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COMPARISON OF ADI WEBSITE BUILDERS

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ABSTRACT

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The aim of this thesis was to compare five of the highest-ranked website builders that relied on Artificial Design Intelligence (ADI) for auto-generating websites. The order of the titles was based on the ranking of the ADI website builders, from highest to lowest in accordance with the rankings found on the world wide web. The research was done by gathering data from reviews and rankings of individual users, editors, blog authors, and agencies publicly available on the world wide web. The collected reviews were chosen without preference. There was no need for conducting personal tests on the ADI website builders as the collected data was sufficient for the purpose of this thesis.

The thesis approached the comparison of the five ADI website builders fairly without any external factors affecting the conclusion. The comparison of the ADI website builders was based on first-hand user experience reviews of the website builder's services, prices of plans, quality of template designs, service features, level of ease-of-use, and the time it took to generate a website. The comparison included an in-depth review for each ADI website builder, along with their advantages and disadvantages.

The thesis concluded with the selection of one of the five ADI website builders as the best service. The conclusion was based on the same measuring factors used in the comparison. Due to the strong competition amongst the five selected services, the ADI website builder that was concluded to be the best existing option was selected based on its outweighing features and advantages.

Keywords: AI, ADI,
Website Builders, Web Design.

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ABBREVIATIONS

ADI	Artificial Design Intelligence
AI	Artificial Intelligence
AIDA	Artificial Intelligence Design Assistant
AIVA	Artificial Intelligence Virtual Artist
ALGOL	Algorithmic Language
ANN	Artificial Neural Network
API	Application Programming Interface
COBOL	Common Business-Oriented Language
CRM	Customer Relationship Management
CSS	Cascading Style Sheets
FORTTRAN	Formula Translation
GB	Giga Byte
GPT	Generative Pre-trained Transformer
HTML	Hyper-Text Markup Language
HTTPS	Hyper-Text Transfer Protocol Secure
IBM	International Business Machines
IT	Information Technology

LISP	List Processing
MB	Mega Byte
NPM	Node Package Manager
NLP	Natural Language Processing
PC	Personal Computer
PHP	Hypertext Pre-Processor
POS	Point of Sale
SEO	Search Engine Optimization
SFML	Simple and Fast Multimedia Library
SPA	Single Page Application
SSD	Solid-State Drive
SSL	Secure Sockets Layer
UI	User Interface
URL	Uniform Resource Locator
UX	User Experience
VAT	Value Added Tax
VR	Virtual Reality
WABOT	Waseda Robot

1 INTRODUCTION

With the world rapidly transitioning towards digitalization, the number of websites has been escalating at an accelerating speed of around 175 websites every minute [1]. Ever since the world's first website, <http://www.info.cern.ch>, was created in 1991 by British physicist Tim Berners-Lee at the European Organisation for Nuclear Research in Switzerland [2], the world of internet has not come to a rest. Starting with the first-ever online website launched on August 6th 1991 and reaching over 1 billion websites on the world wide web by October 2014 [3]. The number of websites is yet to increase with the fourth industrial revolution rolling out to the public and affecting today's businesses. In the early stages of online websites when it was slowly starting to become more familiar amongst the regular Personal Computer (PC) users, websites were known to be created by large businesses and enterprises. However, this has changed dramatically in the past years. As of the year 2022, over 1.18 billion websites have been created [1], indicating that websites are not only to large enterprises and companies, but rather start-ups as well as individuals.

Along with the increasing demand on websites, the field of web design has been accelerating in its research and development, with new and improved features being introduced almost on a monthly basis for all internet users. At the same time, the research field of AI has seen an exponential growth in its development in the past few years, with inventions such as Siri, Tesla, Sophia, third generation Generative Pre-trained Transformer (GPT-3) and many others proving to us that there will be only more development in the near future with no indication of it slowing down. Such ongoing developments and inventions in the field of Information Technology has created an atmosphere of competition amongst all developers along all the different subfields of Information Technology and Data Science. Also, development in the tech industry has resulted in yielding new subfields and areas of research, one of these being ADI, which is an interlinking bond between the fields of AI and Web Design.

With the high demand on websites is accompanied with the demand for creating a website in a short period of time and at a low price, as more start-ups are in need for

a website nowadays for their business. The faster and the cheaper, the more convenient it is for businesses with small budgets or tight schedules. This demand has yielded the service of creating websites for beginners with no background knowledge in web development in less than an hour, using the “drag-and-drop” architecture. Behind this simple architecture lies chunks of complex code generated by web developers who are dedicated to providing an easy-to-use website builder for beginners and to fulfil the high demand on websites. This has given a head start for more website-building services to be created by web development companies, and thereby paving the way for a new competition in a new subfield of web design, known as website builders.

Amongst the most recognizable website-building services are Wix and WordPress, used by millions around the world to create simple to advanced web pages in little time and at no cost. Using ready-made templates, buttons, layouts and designs has become a time-saving tactic for many small businesses as well as individuals to have a professional website without the need for financing a free-lancing web developer, as that could be costly especially for start-ups that are trying to minimise their expenses at all costs. Thereby, Wix, WordPress and other website-building services who have followed along have become widespread in use. This has encouraged the companies to invest more of their resources and research into this service. The end-result is an immense enhancement on the website-building services, as it has been integrated with AI, more precisely, Machine Learning technology.

With more website-building service providers following in the footsteps of Wix, which has launched the first-ever AI that designs a complete website for the user known as Wix ADI, the new discipline of ADI has merged into the tech industry’s research and development sphere. Following Wix ADI, the world has been introduced to new competing website builders that are also depending on ADI to design its user’s website such as Bookmark, 10Web, Jimdo Dolphin and Zyro.

This thesis offers a comparative study of the top five website-building service providers, known as Wix ADI, Bookmark AIDA, 10Web, Jimdo Dolphin and Zyro, in terms of the level of advancement in their AI models, the level of user satisfaction on the

results based on surveys and reviews, level of ease-of-use when building the website, the amount of time needed to create the website, the quality of functionalities and usability in the websites generated by the AI and lastly the pricing of the service. Through this comparison, one can conclude the best existing option for creating a website with the help of AI technology. This thesis also tackles the history and expected future developments in the field of ADI, giving the reader a roadmap to understanding and visualising the upcoming possible improvements in this field of research. The comparison is done unbiasedly and is purely objective to find the top qualified AI-based website building service in accordance with the previously mentioned measures of comparisons.

2 ARTIFICIAL DESIGN INTELLIGENCE (ADI)

ADI is a new field of research that merges two broader fields, AI and Web Design. ADI has become a key factor in revolutionising websites in both their design and functionalities. The term is not yet as popular as, for example, computer vision or Virtual Reality (VR). Therefore, it does not have a standard definition. Rather, it is a new term that is used in articles, blogs and posts without a clear hint of the person who first coined the term. Thereby, this allows one to define ADI according to their own understanding. In addition to defining it, knowing the history of this field and how it evolved would further help the reader understand ADI. Lastly, this chapter will tackle the current research and development phase of ADI with the aim of understanding the future improvements that are to be expected in web design, specifically, and web development generally.

2.1 Definition

A definition, according to Oxford Languages, is “a statement of the exact meaning of a word, especially in a dictionary” [4]. Thereby, ADI does not have an exact agreed meaning, but rather is open for contribution in defining this newly evolving field of AI. Woven Agency, a global award-winning brand engagement agency, defines ADI as “technology that will use machine learning to make websites on its own” [5]. This definition is the closest in accuracy as ADI is based on machine learning and is used specifically in terms of designing websites. ADI can also be defined as the interdisciplinary field of technology that merges machine learning with web design with the aim of creating web applications with minimum human interaction. The definition of ADI can continue to improve as the field itself continues to improve, just as with the term AI when it first appeared in 1956 [6].

2.2 History

The history of ADI extends from the histories of Web Development, Web Design and AI. The first stage of ADI began with the very first Hyper-Text Markup Language (HTML) webpage published on the world wide web, followed by a collaboration of developing programming languages to improve websites, which gave birth to the field of Web Development. Followed by the advancements in building websites, the

need for user-friendly designs increased as websites began to serve business-related purposes such as making bank transactions, shopping for items, booking appointments and emailing. This was the first stage in the birth of Web Design as a field of research and development.

Followed by the advancements in computer science, data transmissions, electrical engineering, and other related fields became the new field of AI which aimed at mimicking human intelligence into machines and computers in order to increase their efficiency. As the three fields of Web Development, Web Design and AI continued to develop and improve, a merged field that integrates the three fields together has come to be known as ADI, which tries to utilise the developments of each of the three fields to create a new and productive service to everyday users of the world wide web.

2.2.1 History of Web Development

The field of Web Development was born in 1991, when British physicist and computer scientist, Tim Berners-Lee, published the first website on the world wide web using pure HTML. The image below is a screenshot of the world's first website published on the internet, still accessible today at <http://info.cern.ch>.

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#), [Policy](#), November's [W3 news](#), [Frequently Asked Questions](#).

[What's out there?](#)

Pointers to the world's online information, [subjects](#), [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#), [X11 Viola](#), [NeXTStep](#), [Servers](#), [Tools](#), [Mail robot](#), [Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

A summary of the history of the project.

[How can I help?](#)

If you would like to support the web..

[Getting code](#)

Getting the code by [anonymous FTP](#), etc.

FIGURE 1. <http://info.cern.ch> Homepage. The first website published [7].

Web Development came into global recognition when the first commercial websites began appearing in the mid 1990's [8], especially with the creation of the very first

website hosting service, GeoCities, which was considered a major turning point in the development of websites as it allowed regular users to create homepages free of charge. In the following years, HTML began to be developed by several worldwide contributors and eventually had version 2 released in 1995 followed by versions 3 and 4 in 1997, and finally version 5 which is known today as HTML5 in 2011.

The emergence of Application Programming Interface (API) and Single Page Applications (SPA) have improved the human-computer interaction by making websites more efficient for users thus speeding up the time needed to retrieve data from the server and to respond to user's action. As the years passed on, more efficient programming languages have unfolded, most notably Java, C++, C#, Python, Hypertext Pre-Processor (PHP), and R.

Frameworks, libraries, and modules/packages have made open contributions easier and more convenient by coders, which helped in the overall improvement of the programming languages. Furthermore, came the improvements in website functionalities. Libraries and frameworks have saved programmers a lot of valuable time by allowing them to focus on the new features and functionalities and less on the code-base of a website or repeated code blocks. The time saved has resulted in more creativity being invested into improvements of websites and has thereby attracted more contributors making it the largest open-source project worldwide. The most notable frameworks, libraries and modules/packages are CodeIgniter framework for PHP, Hibernate framework for Java, NumPy library for Python, Simple and Fast Multimedia Library (SFML) library for C++, Node Package Manager (NPM) packages for JavaScript.

