

# Startup Valuation with Artificial Intelligence: A SWOT Analysis

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## ABSTRACT

The study in question is aimed at examining the use of AI in evaluation processes in startups. The research seeks to address the issues surrounding the use of AI in startup evaluation. The introduction presets some background information concerning AI use in evaluation processes in a newly created organization. A literature review presents more information as proof of the strengths and weaknesses of AI use in evaluating a startup. A clear presentation of the SWOT analysis of the use of AI in evaluating startup organizations. The findings paint a clearer picture of what startup organizations should expect when implementing the use of AI to evaluate themselves. A discussion of the findings is presented in the research to ensure that people understand the issues surrounding the use of AI in evaluating startups, and that they know the strengths and weaknesses of using AI in such processes. The research design adopted in the study is a descriptive research design. It is ideal for the current research because more information about the subject matter is needed to provide an in-depth understanding. In addition, a mixed-research method is what the study adopted. It constitutes the use of qualitative and quantitative data. A brief conclusion summarizes what has been discussed in the study.

**Keywords:** Startups, Artificial Intelligence, Valuation, and SWOT Analysis

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## 1. Introduction

Technological advancements in the recent past have resulted in the use of artificial intelligence (AI) on many occasions. Startup organizations are some of the beneficiaries of artificial intelligence, especially when it comes to evaluation processes. Startups need to undergo evaluation to ensure that their owners understand how best to manage them so that they can meet the set goals. AI tools are useful in ensuring that evaluation processes take place in startups. Evaluation is equally necessary to ensure that startups understand their shortcomings and come up with better strategies to combat the challenges.

AI tools play a crucial role in ensuring that startups are able to evaluate themselves. However, it is essential to note that there will always be challenges in using these tools to evaluate an organization. The implication of this argument is that there are strengths, weaknesses, opportunities, and threats in using AI to evaluate startups. In the current digital era, everything that concerns the use of technology-related tools needs proper scrutiny to ensure that every concern and opportunity is put into consideration. This yields the idea of conducting a SWOT analysis regarding the use of AI tools in evaluating startups.

It is essential to note that use of AI tools in evaluating startups is useful because it can detect many aspects in the organization, which are vital in decision-making processes. Hence, the SWOT analysis regarding the use of AI in evaluating startups will reveal the effectiveness of

AI tools in evaluation of newly formed organizations. Therefore, the examination of the strengths, weaknesses, opportunities, and threats associated with the use of AI in evaluating startups is essential in establishing the effectiveness of using AI tools in evaluating new organizations in the markets.

## **2. Literature Review**

The evaluation of startups is necessary because of many reasons that would be useful in helping such business ventures to survive. According to (Davalas, 2020), evaluation of startups is necessary because it determines the point of interaction between the customers and the business. Startups need to be evaluated to ensure that the business owners are able to determine the point where the organization interacts with people and improve the same. For startups to survive in the market, they need to develop an excellent relationship with their customers. Such relationships can only exist when the startups find time to evaluate themselves and weed out the problems that may be undermining their interactions with the people in the market. Hence, there is need to understand that evaluating startups is not an optional choice for individuals and groups of people who want their new business ventures to prosper.

AI tools have different roles to play in ensuring that the evaluation process of the startups is successful. According to Prentice & Nguyen (2020), AI tools are technology-related, which can help organizations provide vital information about the market and customers. Consequently, such data can prove meaningful in the evaluation processes in startups. It is essential to note that despite the need to evaluate startups, organization managers should bear in mind that the use of AI has its good and bad side. Technology-related tools often have something to celebrate about and something to mourn about. It is paramount that the startups scrutinize the AI tools that are to be used in evaluation to ensure that they understand how effective such tools can be to the newly formed companies. The best way to determine such kind of effectiveness is by conducting a SWOT analysis on the use of AI in evaluation. A SWOT analysis would uncover different perspectives of why using AI to evaluate a startup is recommendable. It is essential to understand that examining the strengths, weaknesses, opportunities, and threats of using AI in evaluating startups will provide more insights into the essence of examining businesses in that manner.

### **2.1. SWOT Analysis**

#### **2.1.1. Strengths**

Many strengths exist in using AI to evaluate startup businesses. Some of the strengths include the saving of time when undertaking tasks aimed at evaluating the startups. According to (Leyer & Schneider, 2021), AI tools are technology-related, which means that they enabled the automation of processes within a startup company. The essence of saving time in the evaluation of a startup business is that it creates an opportunity for the business owners to concentrate on other important issues of the evaluation processes. Evaluating a startup organization entails many processes that if one would perform them manually, it would be time consuming. Kumar et al.'s (2021) study supports this argument because the authors discovered that artificial intelligence enhances work efficiency and saves time for the workers. Hence, evaluating a startup using artificial intelligence would significantly benefit an organization. Hence, utilizing AI is crucial to the acquisition of more time that can be used to perform other vital tasks involved in evaluating startups.

