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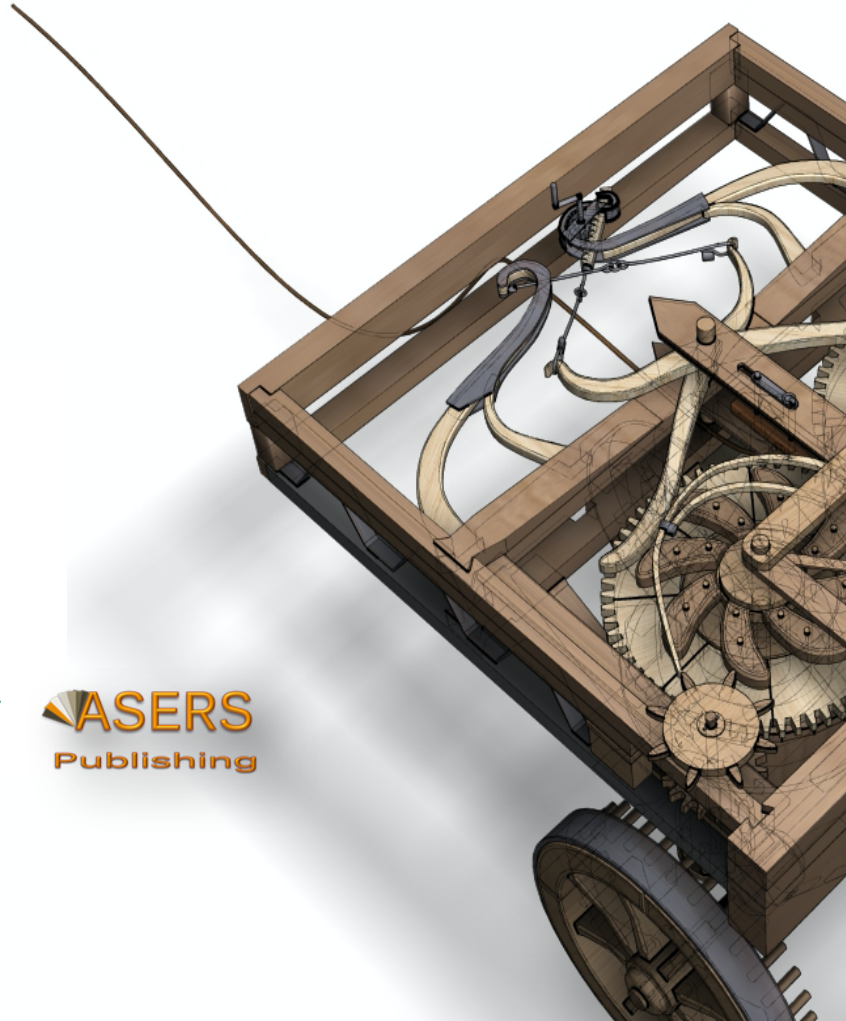
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Development of Marketing Tools to Raise Funds for Green Projects. Experience of the Republic of Kazakhstan

Zhanobek BOKAYEV
Alikhan Bokeikhan University, Kazakhstan
kazguiu.nauka@mail.ru

Assel KAISHATAYEVA
Alikhan Bokeikhan University, Kazakhstan
aselkz@list.ru

Tair DZHULAMANOV
Al Farabi Kazach National University, Kazakhstan
tairdzh@gmail.com

Marat AISIN
A.Baitursynov Kostanay Regional University, Kazakhstan
aisin-m65@mail.ru

Altynay MAUKENOVA
Kazakh National Medical University named after S.D. Asfendiyarov, Kazakhstan
atasmaganbetova@mail.ru

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Abstract:

The large-scale implementation of climate protection projects, the latest resource-saving and environmentally friendly technologies, and ecological construction measures for the green growth of national economies requires sound financial backing. The mobilization of financial resources for investment and innovation in the environmental area is currently carried out through increased operational activity on the part of banking institutions to stimulate the implementation of green projects along the principles of environmental and socially responsible financing. The development of the green investment market entails the emergence of new innovative marketing services, green investment marketing, which raises the need to develop the respective theoretical and methodological provisions of its use. The study demonstrates that the primary goals of green investment marketing are: the popularization and promotion of green investment among potential stakeholders to attract additional funds for the implementation of measures to achieve the indicative sustainable development goals; the provision of stakeholders with reliable, complete, up-to-date, and credible marketing information on green financial market trends, the structure and dynamics of demand for green investments, and the priorities of corporate and private investors; the development of an effective set of marketing communications to ensure the targeted promotion of green investments.

Keywords: sustainable development; green marketing; green investments; green investment marketing; stakeholders; green image; green brand.

JEL Classification: Q01; P45; Q56; M38.