2.2.2 History of Web Design

Web Design came to be as a natural response to the rapid development in the field of web applications and the growing need for user-friendly website designs for business purposes. Companies that hosted commercial websites on the world wide web began to invest in the functionality, layout, and features of their websites to attract more users. The most significant cornerstone technology that appeared in the timeline of Web Design's development was the style sheet language, Cascading Style

Sheets (CSS), which was developed in 1998. CSS was created to enhance the styling of HTML websites by allowing web designers to manipulate how the HTML elements (buttons, search engines, text, images, etc.) should be displayed on the screen.

Tim Berners-Lee's first ever website published on the world wide web was nothing more than a text-only website with text displayed in HTML paragraphs, tables and links, and had no purpose of providing interactivity with the user. One year after the publication of the world's first website on the world wide web in 1991, the first image was published on the internet in 1992. Berners-Lee upgraded his website to support images in 1992, and as a test, has published the first ever image on the internet [9]. This led towards images becoming an essential part of websites from that day onwards. With the publication of JavaScript in 1995, which is considered as one of the most important web programming languages, websites started to slowly turn into real-time responsive and interactive websites, eliminating the need for users to wait for the entire page to reload when a request, such as a button being clicked, is made. Drop-down menus and embedded forms began to appear on websites.

In 1996, FutureSplash, which later came to be known as Adobe Flash, paved the way for videos, audio, and animations to be included on websites. The first ever style sheet language, CSS, rolled out in 1998. Created by Hakon Wium Lie and Bert Bos in 1996, CSS allowed the content written in HTML to be separated from the elements visualized on the website such as the layout, styling, font type, font size and colors. This has dramatically enhanced the way websites are designed. Website themes came into existence as WordPress introduced them in the form of plug-ins in 2003, by allowing users to pick amongst various predefined layouts for their website. In 2004, MySpace, known as the world's first social media network, gave its users the option of customizing the layout of the website.

Website designs have evolved rapidly in the past decade with live animations, gifs, vectors, and AI being included in the designing of a website. Whether it be a commercial, social, educational, or personal website, all websites today have adapted to become mobile-friendly and responsive as more people are shifting towards mobile devices when browsing websites on the internet. Websites, generally, are now being

replaced with mobile apps, which offer users an all-in-one service package with much more features and functionalities that cannot be found on a website hosted on the world wide web. Until this day, programming languages and websites are continuously being improved and published in forms of versions and releases whenever a new feature has been developed.

2.2.3 History of Artificial Intelligence

The term 'Artificial Intelligence' was first coined by the American computer scientist, John McCarthy whilst working with a group of American computer scientists in 1956 in what was known as the Dartmouth Summer Research Project. At that time, high-level programming languages such as Formula Translation (FORTRAN), List Processing (LISP), and Common Business-Oriented Language (COBOL) were used for computer programs. In the following years, significant successful milestones were hit such as the creation of the world's first smart chatbot called Eliza by Joseph Weizenbaum in 1966 and the invention of the world's first intelligent humanoid robot known as Waseda Robot (WABOT-1) in Japan in 1972 [10]. Although the field of AI has seen great development in the years following the Dartmouth Conference in 1956, a period of time known as the AI Winter has resulted in a massive drop in the research and development of AI from 1974 to 1980. Computer scientists had to deal with a lack of funding by governments and research institutes due to incapability of keeping promises and meeting end-users expectations [11].

Although AI might seem to be bringing sci-fi scenarios closer to reality in a very short time span, it is far from being near human-level intelligence at this stage of development. AI can generally be split into two types: Artificial General Intelligence, also referred to as strong AI, and Narrow AI, also referred to as weak AI. Strong AI is considered the capability of an AI program to think rationally and critically, to analyze scenarios, to feel self-awareness, to be able use reasoning, to be creative and to adapt to new environments. This type of AI is still far away from being developed today as all the AI programs that we have existing today fall under the category of weak or narrow AI, which is only capable of outperforming humans in one domain

and not in all. Although it is a long debate amongst AI experts, neurologists and physiologists, today's AI being developed cannot be considered as conscious or self-aware [12].

2.3 Research & Development

When comparing the research and development efficiency rates between the three fields, Web Development, Web Design and AI, one must put the three in the same category and make a conclusion based on which field is producing more at a higher speed. Rather, each of these three fields has its own rate of development.

As for Web Development, contributors around the world are adding their sense of creativity to every new release of a programming language, framework, library, software or package as it is considered to be a global open-source project for anyone to fix a bug, add a new feature, simplify a concept, or modify something for improvements. As for web design, it is highly dependent on the development done in web development, and they cannot develop independent of each other. Every new update or feature that is made in a programming language will directly impact the development of web design. Yet, web design is a focused field within the Information Technology (IT) industry. This means that many products are developed solely to improve the designs of websites such as new creative templates, more efficient styling frameworks and tools, and new programming functions that assist in animations. As for AI, it is the fastest developing field of the three and arguably within the entire IT sect.

As computer chips, embedded systems, wireless networks and big data are all being developed and improved at a high competition rate, so will the field of AI. AI is highly dependent on the cutting-edge technologies of 5G and beyond relying heavily on data transferring speeds and big data manipulation. AI is the heated topic of this century. This drives big tech companies to focus on it as it will be the future of how we handle data and interact with smart devices.

By taking the latest progress of the research and development in each of the three industries we can understand how they are individually and collectively developed. Starting off with the web development industry, the latest advancement include AI

chatbots as customer service, searching with voice commands through voice recognition, searching with images through image recognition, personalized search recommendations through machine learning, single-page applications, website activity in the background or when offline, highly interactive website layouts for laptops and mobile devices, interlinked website services such as banking, invoices and notifications, and many more. Vue.js, Flutter, React, Angular, Node.js, Django and Laravel are now taking the lead amongst the web application frameworks [13].

Secondly, the development of web design industry has been primarily focused on website animations, colorfulness, and ease of navigation. Web design can also be referred to as User Experience (UX) design, User Interface (UI) design and graphics design. Artistic website user interfaces with live animations and a lot of interactive elements have become the latest trend for web designs. Web designers aim at creating aesthetic, welcoming, and eye-catching styles with the help of programs such as Wix, Figma, WordPress, Sketch, Adobe XD, Webflow, Flow Mapp and InVision Studio. With more new tools and software released for web designers to use, UX design has the leading position in the job market and is considered the sixth highest paid entry-level job [14].

Thirdly, as for the AI industry, it is considered the fastest-growing research and development field amongst the three fields. AI has developed from passing Turing tests and beating humans in chess games to self-driving cars, virtual assistants, face recognition systems, socially intelligent humanoids, personalized recommendation systems and disease mapping. Some of the most noticeable recent innovations in the AI field are as follows [15]:

- Roomba 980: a smart robotic vacuum cleaner
- Sophia: a human-like robot (humanoid) that can engage in regular conversations and social events
- Olly: a virtual assistant with a developing personality
- Well: a personalized health engine functioning as a personal nurse
- Atomwise: an AI system that discovers possibilities for new medicine
- Cruise: a fully autonomous car, able to drive itself on public roads

- Betterment: an automated financial investment program that handles tax loss harvesting, trading, transactions, and portfolio management tasks
- Google Maps: an AI-enabled mapping/navigation system
- Hipmunk: an AI-powered personal travel assistant
- Meta: a social media platform/app that uses AI technology such as face recognition for tagging and suggestions of friends
- Amazon Go: a cashier-less convenience store based on AI cameras and sensors that allows customers to pick products and walk out of the store without needing to scan them with automatic payment using AI technology
- Wix ADI: a website-building service, similar to WordPress, running entirely on AI
- Drift: an AI-powered chatbot functioning as a personal business assistant for booking meetings, handling chats with customers, suggest questions, etc.

Although these three fields are developing separately at different speeds, they are in fact aiding one another and are spilling into the research and development of ADI. With every new advancement and new technology that is published from either within the web development, web design or AI field, ADI finds its way into the hot tech trends and is emerging as a globally recognized technology to be integrated into the world's tech and business industries. The latest technology developed by ADI researchers and engineers is the prominent AI-based website building service, which can be found today in Wix ADI, Leia, Dolphin, Bookmark, Zyro and many others. This thesis, as mentioned previously, will focus particularly on these chosen AI-based website building services.

3 ADI WEBSITE BUILDERS

In short and simple definition, an ADI website builder is a service or a platform that offers customers to create their website with the assistance of an AI-generated system. AI website builders rely on an automated and self-learning AI system to generate websites with little to no human interaction other than the customer's preferences and wishes which the AI system considers when creating the website and suggesting it to the customer. Similar to how web developers use WordPress to create their business websites, ADI website builders will automate the process of having to code the layout, styling, functionalities, and other time-consuming tasks.

Customers using the AI website builder service only need to tell the AI system how they would like their websites to look and function. The AI system that builds the website is fed and trained with a tremendous number of human-coded website examples. This is needed for the AI model to study and analyse its backend and frontend code. In this way, the AI model learns with no direct human interaction. This allows the AI system to suggest new website layouts and designs in the same sense that AI-powered music generators can produce new musical notes and beats based on the large chunks of music that the AI's training model is fed with during its initial training phase.

3.1 AI vs human in Web Design

One important comparison that must be made before going into the comparison between the five chosen AI website builders is between websites created by humans and an AI program. The comparison is done based on the quality, uniqueness, benefits, and shortcomings as well as customer satisfaction of the outcome. Based on these factors, one can draw a comparison between a human who designs a website and an AI program generating a webpage design.

Before tackling the aforementioned factors, at the heart of every successful web design is the web designer's creativity. This word, creativity, has always been directly or indirectly linked to the human species. Creativity is defined as "the ability to make or otherwise bring into existence something new, whether a new solution to a problem, a new method or device, or a new artistic object or form" [16]. Although the

debate about whether AI can have creativity or not has been and remains a long one amongst philosophers, computer scientists, AI experts and neurologists, it can be concluded from the debate that the stronger argumentation suggests that AI can come with new and unique ideas which are considered to be creative [17][18][19][20]. Thereby, AI can be creative just as humans are. This idea could have never been accepted over 60 years ago when the field of AI was first introduced to the world. However, now one can confidently make this claim with the numerous evidences that exist today. Some of the examples that strengthen this claim are:

- Google's DeepMind, an AI program that plays the Chinese board game of Go, made a unique move during its match against the world's top Go player, Lee Sedol, in 2016, which was considered by many Go experts and commentators as "a move no human would ever think of doing" [21] and a creative move that has changed the understanding of the 3000-year-old ancient board game of Go.
- Open AI developed an AI program named DALL-E 2 which can generate realistic photos and paintings from just a single line of descriptive text. The figure below is a painting generated by DALL-E 2 when it was given the input of "a painting of a fox sitting in a field at sunrise in the style of Claude Monet." [18]

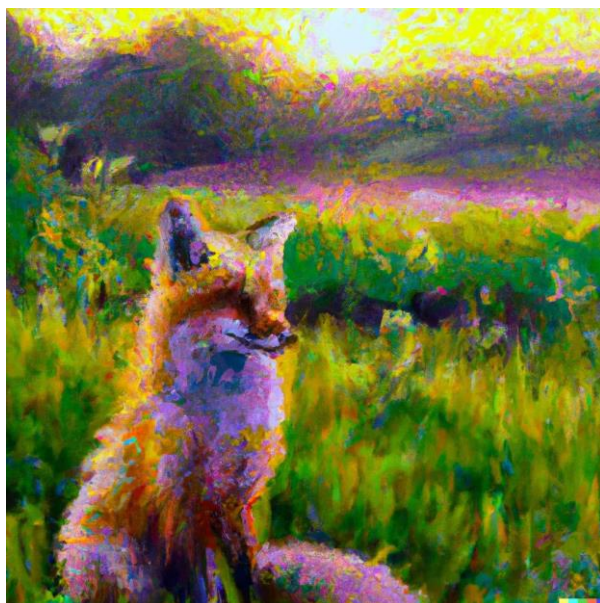


FIGURE 2. Painting generated by DALL-E 2, an AI program.