AI use in evaluating startups has the strength of improving the quality of evaluation and reducing human error. According to (Agrawal et al., 2017), AI ensures that the quality of

evaluation of a newly created organization is high in the sense that it digs deep into the details that managers need to examine when evaluating their organizations. Since AI is not human in nature, it is bound to perform more tasks and with a relatively higher accuracy than humans. The idea of accuracy comes in, which ensures that the possibility of human error is eliminated in the evaluation process. Hence, it is justifiable to argue that the strength of using AI in evaluating startups is that it ensures that errors are minimal, which improves the quality of the evaluation process. When humans manually conduct the evaluation process, the time taken is long and the chances of committing errors is high. This proves the idea that indeed AI is necessary in the evaluation of startup businesses.

### **2.1.2. Weaknesses**

Despite the presence of many strengths that are attributable to using AI in evaluating newly formed companies, weaknesses equally exist. According to (Allen, 2020), one of the greatest weaknesses of using AI in evaluating startups is that it is expensive. The use of AI tools in evaluating a business requires human expertise and software that some newly formed companies may find too expensive. A startup organization does not expect to spend too many resources on evaluation because it is still trying to make efforts to ensure that it breaks into the market and competes with the giant organizations that are already established. Hence, the incorporation of the use of AI in evaluating such businesses may sometimes prove too expensive because AI tools do not come cheaply. In a separate study by Agarwal (2018), the author discovered that expenses are a public administrative challenge of implementing artificial intelligence in any startup because it requires a lot of resources. (Davalas, 2020) supports this notion in his study that discovered that startups can easily have their budget run out. Despite the excellent work that the AI tools do in evaluating a startup, the costs prove too much for some of the newly formed business ventures. Some of the software used in the AI tools requires a lot of money to acquire and install. Hence, it is justifiable to argue that using AI in evaluating startups has a weakness in terms of the costs incurred when implementing the use of the AI tools.

Another major weakness of using AI in evaluating startups is that it cannot replicate what humans do. According to (Ranjan et al., 2018), machines are always regarded as better performers than humans, which means that AI is expected to work better than human beings do. However, AI cannot replicate exactly what humans can do. Machines work based on the programming that is done on them by humans. Hence, AI cannot do some specific tasks that are better undertaken by humans. Human beings have greater capacity to communicate than machines. The implication of this argument is that AI cannot do some tasks best, which is a significant weakness when addressing the issue of using AI to evaluate startups.

### **2.1.3. Opportunities**

Opportunities are often available anywhere that technology such as AI is used. According to (Adam et al., 2021), using AI in the evaluation processes can help an organization improve the services offered to customers, which in turn influences customer relations positively. Many AI tools will evaluate the relationship between customers and the company and in the process establish better ways through which the startups can improve their services to the customers. In another study conducted by Chen et al. (2021), the authors discovered that artificial intelligence is a self-service technology that makes work easier for customers, which can essentially be termed as improving customer service and experience. This proves the statement that when evaluating startups, artificial intelligence plays a key role in ensuring that customers enjoy their services beyond expectations. The more such organizations use AI tools to evaluate themselves, the more they discover the loopholes that exist in their relationship with the

customers. Consequently, more solutions keep arising, which help the companies build its relationships with customers.

#### **2.1.4. Threats**

The biggest threat of using AI in evaluating startups is that they threaten the existence of human jobs. According to (Huang & Rust, 2018), human beings will have little roles to play once a startup decides to incorporate the use of AI tools in evaluating itself. Consequently, humans will always be skeptical of using AI in evaluating startups because they often feel that the company may find them obsolete, which renders them jobless automatically. In a separate study conducted by Huang & Rust (2018), the authors discovered that artificial intelligence is often responsible for shaping service in companies because it performs tasks meant for the humans. This justifies the claim that using artificial intelligence to evaluate startups possess a significant threat to humans. It is essential for such companies to maneuver carefully into matters regarding human labor and AI tools application in evaluation processes to avoid the conflict of interests between technology and humans. Startups can figure other duties that can be assigned to humans to avoid retrenchment processes once the utilization of AI tools in evaluation is underway. Therefore, threats exist in the use of AI to evaluate startup organizations, which is why sometimes conflicts arise in organizations once employees realize that technology is being implemented.

### **3. Methods**

The research in question concentrated on utilizing the mixed research methodology. This means that the use of both qualitative and quantitative data was crucial in establishing the effectiveness of using AI in evaluating startups. The advantage of using a mixed research methodology is that it ensures that a wider range of information is gathered to support the research in question (Belardinelli & Mele, 2020). The essence of utilizing the mixed research method was to incorporate different ideas from the sources of information that yield qualitative and quantitative data. The mixed research method ensures that the findings of the research are grounded on the concrete data that can be traced from the original participants in different studies.

