparent about any errors or bugs in our website. Lastly, data security and compliance costs were given a 15 because businesses are victims of cyber attacks year-long, 24/7, so investing in this we deemed it essential and important.

Our project offer is the best whilst being the most cost-effective solution; our score of 360 means that our solution contains the best prices compared to our competitor's scores of 380 and 385, respectively. In our project, domain registration was noticeably more expensive than our competitors, but we found ways to lower the cost while keeping our pricing competitive compared to other alternative solutions. One of the ways we lowered our cost was from the development team, where we had a contract where the pricing was affordable, and the quality of work was spectacular for the price. Getting a good deal on the development team was a great way to save money. But, we could not skip out on a good design, so we hired industry professionals who are excellent at their jobs. We paid a lot of money to have designers create our new logo and menu.

Meanwhile, our competitors found ways to lower their costs by choosing cheaper alternatives for their designs. Each proposal had the exact pricing for domain renewal; hence, the expense is paid yearly. Maintenance costs and data security were some of the most expensive parts of each proposal, considering that website issues and cyber threats should not be taken lightly.

Task 4 - Cost Benefit Analysis

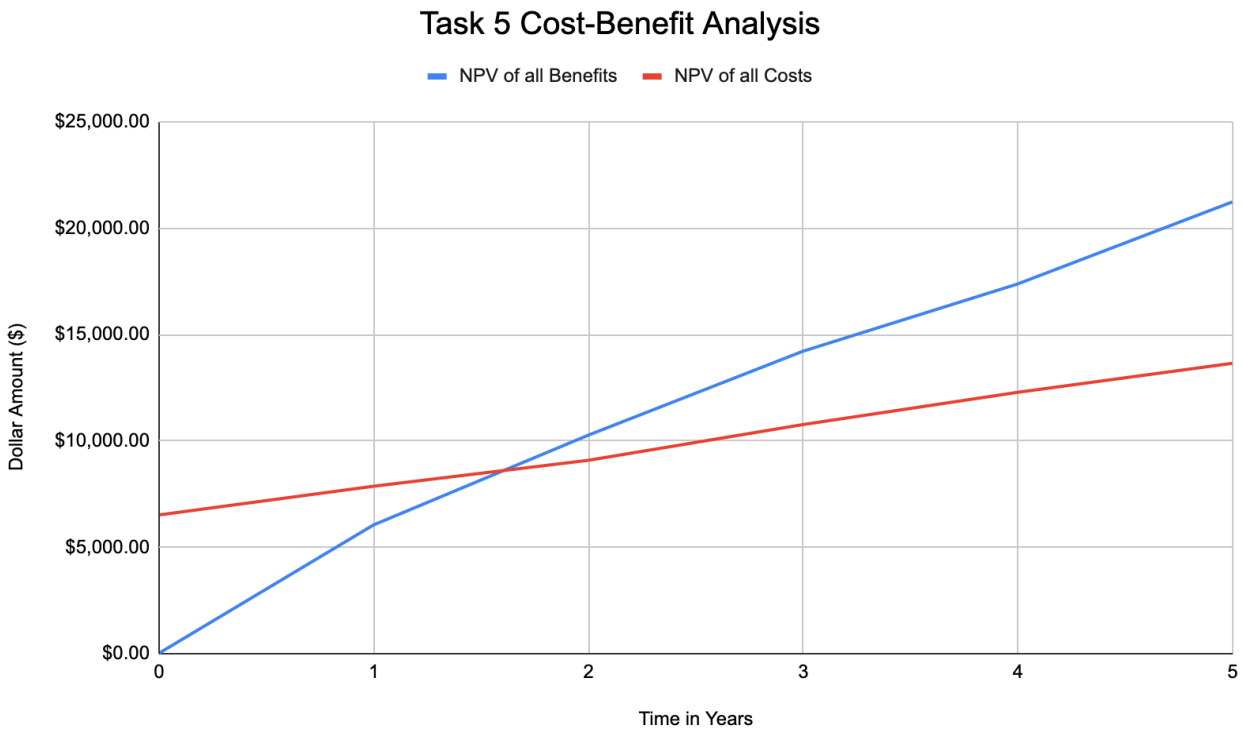
Year	0	1	2	3	4	5	**TOTAL**	
Net Benefit	$0.00	$3,700.00	$5,500.00	$4,000.00	$4,200.00	$6,500.00		
Discount Rate: 0.04	1	0.96	0.92	0.89	0.85	0.82		
PV Benefits	$0.00	$3,557.69	$5,085.06	$3,555.99	$3,590.18	$5,342.53		
NPV of all Benefits	$0.00	$3,557.69	$8,642.75	$12,198.74	$15,788.91	$21,131.44	**$21,131.44**	
One-Time Costs	$6,000.00	$0.00	$0.00	$0.00	$0.00	$0.00		
Recurring Costs	$0.00	$1,300.00	$1,700.00	$2,500.00	$2,500.00	$2,500.00		
Discount Rate: 0.04	1.000	0.96	0.92	0.89	0.85	0.82		
PV of Recurring Costs	$0.000	$1,250.000	$1,571.746	$2,222.491	$2,137.010	$2,054.818	**$9,236.06**	
NPV of All Costs	$6,000.00	$7,250.00	$8,821.75	$11,044.24	$13,181.25	$15,236.06	**$15,236.06**	
Overall NPV							**$5,895.38**	
Overall ROI							**0.3869**	38.69%
Break-Even Analysis								
Yearly NPV Cash Flow	-$6,000.000	$2,307.692	$3,513.314	$1,333.495	$1,453.167	$3,287.708		
Overall NPV Cash Flow	-$6,000.00	-$3,692.31	-$178.99	$1,154.50	$2,607.67	$5,895.38		
Break-Even Point Fraction							**0.13**	
Break-Even Point							**2.13**	