- AIVA, short for Artificial Intelligence Virtual Artist, is an AI program that composed a music soundtrack with no human interference in 2019, reaching nearly half a million views on YouTube [22].

These examples can either affirm or strengthen the opinion of AI being capable of showing creativity in its work from board games to art to music; and yet we have not seen AI's full potential. AI is still nowhere near human intelligence at this stage of development as it is only capable of outperforming mankind in a single domain. Nevertheless, this argument does affect the fact that humans need to manipulate today's AI by using its creativity in a certain domain to enhance productivity and innovation. The debate does not end here.

The second debate revolves around the difference between human and AI creativity, especially in the context of building and designing websites as that is the primary focus of this thesis. Both have their advantages and disadvantages that make the comparison between them slightly more difficult. Among the advantages of creativity in mankind is that it is not solely based on one source of input. Rather, it is a mix of various experiences, observations, emotions, and learnings. This makes it even more unique from person to person, varying in uniqueness in accordance with their life experiences, brain capacity, and amount of exposure to different types of information.

A great disadvantage of mankind's creativity is the fact that it is highly limited in its performance as it is biologically incapable of processing as much information as a computer can in a single hour. This means that no matter how much a human has been digesting information and experience, it is limited to their age, health and natural brain capacity which results in memory loss, headaches, etc. On the other hand, one of AI's major advantages is the fact that it can be fed with a tremendous amount of data in forms of videos, images, text or other, and can process them within minutes. The fastest supercomputer that exists today, named Fugaku, is capable of storing over 5 million gigabytes of data at a speed of 537,212 Teraflops [23].

Yet, one unique aspect of the human brain is its ability to use imagination. It is a trait naturally installed in humans and is highly unlikely to be replicated into a machine that works on commands and inputs/outputs. From this perspective, the human brain has an outweighing advantage in its creativity and ability to come up with something new, especially in the field of web design that no AI program today can produce. Therefore, it can be concluded that today's AI cannot compete with humans in creativity. In web design, the AI model will heavily rely on data that it has previously been trained with and will not be capable of building a website with no predefined inputs that it can learn from.

It is safe to say that humans today remain the dominant player in web design which requires creativity, imagination and a sense of emotions when designing the layout and themes. Yet, this does not abolish the competition that exists and will continue to exist between web designers and AI website building systems. It all goes back to the customer's satisfaction with the website, and the company's choice on whether they should employ a human web designer or replace them with an AI website building program.

Overall, the efficiency of an ADI system and the chances of it being favoured over a human web designer heavily relies on the quality of the ANN model that the AI system has been built upon. The deeper the layers of the ANN and the better calculated the mathematical operations are, the more efficient the AI system will be functioning and the higher the quality of performance will be.

3.2 Examples

The thesis focuses on five examples of currently existing AI website builders, which are services that rely on ADI to create the website that the customer wishes with no interference of a human web developer. There are many more AI website building services but these five have been chosen since they are the highest ranked ADI website builders [24].

3.2.1 Wix ADI

Wix, founded in 2006, has long been known in the domain of web design as the more advanced alternative for WordPress. Known for its easy UI, larger variation of

layout options and freedom of manipulating the designs, over 220 million websites on the world wide web have been built using Wix making it the top-ranked website building service by WebsiteBuilderExpert [25]. Wix ADI, introduced in 2016, made the very first website designing platform that runs on AI. Wix ADI offers custom websites for every user making each website different from another.

The AI that runs behind Wix ADI proposes a few simple questions about the user's website goals and based on their answer the AI produces a fully functioning website, not a prototype, that meets the customers' needs and demands. The customer is free to pick any of the features and functionalities they would like to add to their website such as an automated chat bot, a booking platform, an e-commerce webpage service, etc. In addition to the features, the AI allows the customer to choose the text, layout, theme, and colors of their website design. With no prior experience in web development or designing needs, Wix ADI generates a professional-looking website within minutes.

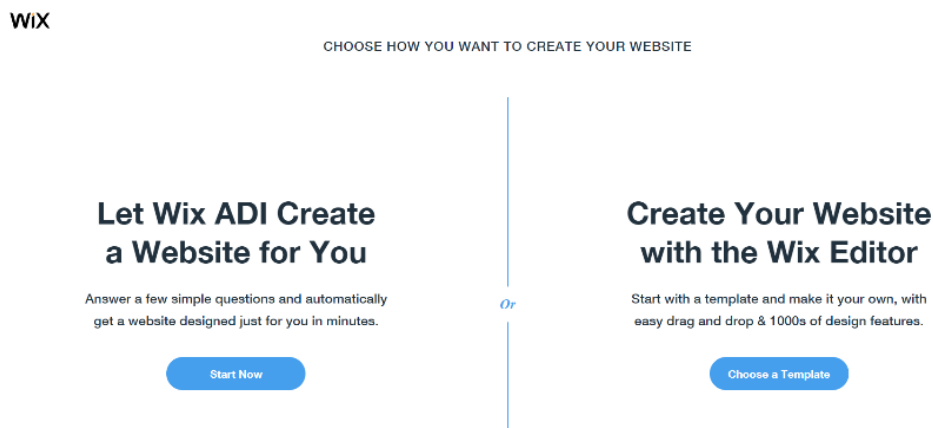


FIGURE 3. Wix website homepage with two options: A manual Wix Editor and an AI-powered Wix version [26].

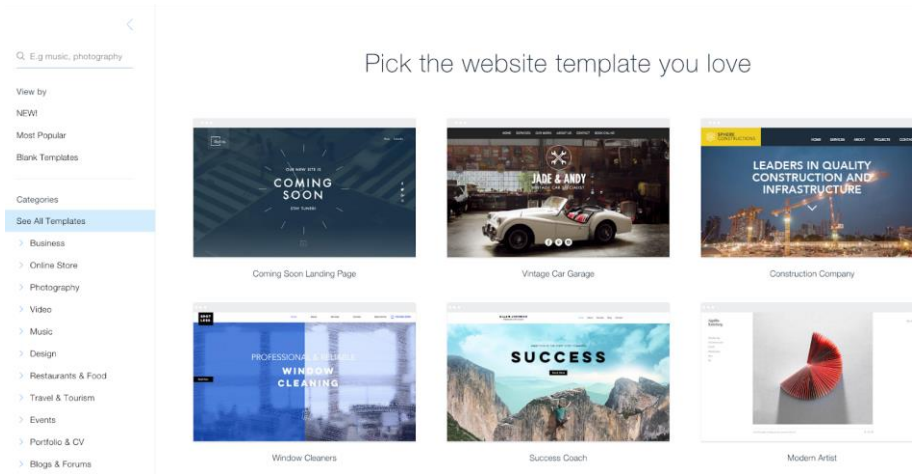


FIGURE 4. AI-generated templates by Wix [27].

3.2.2 Bookmark

Bookmark is an AI-powered website building service founded in Canada in 2014. Bookmark, being a dominant competitor in the field of ADI, is known for a fully automated website building service using the help of a smart virtual assistant that helps customers with the creation of their website. The virtual assistant named AIDA, short for Artificial Intelligence Design Assistant, is an AI-generated bot that mimics the role of a customer service agent with the outweighing advantage of it being available 24 hours a day and having a response time of less than one minute. Bookmark is primarily used by customers for business websites, web stores, and portfolios. Although it can be used to build websites for all different types of purposes. Bookmark is one of the easiest website builders to use as it offers the “AIDA SHOW ME HOW” feature in which the AI assistant takes the customer step by step through the process of building their website.

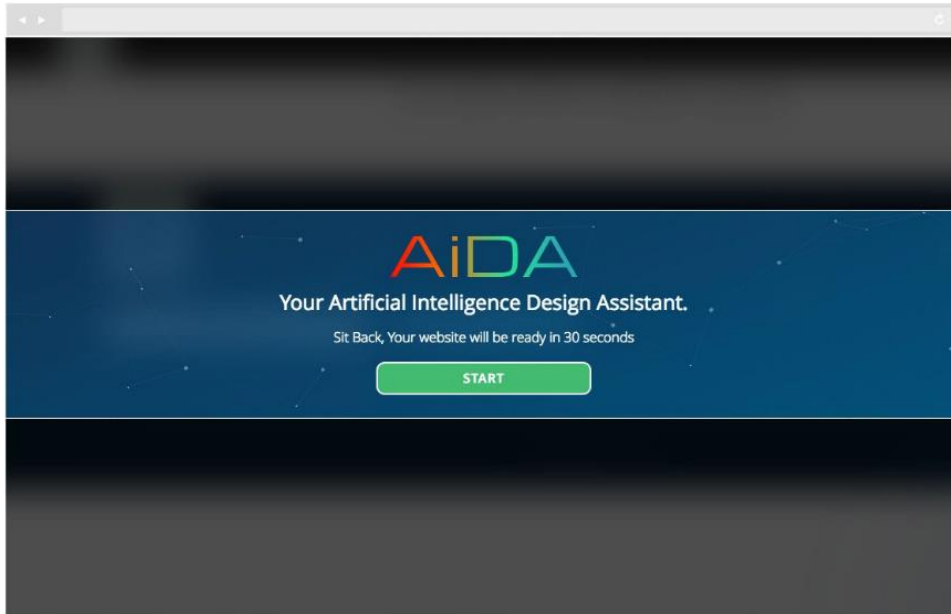


FIGURE 5. Bookmark AI-powered virtual assistant, AiDA [28].

3.2.3 Jimdo Dolphin

Founded in 2007 by a German-based company named Jimdo, Dolphin has made its way into the list of top ADI website builders for its ease of use. Dolphin relies on auto-generated questions that are answered by the customer. The questions are asked and answered in the form of a casual conversation with an AI chatbot. The questions include the customer's business name, niche, social media accounts, logo preferences, business goals, etc. Without the customer having to specify their design needs, the AI system will propose its own design that aligns with the customer's answers. Dolphin's AI system makes a quick search into the customer's social media platforms and business page, if provided, to extract the design and suitable features. Dolphin has made its service mobile friendly so that customers can create a website through their smart devices.