The mixed research methods employed in the study included the use of interviews to gather information. In-depth interviews specifically, were the ones in use where 15 participants were identified to provide vital information on the use of artificial intelligence in evaluating early stages of startups. The interviews constituted 15 participants who were picked at random from the target group. They entailed individuals with startup business ventures, as well as established business companies. The essence for interviewing owners of both established and startup ventures was because they have different levels of experience and hearing from them would be key to achieving the aim of the study. Eighty percent of the participants (12) participants were in agreement that artificial intelligence plays a crucial role in evaluating the early stages of startup ventures. Some of the questions that were presented to the interviewees included, how useful do you think artificial intelligence is to startups? What is the role of artificial intelligence during the evaluation of startups?

Focus groups were also used in collection of data because they proved to be useful. Focus groups entail bringing together people of similar interests and discussing important issues that concern them, in research. Focus groups were important in the study because they enabled the holding of discussions relating to the significance of artificial intelligence in evaluating startups. There were two focus groups that held discussions separately. Some of the discussions

were aimed at ensuring that participants discuss their experiences with artificial intelligence in startups.

On the other hand, quantitative methods that were used included, online surveys. An online survey was set up and 50 individuals who met the criteria were invited to take part. The surveys constituted of 10 questions that revolved around the evaluation of startups using artificial intelligence. The surveys were effective in the sense they did not require looking or participants physically. The survey was accessible to all participants particularly because it was posted on social media. Many of the respondents concurred with the notion stated above. Out of the 4 online surveys performed on different social media platforms, it was discovered that three quarters of the population that was surveyed were well conversant with the role of artificial intelligence in evaluating startups. In addition, questionnaires were also administered to ensure that more data is acquired to aid in the decision-making processes of the study.

Based on the application of the mixed research method, data triangulation was conducted to establish the validity of the study. Responses from the interview were compared to the responses in the survey. Of the 15 interviewees, 10 of them had their responses alluding to the same issue as 80% (40 people) of those who undertook the survey, which was that artificial intelligence enhances efficiency but is expensive. Through triangulation, it is justifiable to conclude that evaluating startups using artificial intelligence comes with upsides and downsides.

The research in question adopted the mixed research methodology because it helps to avoid the challenges that come up due to adopting the single approaches that concentrate on qualitative or quantitative data only. With the mixed research methodology, one can rely on different sources of information. This provides more credibility and reliability to the research because there is more information that can be used as proof of the arguments that are being made. The use of AI in evaluating startups can be analyzed better by looking at qualitative and quantitative data.

#### **4. Findings**

Based on the review of literature, interviews, questionnaires issued, and the surveys conducted, findings were obtained in relation to the use of AI in evaluating startups yielded significant amount of data. It is essential to note that one of the most significant finding was that the use of AI in evaluating startups is necessary because of the evolving nature of the business world. With the enhancements in technology, activities in startups need to be conducted at a faster pace to ensure that such ventures catch up with the giant organizations in the market (Moretti, 2020). Irrespective of whether the use of AI is advantageous or not, the current business world demands that organizations, including startups, adopt a technology-based system that would help them to evaluate themselves effectively and efficiently.

Another significant finding drawn from the data obtained was that most crucial strength of engaging AI in startup evaluation processes is that it saves time and enhances the quality of processes. AI is faster than humans are which makes it most effective in carrying out tasks associated with startup evaluation. This finding was pivotal in creating an understanding of the idea that time is a critical factor in today's business ventures and their operations. It is essential to note that the more startups are shifting towards the adoption of AI in their organizations most specifically for the evaluation processes.

The interviewees in this study constituted 15 individuals. 12 of those argued that artificial intelligence was vital in saving time, as well as making sure work is done efficiently. Similarly, all the 15 interviewees were in agreement that artificial intelligence is vital in reducing human



error and enhancing the quality of evaluation for startups. This was substantial evidence that the interviewees were sure and confident enough that artificial intelligence is key in the evaluation of startups. However, three of the interviewees were keen to point out that using artificial intelligence to evaluate startups is expensive. As for the surveys, 50 individuals took part in them where all of them were 18 years old and above. The participants constituted an equal number of males and females. 38 participants who took part in the four surveys argued that they knew and appreciated the role of artificial intelligence in evaluating startups. 40 individuals who undertook the survey agreed with the sentiments of the 12 individuals who had participated in interviews. Among the two focus group discussions that were held, it was evident that concentration was more on the opportunities and threats. The focus groups arrived at the conclusion that artificial intelligence is a serious threat to human labor because of its ability to perform the tasks performed by humans. In addition, the focus groups had discussions revolving around the opportunities that are available when using artificial intelligence in an organization. It was evident that the greatest opportunity when using artificial intelligence to evaluate startups is that they stand a huge chance of improving customer service delivery.