The analysis in Task 4 breaks down AM Craft's financial implications and focuses on three key calculations: net present value (NPV), return on investment (ROI), and break-even analysis. By investing in this project, the profit generated would earn $5895.38 based on the overall net present value (NPV). The NPV is based on the discount rate from years 0 to 5 and cash flow over 5 years. The return on investment (ROI) is around 39 cents for every dollar invested. By using the NPV of all costs and total NPV, we can calculate the return on investment. The project will break even in about 2.13 years or between 1 and 2 years and start generating positive cash flow. Using yearly and overall NPV in which the project becomes profitable. The results show that investing will cover the overall costs and contribute to the business growth over time.

Task 5 - Cost Benefit Analysis

Year	0	1	2	3	4	5	Total
Discount Rate: 0.11	1.00	0.90	0.81	0.73	0.66	0.59	
Net Benefits	$0.00	$6,700.00	$5,200.00	$5,400.00	$4,800.00	$6,500.00	
PV of Benefits	$0.00	$6,036.04	$4,220.44	$3,948.43	$3,161.91	$3,857.43	
NPV of all Benefits	$0.00	$6,036.04	$10,256.47	$14,204.91	$17,366.81	$21,224.25	**$21,224.25**
One-Time Costs	$5,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	
Recurring Costs	$1,500.00	$1,500.00	$1,500.00	$2,300.00	$2,300.00	$2,300.00	
Discount Rate	1.00	0.90	0.81	0.73	0.66	0.59	
PV of all Costs	$6,500.00	$1,351.35	$1,217.43	$1,681.74	$1,515.08	$1,364.94	
NPV of all Costs	$6,500.00	$7,851.35	$9,068.79	$10,750.53	$12,265.61	$13,630.54	**$13,630.54**
Overall NPV							**$7,593.70**
ROI							**1.56**
Break Even Analysis							
Yearly NPV Cash Flow	-$11,500.00	$4,684.68	$3,003.00	$2,266.69	$1,646.83	$2,492.50	
Overall NPV Cash Flow	-$6,500.00	-$1,815.32	$1,187.69	$3,454.38	$5,101.21	$7,593.70	
Break Even Point							**1.60**
Break Even Point Fraction							**0.60**



After working on the Task 5 cost-benefit analysis to see if the project is profitable in the long run, the break-even point is where benefits equal costs and displays during which year the project started making a profit. First, I calculated the Net Present Value of benefits and costs from years 0 to 5 using a discount rate of 11%. Next, I calculated the NPV and the ROI based on the initial investment to measure profitability. Last, I created a graph to show the NPV of all Costs and the NPV of All Benefits to see where the project breaks even. In conclusion, the project in Task 5 is profitable as the cost-benefit analysis shows an NPV of $7593.7 and will break even between Year 1 and Year 2 at the value of about 1.6 years.