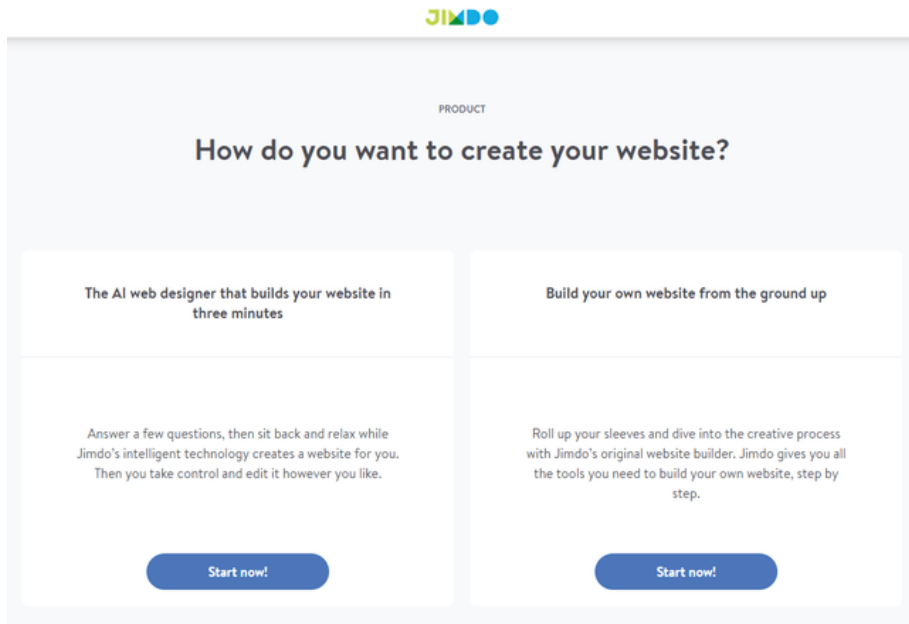


FIGURE 6. Jimdo Dolphin website homepage with two options: manual website creation and AI-generated websites [29].

3.2.4 Zyro

Zyro is a new, friendly, and modern AI-run website building service that is suitable mostly for small business, launched in Lithuania in 2019. Zyro does not require any coding or designing skills to create a webpage through their service. Zyro offers an AI-generated content writer by which the AI suggests appropriate titles and texts in accordance with the website's layout and design. Zyro allows the customer to freely adjust the auto-generated templates. Zyro also offers a heat map tool that can give insights to website owners about the number of visitors on their website and to what the visitors are mostly drawn their attention to. Zyro's drag-and-drop feature makes it a simple tool to modify pre-designed templates for the customer. In addition, Zyro offers a logo builder by which a customer who has a new startup business can create a fully functioning business website and customize a company logo, both in one service platform.

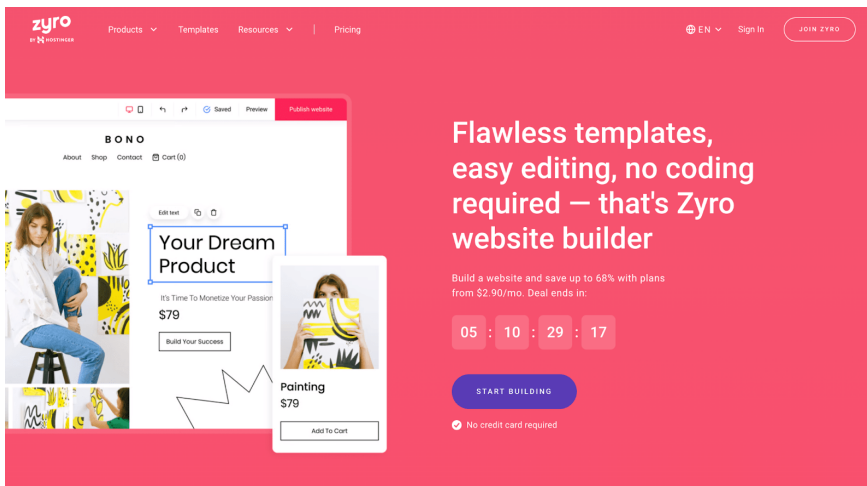


FIGURE 7. Zyro website homepage [30].

3.2.5 10Web

10Web is an ADI website building platform that allows users to manipulate its service to re-create any existing website found on WordPress, Wix, Squarespace or any other site in very little time. Like the other ADI website builders, 10Web auto-generated templates and designs for the customer to choose amongst them, while allowing modifications to be made on the AI-generated template designs. 10Web considers itself the first ever AI-powered WordPress builder [31]. 10Web's AI system visits the WordPress link that the customer provides and scans it to extract for it the structure of the webpage, header and footer, image placements, content sections and paddings, design styles and fonts, as well as the forms and sliders.



FIGURE 8. 10Web website homepage [32].

4 IN-DEPTH REVIEW OF ADI WEBSITE BUILDERS

The in-depth review will focus on the ADI website builder's advantages vs disadvantages, its pricing plan, ease of use and its popularity ranking amongst other ADI website builders. Taking the five proposed ADI website builders and analysing them individually will help in the comparison and conclusion of this thesis.

4.1 Wix ADI

Wix has been for long rated as the most chosen website builder for its convenience and broad variety of themes and designs to choose from. Wix ADI is the first ever to launch an AI-generated website creator. Wix offers professionally designed to customers who want websites for their business with no experience in coding or designing. As for every product, Wix ADI comes with its advantages and disadvantages.

- Advantages of Wix ADI:
 - The entire process from the first step to the final step takes less than five minutes in total [33].
 - Images are automatically imported from the social media platform and other links that the customer provides to the ADI system.
 - There are over 500 different website designs available for customers to choose from.
 - The website that Wix ADI creates comes with a built-in Customer Relationship Management (CRM) service, Search Engine Optimization (SEO) assistant, analytics reports and developer tools.
 - Wix ADI offers a built-in logo maker for start-up businesses.
 - Wix ADI creates a website for the customer that is mobile-friendly and responsive to all smart devices.
 - All websites generated by Wix ADI come with built-in Secure Sockets Layer (SSL) security certificates.
 - A 14-day money-refund guarantee is offered for every user.

- Disadvantages of Wix ADI:
 - The AI system can sometimes mistakenly suggest content that does not make much sense.
 - Modifying and editing is not as flexible as with Wix Editor.
 - Websites created by Wix ADI come with limitations on site bandwidth.
 - Services and apps offered by Wix ADI are limited in number (15-20 apps), meanwhile the regular editor version of Wix offers over 250 different apps.

Wix ADI is a convenient option for small and medium-sized businesses, offering complex design and user-attracting functionalities. Wix ADI can benefit musicians, artists, designers, stylists, bloggers, journalists and owners of small and medium-sized businesses. It most suitably serves those without previous website design experience, those who have little time to spend on creating a website from scratch, and temporary projects such as event sites that will not stay on the internet for too long. The reason is Wix ADI's payment plan which one could avoid if they used the regular Wix editor and created their website from scratch. Wix allows its customers to switch at any time from Wix ADI to the regular editor thus making it a flexible service for those who could change their business plans later in time.

Wix ADI offers a WYSIWYG visual editor, an acronym for "What You See Is What You Get" and it allows the customer to drag-and-drop elements from Wix ADI's suggestions into their website prototype. Amongst the many convenient features that Wix ADI offers, the best of them are the features of adjusting any object size as one prefers using the mouse, a list of quick actions presented for every element selected, registering through social media accounts, flexibility in changing the layout manually, and the setting up of a database connection with the newly created website.

One of Wix ADI's favorable features is the built-in assistant that offers the customer help with checking page/complete-site optimization, as well as guidance in SEO optimization and other important parameters that will increase the customer's website traffic. Wix ADI's built-in SEO assistant eases the process of getting the website's name to be visible on search engines, publishing the customer's business address on the internet, and generating key phrases that describe the business to match Google's SEO optimization tunings. After having published this information, the SEO

assistant creates a personal SEO guide for the customer with recommendations from the AI on optimization tips and tricks along with settings and tools for practical implementation. The remaining part of launching the website's domain is a feature that only the paid version of Wix offers to customers. If the customer wishes to go with the free version, they will be using a third-level domain.

Wix ADI's convenience of allowing customers to modify their webpages easily even after they have published it by simply re-clicking the publish button after changes are made to the website makes it a top choice for many customers who have constantly changing updates, such as event pages. All the actions needed for editing the website are displayed collectively in the dashboard, making it an all-in-one tool for editing. Wix ADI also allows for more knowledgeable customers in web design and coding to alter the website using the advanced tools known as Editor X, in which the customer can use a mix of visual and code editors to build complex links within the website and create unique designs for each element individually. Wix ADI, when first used, gives the customer a lot of freedom with a lot of tools to manipulate in creating the website, which could confuse beginners. But Wix ADI does not force its customers to work with these tools on their own, but rather they are displayed to provide the customer with the option of customizing their website layout, features and theme. Yet, Wix ADI can handle all the steps on its own on behalf of users who find difficulty in editing on their own.

Regarding Wix ADI's pricing list, below are the plans that Wix offers for their services:

- \$0/month (Free) for creating a website using the AI program with the disadvantage of not having the option of choosing one's own domain name.
- \$5/month for creating a website using the AI program with the option of choosing one's own domain name.
- \$16/month for creating a website with the help of the AI program that is free of ads and contains large amounts of webspace.
- \$22/month for creating a website with the help of the AI program and up to 10 Giga Bytes (GB) of storage being provided.

- \$27/month for creating a website with the help of the AI program with the privilege of using Wix's premium features such as the Wix Hotels and Wix Booking or if customer aims to create an online shopping website

Apps/services available by Wix ADI include, but are not limited to:

- Chat
- Blog
- Bookings
- Paid plans
- Music
- Tours
- Video
- Events
- Social media feeds
- E-commerce
- Portfolio

Wix ADI also offers features such as FAQ (Frequently Asked Questions), portfolio, scheduling/booking, photo gallery, video player, news, subscriptions, price lists, music player and events. In addition, Wix ADI's SEO setup includes a suitable SEO title, description, SEO-friendly website Uniform Resource Locator (URL), a step-by-step SEO plan, and a list of keywords ignored by Google. Wix ADI provides customers with a handy support guide to check the settings of the webpage and its quality before publishing it. The Wix ADI support guide toolbox is divided into two parts. The first part is known as the "What's Next" part, which takes the customer through the most important steps in building the website such as the preview option and the website publishing feature. The second part of the toolbox helps with the website customization option, known as the "Customize Your Site" feature.