However, a negative finding was also discovered in that research indicated that using AI to evaluate startups is an expensive affair. Startup companies are forced to invest hugely in AI tools in order to ensure that their evaluation processes are enhanced. Startups do not need to overspend because they are still trying to establish themselves in the market. However, the use of AI in evaluating startups demands that they spend more to acquire the services that they seek from AI. Hence, it is essential to note that the using AI to evaluate startups has its shortcomings as much as it has benefits.

## 5. Discussion

The usefulness of AI in evaluating startups lies in the ability to integrate information concerning different aspects of the organization's operations. When scholars argue that AI is necessary in the evaluation of startups, they mean that the AI tools are vital in providing the information necessary for evaluating the newly formed companies. For example, AI tools help the organization to understand more about the customer base in the market. Such information is crucial in ensuring that managers in startups evaluate the company's relationship with its customers, which essentially helps them know how the company is fairing on. It is essential to note that many AI tools exist, and they play different roles in contributing to the success of the evaluation processes in startups.

The need to save time when evaluating startups stems from the idea that such companies need to concentrate most of their time on vital issues that will help them grow. The argument that AI involvement in evaluation of startups saves time is reasonable because such organizations require more time to promote themselves, develop better relationships with customer, and many other tasks, to ensure that they grow into bigger ventures in the shortest time possible. Wasting time on evaluation processes could prove costly for startups because they will lack the time to do other activities such as marketing and promotions, which are crucial to their survival in the market in their early days before they grow into big organizations. It is essential to note that AI makes work easier for managers, despite it being a bit expensive. Once the evaluation processes are made easier, the saved time can be invested elsewhere to ensure that the startup in question can concentrate on profit-making activities.

Understanding the idea that AI is expensive helps organizations plan themselves accordingly. Now that AI is a necessity for most startups if they want to have smooth operations, such organizations need to plan themselves well to ensure that they have better ways of offsetting the deficits that may be caused through the acquisition of AI tools. For example, the companies

could plan their budgets in such a way that they cut on unnecessary spending to aid the financing of AI incorporation in the organizations' operations. It is essential to note that planning is the key to establishing a way through which startups can balance between obtaining AI services and maintaining their pace of growth in the market.

## 6. Conclusion

Therefore, it is essential to note that the idea of utilizing AI in the evaluation of startups is a crucial matter to such organizations because they need to use tools and processes that guarantee efficiency and effectiveness. Most startups are shifting towards the acquisition of AI tools to help them in evaluating themselves because these tools are faster compared to human beings, meaning they save a lot of time. Consequently, they can concentrate on other important issues that can help them grow. The use of AI in evaluating startups has its strengths and weaknesses because AI is advantageous to some extent and disadvantageous from other perspectives. When a startup decides to use AI in evaluating itself, it stands a better chance of achieving effectiveness because of the manner in which AI ensures the fulfilment of tasks. Startups need all the resources, time, and effectiveness they find to ensure that they create their path to growth in the best way possible. It is crucial to note that the argument that AI is necessary in startups and many other organizations is justifiable because the AI tools perform very crucial tasks that human beings might be slower in fulfilling. Faster and effective evaluation of startups often yields positive results.

On the other hand, startups should be wary of the weaknesses of using AI to evaluate themselves. Using AI tools to evaluate a startup could mean that most of the resources of the organization are channeled towards the acquisition, maintenance, and management of AI tools, which could prove costly for a startup. Such scenarios are not healthy to organizations that are looking to grow shortly after they have introduced themselves in the market and industry. Hence, it is vital for startups to plan themselves accordingly such that their spending does not wholly focus on AI incorporation into the evaluation processes to the extent that they forget about other operations that need to be undertaken.

Some of the threats that the use of AI to evaluate startups possess include job losses for humans. Whenever technology-related tools are involved in the evaluation of business organizations, humans are often threatened because they are boxed into a situation where they feel no job security. If AI tools can perform the tasks meant for human, company owners often retrench their workforce to save costs. For startups, the situation is even worse because company owners are looking to save more resources and invest them in other crucial departments. Hence, it is logical to argue that workers of startups would be scared whenever the introduction of AI tools is done to boost the evaluation processes of such organizations. Similarly, opportunities can also be created through the use of AI in evaluating startups. An example is with the observation of customer relations, which is crucial in determining the links between customers and the organization. Therefore, startups can invest in AI tools when evaluating themselves because they offer more advantages than disadvantages. Through such gains obtained by the effectiveness of using AI in evaluating startups, newly created organizations get to grow gradually and become bigger with time. Therefore, a brighter future is expected for most startup organizations that may decide to use AI tools to evaluate themselves.

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