4.2 Bookmark

Bookmark is a simple yet effective cloud-based AI website builder that was founded in 2014 by David Kosmayer in Toronto, Canada. Bookmark's unique feature that makes it stand out in the list of AI website builders is its virtual assistant known as

AIDA, an acronym for Artificial Intelligence Design Assistant. AIDA helps users with building their website step by step by giving instructions and assistance to creating a user's website. Bookmark is a highly convenient tool for simple to medium sized website projects that suit start-ups and medium-sized businesses. Offering features such as the drag-and-drop functionality, pre-designed templates and designs, customizable options and virtual assistant, Bookmark is a top choice when compared to other AI website builders.

When first signing in, Bookmark allows users to register through their Google and Facebook accounts to save time. Bookmark's AIDA starts the process of creating a website by asking introductory questions about the business purpose of the website. ADIA asks the user to provide it with basic information about their business/organization to help it select the most suitable design and theme. Furthermore, Bookmark's ADIA gives the user the chance to pick their preferred design, theme, structure, images/videos, and more. A great advantage in Bookmark is that it combines beginner-friendly tools with more advanced options for users who have some experience in creating websites. The main two components of Bookmark with which the user will be working with while creating their website are the dashboard and website editor. The dashboard provides users with access to all their websites, statistics related to the website, tech support contact, relevant tutorials, and notifications. Bookmark allows users to create an unlimited number of free websites with the option of switching between them at any time.

Regarding e-commerce, Bookmark offers users the ease of selling products online, whether it's in a store or on social media, with an unlimited number of products being allowed to be displayed on the website. The products can be either physical such as electronic devices, apartments, and cars, or digital such as music albums, photos and eBooks. Users can include features such as issuing coupon codes, choosing multiple various payment methods, and integrating real-time shipping into the website. Bookmark offers nearly 40 different payment methods for e-commerce customers and over 50 languages as options. In addition, all payment methods and credit card transactions are protected using HTTPS protocol. A major benefit in Bookmark is that it does not charge any fees for selling e-commerce products on a website created through Bookmark AIDA. Other features available through Bookmark include

creating a customer reward system, suggesting unique product prices to special customers that others can't see, mobile Point of Sale (POS) payment, refunding payments service, automated shipping, built-in tax calculator, accepting donations, issuing gift cards and product reviews for customers.

All websites created by Bookmark AIDA are SEO-friendly, which helps a lot with attracting customer traffic from the start of the website launch. Bookmark allows its users to customize their website page name that will appear on the browser tabs and search engine results as well as a description to their website. Bookmark also offers its users to choose meta keywords which would help in tracking their website analytics. By upgrading to Bookmark's annual plan, users can customize their website domain name, meanwhile the subdomain feature is free for all users to use.

A big bonus in Bookmark is that it will automatically update and maintain the website sitemap after posting it the first time, in addition to allowing users to customize their sitemap however they like it to be. Also, Bookmark automatically updates and maintains the user's website robots.txt file, which is used by SEO engine robots to take instructions on how to navigate the website sitemap and what URLs to leave off in order not to overload the website traffic. With the help of Natural Language Processing (NLP), Bookmark can translate every website created on its platform into over 100 languages. Bookmark gives the option of saving translated versions of the website, which would automatically generate new copied and translated versions of the website created through Bookmark AIDA. Users are still capable of further customizing the auto-translated versions of their website after it has been generated by Bookmark's AI.

Furthermore, Bookmark has features to offer to their users such as creating interactive web forms for collecting visitors' contact details, surveys, polls, and event signups. All the data collected from the aforementioned inputs are securely stored and accessed through the user's Bookmark account, given the option of downloading it as a file at any time. If the user wishes to share their website administrative tasks with multiple other persons simultaneously, Bookmark gives its users the option of adding as many contributors to the websites as one wishes, with the choice of setting certain permissions and administrative rights to each individual contributor.

Bookmark also offers the feature of creating a professional email that can relate to the user's website domain name for just \$2/month, if upgraded to Bookmark Pro. The user is free to choose the email platform that they prefer (Yahoo, Gmail, Outlook, etc.) as well as synchronizing an existing email with the newly created business email from Bookmark Pro. The Bookmark Pro email service is compatible with laptops, tablets, computers, and mobile devices, and has an anti-virus system that will automatically protect the inbox from both incoming and outgoing spam or malicious emails. Bookmark stands out in its level of security as it protects websites created through it from any unauthorized third-party access or loss of information as well as daily backups and compliance with GDPR regulations.

Bookmark Pro allows up to 5GB of email storage with the ability to send large attachments of up to 35MB in size. Bookmark offers an unlimited amount of bandwidth and storage along with Amazon Web Services (AWS) cloud-based storage for upgraded plans. The emailing system comes with multilingual support which ensures that this feature can be utilized to send emails to any customer in any language or country worldwide.

Bookmark offers the feature of adding a background video to the website for visitors to see on their first page visit. The aim of the background video is to give a quick insight to the visitor into the business's purpose and products. If the user does not have an introductory video about their business, Bookmark will propose a variety of videos that one can choose from for free. In addition, when manually editing the website, the user can upload any image from their local device storage or any cloud-based service. Bookmark offers the Photo Editor feature with which the user may edit, crop, add visual effects or resize the selected image. Bookmark's convenient features also include enabling users to easily integrate their social media accounts into their website by providing a social media module that will display buttons that link to several social media accounts related to the business. Up to 22 different social media accounts and channels are allowed to be linked with the website created by Bookmark AIDA. The option of enabling Facebook comments and reviews can also be included on the website.

Bookmark has a large collection of different unique themes and designs for the user to choose from, based on the information provided about their business goals. Bookmark will therefore not propose a standard design to multiple users with the same business category, but rather it will generate a new artistic sketch for each website with the power of an AI model. Therefore, one will hardly find two identical or similar websites generated by Bookmark. It is worth mentioning that all websites generated by Bookmark AIDA are mobile-friendly and responsive to different smart devices. The option of adding one's own embedded HTML, CSS and JavaScript code into the website's codebase is provided as a means of allowing users with programming skills to further improve or customize their websites.

A great benefit found in Bookmark is that users can freely restart the website-generating procedure by requesting AIDA to create a new one until the user is satisfied with the end-result. AIDA provides users with a web editor section, known as the WYSIWYG editor, by which the user can modify and adjust the website's layout, structure, background, theme, styling, and other general settings for a more personalized outcome. The WYSIWYG editor includes options such as Design, Preview, Modules, and settings for SEO, social media, blogs, e-commerce, social media, emails, and events. From the editor bar, users with multi-paged websites can add new pages with their corresponding customized URL names and SEO information such as title, keywords, and descriptions. These pages are unlimited in number and can be each set with safety-protection standards.

Regarding Bookmark's pricing, every user will be given a 14-day free trial in which all features and functionalities can be used to build a website with AIDA within that given time period. The price plans are only given in two options:

- Professional plan for \$11.99/month: For simple websites and small businesses.
- Business plan for \$24.99/month: More advanced features for business with e-commerce stores willing to grow their presence.

Overall, Bookmark is recommended as being among the top AI website builders, especially for its AI-run virtual assistant which helps users with choosing their website's layout, theme, and design. Yet, Bookmark is not the best option for businesses that

have an aim to become large enterprises or dominating business on the world wide web, due to Bookmark's limit in features, functionalities and the help offered by AIDA. Wix is considered a stronger alternative for businesses that want to make their websites a major part of their business [34].

The steps of creating a website with Bookmark are as follows:

1. AIDA will ask questions about the type of website the user prefers
2. AIDA will give the option of providing it with basic business information such as a description of the business and its location, as well as social media links that the business uses.
3. AIDA will continue with its questions by asking the user about more detailed business goals and what they like their website to look in particular.
4. AIDA will give the user the option of referring to an existing online store for it to study and analyze its design for AIDA to refer to it as a blueprint when generating the website.
5. AIDA will take nearly two to three minutes to auto-generate the specified result, while giving the user the freedom to add their own fine-tunings and modifications.

The last and final step is for the user to select the publishing button which would officially send the website to the cloud-based website hosting servers, which in this case would be Amazon, and for the website to be publicly viewable and accessible on the world wide web. Manual changes are still allowed to be made even after the website has been published [35].

4.3 Jimdo Dolphin

Founded in 2007, Jimdo is known for its AI website building tool known as Dolphin. Generally, Jimdo is well acknowledged for its continuous functionality improvements and updates. To begin with the in-depth analysis, Dolphin's advantages and disadvantages are listed as follows.

Advantages:

- No user registration is needed to start working with Dolphin

- No prior knowledge in coding needed
- Responsive, mobile-friendly, and professional-looking templates available
- Limitless storage for higher plans
- No ads are forced on the user's website
- Special settings available for e-commerce, blogging and marketing websites
- HTML code can be added manually into the website's codebase

Disadvantages:

- No option for restoring/back-up
- Limited flexibility with templates
- Struggle when arranging elements on the website
- Very little features in the free version
- No preview option
- Limited user control options

Jimdo Dolphin is a suitable choice for small businesses, portfolios, entrepreneurs, photographers, bloggers, scientific articles, tourist attraction websites, simple informative websites, musicians, and news agencies. Dolphin's web interface is similar in its dashboard design to the one found in Wix ADI. Much of the functionalities and features in Dolphin are found in Wix ADI and Bookmark AIDA, as well as in Zyro and 10Web, as they all have in common the main options that every AI website builder would have. In addition, the procedure of creating the website can also be similar in its steps and requirements. The common steps that Dolphin shares with Wix ADI and Bookmark AIDA include answering questions related to the business's purpose, linking to the business's social media accounts, selecting a theme of design and dragging-and-dropping elements into the website's prototype layout.

The steps of generating a website with Jimdo Dolphin are as follows:

1. Selecting whether the website is personal or for a business
2. Choosing the website's name
3. Connecting a social media account with the website
4. Selecting the industry category of the website

5. Uploading a logo for the website
6. Selecting a style/layout for the website
7. Choose a domain name for the website

After having completed the aforementioned steps, users can customize the designs suggested by the Dolphin AI program using the drag-and-drop feature for adding elements into the website prototype. Throughout the entire website customization process, the visual editor is always available for the user to replace texts and images with their own, by uploading or adjusting the existing content. The elements on the website can be restructured, resized, and reformatted. Images, videos, buttons, forms, and tables can easily be added to the website to suit the user's preferred design. Jimdo Dolphin offers users Adobe Creative SDK image editor to apply effects to the images. With the free version, users will be given a second-level domain, such as website-name.jimdo.com. Only with the higher plans the user can have their one-level domain name for their website. Jimdo Dolphin gives users the option to add widgets, multimedia players, social media buttons, forms, questionnaires, and advertisements when upgrading to a paid plan. Through Dolphin's admin panel, the user can take advantage of the SEO statistics, app widgets, smart device version and code-editing option. Overall, the procedure of creating the website and finalizing it will take less than thirty minutes.

Jimdo Dolphin offers a customer-personalized system for e-commerce websites. Options such as creating an inventory list, product description, product availability, delivery expenses, Value Added Tax (VAT), email order templates, discount codes and confirmation of purchase emails can all be set with Dolphin's e-commerce settings. The time it takes to build an e-commerce website with Dolphin is less than ten minutes. A major bonus in Dolphin is that it offers a free app for Apple's IOS and Android in which the user can upload their digital store on it. For blogs, Dolphin offers features such as Google Maps, SEO settings for each individual post, flash animations, creating drafts, arranging posts by tags or categories, and the option to merge the website's content with the blog post. As for the SEO settings, users can customize their URLs and meta tags for enhancing the search engine prioritization when upgrading to JimdoPro or JimdoBusiness.

In regard to translation, Dolphin supports eight languages for websites created through it. Websites generated by Dolphin come with a Legal Text Generator which provides legal stamps and Privacy Policy statements. With Dolphin, all legal matters related to the user's new website are handled by Trusted Shops, a company founded in Cologne, Germany in 1999. Trusted Shops offers online shops and their customers trust-building services by means of a trustmark, a money-back guarantee process and a system of customer reviews while ensuring that all legal requirements are met [36]. Therefore, users that acquire websites generated by Dolphin do not have to worry about any new updates concerning GDPR or other legal regulations. Dolphin does not have an integration option by which users can integrate their website with external apps, but to a limited extent Dolphin allows users to add some external apps such as Tidio Live Chat, Instagram, Twitter, Facebook, Snapchat, and YouTube. A major advantage in Jimdo Dolphin is that it has a Business Listing tool, which can be optioned by the user when upgrading to higher paid plans, in which the user's website is linked with over ten different external apps such as Google Maps and Google My Business, in addition to improving the website search engine ranking.

Like Wix ADI and Bookmark, Jimdo Dolphin has a built-in and free logo generator by which the user can create their business's logo from scratch if they do not already have one. By simply providing the business name and picking the layout, design and colors, Dolphin will auto-generate a set of prototypes of proposed logos that match the business theme. Regarding tracking the website traffic, Jimdo Dolphin allows users to connect their website with Google Analytics to follow their website analytical statistics such as visitors focus points, time tracker, and regular visitors. Websites generated by Dolphin are all secured and provided with SSL certificates by default which encrypts all inbound and outbound data from the user's website. Pages can be protected with passwords. The strength and level of security is determined by the paid plan that the user subscribes to.

With the free version, Dolphin offers up to 30 different well-designed website templates generated by Jimdo's AI. The higher the paid plan the more templates are offered and the more professional they look. All templates can be individually customized after they are chosen using the Custom Template Interface which comes with a HTML/CSS editor and a file manager. Among the customizable actions that a user

can do after choosing a template are reforming the layout and structure of the page elements, uploading a pre-designed personal template, modifying the template's HTML and CSS coding, generating a mobile version of the template, setting individual background pictures or themes for every page on the website, and testing different schemes and colors on templates before finalizing and publishing the website.

Jimdo's pricing plans are divided into two main categories: website and online store. Jimdo offers different pricing plans based on the category chosen, which depends on whether the user aims to create a simple website or to run an online e-commerce shop. The pricing plans, with the names Jimdo has set for them, for creating a website are as follows:

- **Play (€0/month):** The Play plan is a free version for all default users with which no subscription is needed to get started. All the basic features are included, along with 2GB of free bandwidth, 500MB of free disk space, HTTPS encryption and the domain being a second-level subdomain, such as your-website.jimdo.com.
- **Start (€9/month):** In addition to the features offered in the Play plan, the Start plan comes with the option of choosing a domain name such as .fi, .ps, .com, etc.
- **Grow (€15/month):** In addition to the features offered in the Start plan, the Grow plan comes with an advanced SEO feature, analytical statics on visitors traffic, and personalized customer support channel.
- **Unlimited (€39/month):** In addition to all the aforementioned features found in the Play, Start and Grow plans, the Unlimited package offers unlimited data storage, a professional design analysis tool, and a special customer support channel within an hour of time.

As for the pricing plans that support the e-commerce store features, the prices are as follows:

- **Basic (€15/month):** The Basic plan offers all the fundamental features that support building a simple online shop including an option for management and exportation.

- Business (€19/month): In addition to the features offered in the Basic plan, the Business plan comes with a wide range of product variants and tools for social marketing and selling.
- VIP (€39/month): In addition to all the aforementioned features found in the Basic and Business plan, the VIP plan comes with unlimited data storage and a professional design review.

The Start plan is suitable for users who aim for a personal project. The Grow plan is recommended for users who aim to build specialized websites with more functionalities. The Unlimited plan has all the features and functionalities ideal for a full-featured website with all the tools needed to run a website with heavy traffic. All the paid plans are free of advertisements and include HTTPS encryption, linking with email address, and statistics on the website. Regarding the speed of Dolphin's functionalities, it comes at a lower rate in comparison to Wix ADI and Bookmark. Yet, it is sufficient to do the majority of the aforementioned actions to create a fully-functioning website that is ready to be published in nearly 30 minutes [37].

4.4 Zyro

Although Zyro does not reach the level of competency with Wix ADI and Bookmark, Zyro still stands high in ranking due to its professional business management tools, sales functions, and marketing tools. Starting with the advantages and disadvantages of Zyro, the following lists tackle the pros and cons of Zyro as an AI website-building service.

- Advantages:
 - Fast loading time
 - High stability
 - SSL encryption
 - Handy drag-and-drop tool
 - 30 days refund guarantee
 - Easy for beginners
- Disadvantages:
 - No customer support for free plan

- No e-commerce engine
- Lacking a lot of advanced/professional features
- No option of switching website to a new template
- No option of adding embedded code to website (HTML/CSS/JavaScript)

Zyro's editor comes with the drag-and-drop functionality just like Wix ADI, Bookmark AIDA and Jimdo Dolphin, which has a toolbar from which the user can select a variation of designs and drag-and-drop the element into the desired part of the website prototype. Zyro offers a set of very useful tools that assist in boosting the user's website. Among them are:

- Google Analytics: A tool for getting website traffic reports such as insight on the location of visitors, tracking of session duration and information on the bounce rate (the number of visitors that open the website and leave without exploring the website) for every individual visitor.
- Google Tag Manager: A tool for managing digital marketing tags which are used to collect information about the website visitor for advertising business purposes.
- Hotjar: A tool that offers a website heatmap, user surveys and feedback, and analytical data on visitors' behavior.
- Kliken: A tool used for boosting website popularity in search engines, social media platforms, and other websites.
- Meta Pixel: A tool, in the form of a block of code added to a website, for tracking a website's Facebook advertisement campaign by analyzing the pageviews, time spent on each page, scroll depth, items added to cart and items purchased for every individual visitor on the website.
- Pinterest Tags: A tool for tracking a website's advertisement campaign on Pinterest by following the same measurement parameters as Meta Pixel.
- Snapchat Pixel: A tool for tracking a website's advertisement campaign on Snapchat by following the same measurement parameters as Meta Pixel.
- Google Ad Tags: A tool for tracking a website's advertisement campaign on Google by following the same measurement parameters as Meta Pixel.
- Facebook Live Chat: An integration tool for chatting with visitors directly on the website, generated by Facebook.

Zyro is a good option for users who want to set up portfolios, promo websites, small businesses, restaurants websites, blog websites, simple one-page websites, and small to medium e-commerce businesses. Additionally, Zyro offers functionalities such as:

- Video Integration: Allows users to integrate videos from YouTube into the website, in addition to modifying the video's settings.
- Domain names: Users can either transfer their existing domain names into the website or select an available domain name from Zyro.
- Google Maps Integration: Allows users to integrate Google Maps navigation system into the website.
- SEO marketing: Automatically fills tags needed to boost the search engine prioritization, in addition to integrating it with social networks.
- Image Integration: Allows users to upload images from any exterior resource and place it in any section of the website layout.
- Call-to-action buttons: Users can add call-to-action buttons to navigate visitors to the website's main content.
- Free SSL Security: SSL certificate for website security on inbound and outbound data transmissions.
- Automated AI tools: Built-in automated tools such as the AI-generated Logo Maker and the AI-generated Business Name Generator.

For e-commerce websites, Zyro offers users to select a pre-designed template from a wide variation of designs. Users can manage their business inventory, customer support, ordering tracking, and marketing campaigns through a unified control panel. In addition, Zyro comes with a CRM tool for helping website owners find new customers and organize customer data. Zyro allows website owners to control their website management and administration tasks from mobile devices, from any location globally. As for blog pages, Zyro offers a set of tools from the editor panel to set a publishing date for the blog, add access rights to external authors, and select suitable category entries for the blog. The user first chooses a simple design template auto generated by Zyro's AI and proceeds to freely adjust its elements using the built-in site editor. Users are also given the option of manually designing the blog website from scratch. Although it lacks behind Wix ADI and Bookmark AIDA for its

deficiency in the variety of tools and functionalities, Zyro's blog editor remains a good choice for simple and well-designed blog websites.

Zyro's unique feature stands in its AI Writer, which is a fully automated content writer powered by AI. Users may leave the Zyro AI Writer to choose the content that fits in well with the business goals and website design while maintaining the content compliance with the SEO parameters. Zyro's AI Writer can be fed with copies of similar content that the user wishes to add to their website which allows the AI model to learn, adapt and generate new content that matches the fed-in example. Like the AI Writer, Zyro offers an AI-powered Business Name Generator for start-ups seeking to find a catchy and handy name for their business. The Business Name Generator works by inserting keywords of terms that relate to the user's business category and industry, and by that Zyro's AI model will generate a list of suggested business names for the user to choose from. In addition to the business name, users can use Zyro's Slogan Generator, which works like the Business Name Generator, to get suggestions of slogans offered by the AI for their business. Furthermore, Zyro has Logo Maker, also generated through an AI model, which produces logos based on the user's inputs regarding the business industry, description and website design. The logo can be further edited by the users using the editor tools even after it has been generated by Zyro's AI.

Zyro offers a simple, yet convenient, AI-generated Heat Map tool that helps users identify the focus points of their website. The Heat Map generator takes in a screenshot of the website to analyze it and produce a color-coded output of the image with the darker-colored areas indicating that the most user interaction was with that particular part or element on the website. Another method of generating the heat map is by directly selecting it from the tools panel for it to scan and analyze the current page. The heat map can be beneficial for understating the behavior of visitors in terms of their navigation on the website and where they click the most. The red color indicates the focus point of the visitors' attention, in contrast to the green and blue areas which are the less concentrated parts of the website.

With all the basic tools provided in the free subscription package, Zyro's website editing tools are not very different from those found in the other top 10 ranked AI website building platforms such as the drag-and-drop functionality and a built-in toolbar for choosing layout designs and adding, removing, or modifying texts, images, icons, videos, buttons, maps, and contact forms. Zyro offers Vietnamese, English, French, German, Spanish, Russian and Italian as languages for their platform. When upgrading to Zyro's paid subscription plans, additional options such as linking the website with Skype, adding external Social Media links and icons, high-quality audio players, Adobe Flash animations, customized banners, ads from Google AdSense, tables, and the permission to add HTML code to the website codebase are all provided for the user. As for e-commerce websites, users are provided with extra functionalities to add to their website such as the order button, shopping cart, online payment systems (PayPal and MobilePay), and a digital storefront with customizable product categories, images, and videos.

Zyro provides nearly 100 unique pre-designed templates for users that want a speedy process in creating a professional website. Ready-made templates are still editable and can be altered in their layout, text, images, videos, and icons. All the pre-designed templates are quick in response and mobile-friendly. Zyro divides its templates into categories based on their themes such as e-commerce, public services, portfolio, blogs, and educational or informative. For users who do not want auto-generated templates can choose the "Start from scratch" option. Zyro comes with a 24/7 customer support service for users who need a Zyro operator to help them with technical issues or answering questions. From Zyro's live chat service, the user can go through a list of frequently or previously answered questions for quick know-how guides [38].

As for the pricing plans, the following prices are Zyro's four official subscription packages:

- Website (\$2.90/month): Includes basic website editing tools, free website domain for one year, a free business email for three years, marketing integration tools and a 24/7 live chat customer support channel

- Business (\$4.90/month): In addition to the features provided in the Website plan, the Business plan comes with the capacity of selling up to 500 e-commerce products and an online payment system powered by Stripe, Inc.
- Online Store (\$8.90/month): In addition to the features provided in the Business plan, the Online Store plan offers over 70 different types of online payment methods instead of only through Stripe, Inc.
- Advanced Store (\$15.90/month): In addition to the features provided in the Online store plan, the Advanced Store plan comes with 7 different supported languages, an abandoned cart recovery system, selling up to 2500 different products, filtering products option, and the option of selling on Amazon and eBay.

All Zyro plans are bound to a 30-day refund guarantee. Zyro also has a second set of subscription packages that it offers, which includes:

- Free plan: Allows users to choose from a set of pre-designed templates and edit it with a set of editing tools. The free plan includes ads from external third parties, a limited 500MB of bandwidth and storage. The plan neither provides a website analytics tool nor does it allow users to customize their website's first-level domain name.
- Basic plan for personal brands (\$14.99/month): A suitable plan for simple websites and blog pages. The plan includes 3GB of website bandwidth, 1GB of storage, AI-powered tools, and support for SEO.
- Unleashed plan for businesses (\$15.99/month): The plan is very similar to the basic plan, in which AI-powered tools and SEO optimization settings are included. In addition, the disk space in this plan is unlimited.
- E-commerce plan (\$24.99/month): Suitable for users who have small to medium-sized online shop businesses. The plan includes unmetered website bandwidth and storage. Websites in this plan are SEO-optimized and protected with SSL certificates.

4.5 10Web

10Web AI Builder is a unique ADI website building service in comparison to the other ADI website builders as it offers users to integrate their existing Wix, Bookmark, Zyro

or Squarespace websites into WordPress using the 10Web AI model with all ease, a functionality which no other ADI website builder offers. By simply entering the URL of the existing website page, 10Web's AI service can recreate it within a minute into the form of a WordPress website. Thereby, 10Web is used as a gateway between existing website pages and WordPress for users wanting to recreate an existing website into WordPress without needing to start from scratch. 10Web is linked with a WordPress plug-in named Elementor which provides users with a visual editor on their website. The time it takes to import a website into 10Web using its URL is less than a minute. 10Web allows users to import up to 5 individual website pages at the same time, as the 10Web AI model only replicates one page at a time and not all the nested pages within a single website together. Although this is a deficiency in the 10Web AI builder, it is still convenient for generating professional-looking replicas of any existing website page.

The time it takes for the website page to be fully replicated also takes less than a minute. The AI model will import the page, visually scan it in the background of the website, analyze its layout, text fonts, image sizes, external and internal links, context of content, buttons, forms, inputs, and background colors. Then, the AI model will generate a nearly exact replica of the page that it has analyzed. 10Web is a time saver, but it might still require some manual editing to adjust any errors that might have occurred during the importing and replicating stages. For editing the website after its importation, 10Web switches the user to the Elementor plug-in which provides the user with a visual editor with commonly known and easily usable functionalities such as the drag-and-drop option for elements, images, videos and icons, and the click-to-edit tool for adjusting positioning, font type, element size, tilting/rotation, styling, etc.

10Web does not create a newly designed website; rather it only directly replicates the website page from the URL provided to its AI model. This makes it a very limited service in comparison to the other AI website building services. 10Web's advantage lies in its accuracy of replicating the original website's layout, background colors, images, videos, theme, and design. All replicated website pages are responsive to smart devices. Although 10Web's main function is not to build a website from

scratch, it does still offer users the option to create their own website using 10Web's AI-generated templates.

10Web AI Builder offers three pricing plans with all three sharing a lot of common features. The main difference between them relates to the amount of storage capacity, visits at a time, and automated real-time backups available on the Google Cloud. The pricing plans are as follows:

- **Personal (\$14/month):** Comes with an AI recreational assistant, a drag-and-drop editor, responsive design, over 50 basic and professional software widgets, an AI theme builder, a capacity of 25,000 visits at one time, a Google Cloud storage of 10GB, 20GB space for automated real-time data backups, less than 0.1% chance of glitching, quick and automated migration to other platforms, a malware-removal program, a free SSL protection certificate, 12 different data center locations, high quality image optimization, newest version of MySQL, database optimization, WordPress performance boost, website testing platform, 24/7 customer support through email assistance and a real-time chat box.
- **Premium (\$35/month):** All the features in the personal plan can be found in the Premium plan. The main difference is in the Google Cloud storage capacity, number of visits the website can handle at a time, and the size of the automated real-time backups. As for the Google Cloud hosting storage, the Premium plan offers 15GB instead of 10GB, 100,000 visits at a time instead of 2,500, and a backup capacity of 75GB. In addition, the Premium plan offers multisite support for managing all aspects of the website in full control.
- **Agency (\$85/month):** All the features in the Personal and Premium plans are included in the Agency plan, with the difference being in the 400,000 visits that the website can handle at a time instead of 100,000, 50GB of Google Cloud hosting storage instead of 15GB, and 250GB of automated back-up storage instead of 75GB.

Overall, 10Web does not replace Wix ADI, Bookmark AIDA or Zyro in generating websites using AI, yet it is a good option for saving time and replicating an existing

website into WordPress. 10Web has been given the ranking of 3.5 out of 5 by tooltester, an agency that tests and reviews website services [39].

5 COMPARISON OF ADI WEBISTE BUILDERS

Wix ADI, Bookmark AIDA, Jimdo Dolphin, Zyro and 10Web have been reviewed and compared by multiple editors and service providers. In most of the review articles, Wix ADI has been ranked as the best AI website builder. The rank is based on factors such as the amount of time it takes for generating a website, the number of tools that come with its editor, the number of pre-designed templates it offers, the quality of professionalism in the website design, the prices of plans, the number of features that come with it, and the amount of flexibility the user has in customizing the design. Having mentioned that, the comparison between the five chosen ADI website builders is not to be made based on the conclusion of a reviewer, editor, author, or agency, but rather it unbiasedly weighs the advantages and disadvantages of the five ADI website building services simultaneously.

The following table compares the features and functionalities offered by Wix ADI, Jimdo Dolphin, Zyro, Bookmark AIDA and 10Web regardless of the price plans.

Features	Wix ADI	Bookmark AIDA	Jimdo Dolphin	Zyro	10Web
Pre-designed templates	800+ unique designs	No pre-designed templates are available.	40+ templates	130 templates	40 templates
SEO support	SEO-friendly URL, step-by-step SEO guide, generates list for ignored keywords, generates SEO keywords, AI publishes the business address on the internet, customizable meta description. Images	Customizable advanced SEO tools in higher paid plans such as adding meta tags, titles and descriptions, customizable 404 pages, sitemap, code	Advanced SEO tools are available. Majority of SEO settings are automatically set by Jimdo Dolphin's AI.	All Zyro websites come with SEO tools, with a unique SEO-friendly AI Writer included. All templates auto-generated by	SEO tools can be installed into the dashboard. The SEO tools come with the option of detecting SEO errors in the page and proposing fixes for

	lose their original file name once uploaded.	snippets and robots.txt file.	Yet, it lacks the option of adding HTML alt tags to images, which degrades the SEO optimization for images.	Zyro's AI are SEO-compliant. SEO tools are included in all plans.	them. Lacks the feature of content analysis.
Languages supported	Does not offer auto-translated pages	100+ languages	8 languages	9 languages	No clear mention of the number of languages supported.
SSL encryption	Included in all websites and plans.	SSL certificate included in all plans, even free plans.	Included in all websites and plans.	Included in all websites and plans.	Free SSL certificate provided.
Customisable domain name	Only available in upgraded paid plans. Option of connecting an existing domain name provided.	The AI tool helps users in finding a suitable domain name. Domain names are customizable in paid plans and can be transferred/connected from existing websites.	Free domain for the first year, then becomes subdomain unless upgraded to paid plans. Paid plans include options of having two domain names.	Upgraded plans offer customizable domain names. Domain names can be created by buying them from Zyro or by transferring an existing one. All plans include one year of free	Option of customizing sub-domain is available. Users can also transfer their primary domain name if one already exists. One website can have up to 50 domain names with the paid plans.

				domain name along with four months of free hosting.	
Advertisement	Free plan includes advertisements from Wix on websites generated by Wix ADI. To remove ads, users must upgrade to paid plans.	No clear mention of whether the plans are ad-free or not.	Only the Start plan and higher paid plans are free of ads. Plans below the Start plan are opted for third-party advertisements.	No clear mention of whether the plans are ad-free or not.	No clear mention of whether the plans are ad-free or not.
Ease-of-use	Ranked as 5/5 by Website Planet [40]. Ranked as 4.8/5 by WebisteBuilderExpert [41].	Ranked as 4.5/5 by SoftwareAdvise [42].	Ranked as 5/5 by tooltester [43]. Ranked as 4/5 by SuperWebsiteBuilder [34].	Ranked as 4.5/5 by tooltester [44]. Ranked as 4.6/5 by Cybernews [45].	Ranked as 4.3/5 by Capterra [46].
Password-protected pages	The feature is not available, but an alternative exists as a “members area” by which only registered users have access to certain pages.	The feature is available. Pages can be safe-guarded and protected with a password.	No option of password-protected pages or members-only access to private pages.	No mention of password protection on pages as a feature.	No mention of password protection on pages as a feature.

Adding HTML/CSS code	No option of adding own HTML/CSS code.	Available. Users can add their own HTML, CSS, and JavaScript code into the website.	No option of adding own HTML/CSS code.	No mention of whether this option exists or not.	No option of modifying HTML and CSS code, but 10Web offers a compressing and minifying tool for HTML and CSS files to improve the website's speed.
Storage size	The lowest storage being 500MB. The highest plan offers only 50GB.	Free plan offers 500MB of storage. Unlimited storage space in paid plans.	The lowest paid plan includes 5GB and the higher paid plans include 15GB. The highest paid plan (The "Unlimited Plan") offers unlimited storage space.	Unlimited storage space in paid plans: Website and Business	Lowest paid plan offers 10GB Solid-State Drive (SSD) storage, up until the highest plan offering 50GB SSD. Unlimited storage is not available.
Performance level	Unlimited bandwidth in paid plans. The higher the plan, the more the bandwidth. Ranked as best website builder by SuperWebsiteBuilder [47].	Free plans offer 1GB of bandwidth and unlimited bandwidth in paid plans.	The free plan offers 2GB. The highest paid plan is unlimited in bandwidth.	Unlimited bandwidth. Ranked as "excellent performance" by Cybernews [45]. Server performance ranked as	100 points on performance using Google speed test. Data centers distributed throughout all continents. A built-in performance testing

				“A+” by Bitcatcha [48].	tool is available from the dashboard. Average server response time is 355 ms [49].
Apps/widgets integration	13 apps from Wix’s internal app market such as Wix Chat, Wix Hotels, Wix Stores, Wix Bookings, Wix Restaurants, etc.	Apps are available, but there is no clear mention of the number of integratable apps on Bookmark.	No integrated internal web app store, as in Wix ADI. A limited, yet sufficient, number of apps available on the Smart Apps platform which introduces booking forms, Airbnb listings, Instagram posts, etc.	Very limited number of integrated apps. Apps available include Google Tags Manager, Google Analytics, WhatsApp, Facebook Pixel, Facebook Messenger, and Hotjar.	A widget library with 40+ premium widgets is available in the paid plans.
Drag-and-drop feature	Available	Available. Rated as 5/5 by Capterra [50].	Available	Available	Available through an external app called Elementor.
Forms	Available	Available	Available	Available	Available
Elements	60+ elements	No clear number provided.	No clear number provided.	12 elements	19-20 elements

Monetization	Available through affiliate marketing, but not through ads.	Options of having 0% commission on a profitable website are available.	No mention of this feature.	All Zyro e-commerce plans are 100% commission-free, which allows users to have the full profit for themselves.	No mention of this feature, but this feature exists in WordPress.
Backup and restoring system	Wix ADI tracks all changes and saves them automatically, like Google Drive.	Bookmark AIDA runs automated daily project backups.	No backup/restoring system available.	Automated backup when the website is first created. Every new change is saved in Zyro's databases.	The lowest plan provides 50GB of storage for backups and the highest plan provides 250GB.

5.1 ADVANTAGES

After having compared a set of features amongst the five ADI website builders, the following list presents the advantages of each AI website builder based on reviews gathered from agencies, website experts, and user review highlights found on the internet. To avoid repetition of mentioned features, only the advantages that are unique to that ADI website builder will be mentioned in the list.

- Wix ADI:
 - Offers the largest variety of professional AI-designed templates
 - Highest ranked AI website builder
 - Offers the largest number of elements (such as icons and buttons) to add to the website layout

- The only AI website builder that provides a personalized step-by-step SEO guide for users
 - Provides a close alternative to the password-protected pages feature, known as the “members area” feature
- Bookmark AIDA:
 - The only AI website builder that allows users to add their own HTML, CSS, and JavaScript code into the template
 - Offers the most languages that the AI automatically translates to
 - The only AI website builder that provides password-protected pages as a feature
 - Comes with a personal AI assistant that helps users with creating their website from A to Z
- Jimdo Dolphin:
 - Generates two prototype websites for users to select the better option from, rather than just one like all other ADI website builders
 - Highly convenient for users in Europe
 - Fine-tuned and automated SEO settings by AI
- Zyro:
 - Offers an advanced AI Content Writer, which focuses solely on generating unique and professional marketing titles and sentences for the website
 - Comes with an AI Slogan Generator, an AI Blog Title Generator and AI Business Name Generator
 - Comes with an AI Heatmap tool that proposes fixes on the layout to improve customer engagement
 - Most reasonable options for priced plans. Best money-for-value option amongst the five ADI website builders
- 10Web:
 - 10Web has the most integratable apps/widgets, provided in a single library

- The only AI website builder that assists in creating a WordPress website

5.2 DISADVANTAGES

The following lists present the five ADI website builders in their drawbacks and flaws to equally weigh out the advantages and disadvantages of every AI website building service. The data collected in these lists is done using the same method as in the previous lists. The drawbacks that are chosen to be listed are only of those that are considered a weakening factor in the ADI website builder's overall rating, thereby not all drawbacks will be mentioned.

- Wix ADI:
 - Customization is limited to a certain extent. Not everything on the website can be altered to one's preference.
 - Users can not directly select the template they want. Rather, the ADI will choose one based on the answered questions.
 - Auto-generated texts from the AI can sometimes sound unprofessional for business websites, which requires manual editing.
 - Limited access to Wix Apps and widgets in comparison to the normal Wix Editor.
 - Does not offer translation of websites into other languages.
 - No unlimited storage plans.
- Bookmark AIDA:
 - Editing is not pixel-perfect, causing defects in the adjustment and resizing of elements such as images on the website
 - No automation of creating a mobile-responsive design for the website
 - No languages supported. Dashboard, website, tools, and settings are available only in English
 - Low ranking on the blog features
 - Slow response from Bookmark customer service
 - No backup/retrieval of information service

- No option of selecting from a variety of pre-designed templates
- Jimdo Dolphin:
- No option of protecting pages with a password
 - Limited number of nested pages are allowed for a website, in contrast to other ADI website builders which allow unlimited number of pages.
 - Page titles cannot be customized individually, rather only the home page can have its unique title and all other pages synchronize on a single general title.
 - No option of adding “alt” tags, which results in a drawback in the website’s SEO
 - Templates and tools are focused on European users, neglecting users in other continents. For example, shipping tools and tax codes are not suitable for users in the United States of America.
 - Jimdo Dolphin websites do not allow multiple contributors. Also, blogs cannot have multiple authors.
 - No official internal store for apps and widgets, such as the Wix App Market
 - The highest plan only allows for a maximum of two domain names for a website.
 - No backup or restoring option if something goes wrong in the website
- Zyro:
- The template cannot be switched or changed after the website has been launched, limiting the user’s flexibility in changing the website design.
 - Very limited editing tools, which includes no more than 5 elements.
 - Zyro e-commerce pages can only display 500 products, in contrast with Wix which allows up to 50,000 products.
 - Navigation in subpages/nested pages is restricted to only one level.
 - No option of protecting pages with passwords
 - No free plan, only paid plans are available

- Users are obliged to pay for a period of two years when signing up for the service.
- 10Web:
- No option for email hosting
 - 10Web misses a Content Delivery Network (CDN), which downgrades its performance by a level when compared to the other AI website builders.
 - Slow customer support and no option of having a live chat with a customer support agent.
 - Limited to only WordPress websites. 10Web only functions as a speedy gateway to creating WordPress websites.
 - Buggy plug-ins, such as the Instagram plug-in. Not all external plug-ins work on it.
 - No option of protecting pages with passwords

5.3 BEST OPTION

As all ADI website building services have their advantages and disadvantages, one of the listed ADI website builders can be singled out as the best option. The comparison is made based on the features comparison table along with the advantages and disadvantages listed for each ADI website building service.

Based on the in-depth review of each ADI website building service and listing their features, advantages and disadvantages, the ADI website builder with the leading money-for-value, advantages, features, and plan prices is Bookmark AIDA. Bookmark AIDA wins over other ADI website builders, especially Wix ADI, in several factors such as the automated translation of the website to over 100 languages, its unlimited storage, its reasonable pricing plans, its option of allowing manual HTML/CSS/JavaScript code editing, its password-protected pages feature and the personalised ADI assistant that helps users with creating their website.

The three last features are unique to Bookmark AIDA, which gives it a major advantage over the other ADI website builder options. Bookmark AIDA has been ranked in most review highlights and articles as the second-best option after Wix

ADI. Although Wix ADI does surpass Bookmark AIDA and the other ADI website builders in terms of the number of template designs and website elements, yet the advantages and features in Bookmark AIDA which are not found in Wix ADI outweigh the reviews and rankings that Wix ADI has received. In addition, the quality of design generated by the AI on the website layouts is in close competition with that of Wix ADI. The choosing of an ADI website builder over another is not influenced by any external factors, merely by the conditional factors mentioned in the introduction of this thesis proposal.

6 CONCLUSION

The main purpose of ADI website builders is to automate the creation of websites for users who have no prior experience in web development as well as for small businesses who want to save time and money. ADI website builders are suitable for start-ups and individuals who prefer a speedy AI-generated website over a freelancing web developer, due to its cost efficiency. In addition to the five selected, majority of the ADI website builders share many common functionalities such as the question-and-answer functionality at the start of the website creation phase, the drag-and-drop feature, and the built-in SEO tools.

According to the dozens of reviews on ADI website builders which could all be found on the internet, Wix ADI has been found to be ranked as the top choice for users and the best ADI website builder when compared to the other options. The reason for Wix ADI being ranked the highest amongst all ADI website builders is for its large variety of template options with 800 templates. The number of templates that Wix ADI offers is what makes it superior to other options. Also, Wix ADI has the largest variety of elements that users can drag and drop into the website layout. Wix ADI generates high-quality professional designs for business websites and portfolios.

The high ratings, positive reviews, and agency preferences are not the key factors in this thesis. Thereby, it cannot be concluded that Wix ADI is the best option due to its high rates and scores. Rather, the conclusion is made on a subjective judgement based on the factors set at the start of this thesis: the money-for-value, level of quality of design, reviews, and the AI's efficiency.

The thesis could have had a personalized test conducted on each of the five ADI website builders to better strengthen the opinion of the best-chosen ADI website builder. The thesis could have been improved by discussing the process of creating a website from the first step until the end for a set of website criteria using a performance ranking check list. Examples of different criteria includes an event website, a social media platform, a booking website, etc. Due to the lack of time, this could not be fulfilled. Rather, the thesis relies on tests and experiments conducted by review agencies and public user reviews. In addition, an individual test for each of the ADI

website builder's plans could have been conducted to further strengthen the comparison opinion and final choice. The paid plan tests were not done due to lack of finances. The thesis can be improved by implementing the mentioned missing tasks.

A positive learning outcome gained from writing this thesis is the ability to gather, organize and rephrase scattered information. The gathering of reviews, summarizing and structuring them logically required a lot of concentration, which helped in improving analysing skills. While gathering a lot of information for this thesis, primary skills such as quick reading and writing eloquence were acquired. Most importantly, an improved and strengthened understanding of the field of ADI was obtained while reading a lot about it.

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