Introduction

In Kazakhstan, the major objects of investment are such industries as construction (Dodonov 2018, 96), the extractive industry (KPMG 2019), and the supply of electricity and gas (World Bank Group 2018). Meanwhile, relatively little investment (green investment) is directed to the development of alternative energy (Bezpalov *et al.* 2021, 218), improvement of energy efficiency (Zhao *et al.* 2020, 451), development of agriculture (Dokholyan *et al.* 2022, 597), protection of the country's ecosystem, and conservation of water and land resources (Eyraud *et al.* 2013, 852; Martirosyan *et al.* 2022, 151). For example, figures for 2020-2021 show that Kazakhstan issued three major green loans totaling \$62 million, and since 2011, the European Bank for Reconstruction and Development (EBRD) has invested a total of \$63.12 million in seven environmental projects in Kazakhstan (Sberbank PJSC 2022). In the meantime, an analysis of international experience shows the rapid development of the green investment market.

In the European Union, the development of country-specific national strategies for sustainable development relies on the sustainable development strategy adopted by the EU countries, which is periodically adjusted by the European Commission (Duran *et al.* 2015, 806). The EU plays a major part in the support and promotion of the 2030 Agenda for Sustainable Development adopted by world leaders on September 15, 2015, at the UN summit, where 17 Sustainable Development Goals (SDGs) were formulated (Holden *et al.* 2014, 130). Notably, the attainment of the SDGs is not enforceable, but countries are expected to establish national mechanisms to achieve the SDGs at their own initiative (Klarin 2018, 67).

The implementation of measures to achieve the indicative SDGs requires raising additional capital, which is a challenge for developing countries, Kazakhstan included. At present, the main financial platforms of Kazakhstan, which are the Kazakhstan Stock Exchange (KASE) and the International Financial Center "Astana" (IFCA), offer the opportunity to trade a special investment product, green bonds. Yet so far, this opportunity is used only by development institutions, while private investors show little interest in green bonds (Sberbank PJSC 2022).

Therefore, a topical issue in this area is the activation of the green investment market in order to attract additional capital for the implementation of SDGs (Bokenchin *et al.* 2022, 1565; Ospangaliyev *et al.* 2022, 1459). This undertaking requires synchronization of the actions of main stakeholders in the green investment market (KPMG 2019) and public policy (World Bank Group 2018). It is worth noting that Kazakhstan lacks an interconnected system of universal strategies for stimulating and promoting green investment among the key stakeholders (private and institutional investors, banks, and funds). For this reason, we assert that the full launch of the green investment market in Kazakhstan cannot be achieved without an effective system of marketing tools for the promotion of green investment.

1. Literature Review

There is a major body of scientific research devoted to the development of green marketing theory. The review of scientific sources (Katrandjiev 2016, 71; Patel 2016, 139; Peattie 2001, 129; Polonsky 2011, 1311) demonstrates the presence of different definitions for green marketing, among which are environmental marketing, eco-oriented marketing, sustainable development marketing, and so on.

Yet these definitions focus mainly on the promotion of green products (Cherian and Jacob 2012, 117; Grant 2008, 25; Vilkaitė-Vaitonė and Skačkauskienė 2019, 53; Zampese *et al.* 2016, 183) and do not account for the specifics of green investment, which are:

- a focus on the development of green assets (prevention and elimination of environmental pollution and its consequences; implementation of environmental protection measures; dissemination of green projects and clean technologies; improvement of the environment; improvement of the efficiency of use, protection, and conditions of reproduction to support natural resources) (Pekovic *et al.* 2018, 297);
- compliance of investment objectives with the principles of sustainable development and ensuring the socio-environmental and economic effect; development of ecosystems; improvement of environmental and social indicators of the national economy (Dovala and Negulescu 2014, 847);
- formation of prerequisites for the creation of special investment funds and for green growth of the national economy (Chowdhury *et al.* 2013, 104; Wang and Zhi 2016, 311);
- specificity of the object of investment, which stems from the involvement of a wide range of stakeholders (government, investors, funds, banks, society, etc.) (Du *et al.* 2019).

Researchers observe that the above-described specifics of green investments cause the emergence and proliferation of a new type of stakeholder – socially responsible investors, green investors, eco-oriented investors (Du *et al.* 2019), eco-friendly brands and consumers, green companies and organizations (Eyraud *et al.* 2013,

852), and the like. This group of stakeholders aims not to obtain short-term economic benefits in the form of profits but at the implementation of long-term goals that meet the principles of indicative SDGs. Furthermore, the main distinguishing feature of this group of stakeholders is the transparency of their activities, which obliges them to openly publish non-financial reports on their operations (Karásek and Pavlica 2016, 121).

At the moment, some aspects of green marketing in the field of investment activities are covered by Y. Zhang and H.M. Berhe (2022) and Y.K. Yan and R. Yazdanifard (2014). As suggested by Zhang and Berhe (2022), the main product of this type of marketing is green investment directed to a specific project, the implementation of which provides not only an economic effect but also a balancing of the environmental and social outcomes. Y.K. Yan and R. Yazdanifard (2014) note that the key aspect of marketing in the sphere of attracting green investments is purposeful formation, positive development, and promotion of the image of green investments in terms of the product. In this context, it is advisable to use not only traditional marketing tools, considering the specifics of promoting sustainable development goals, but also modern tools for marketing green investments, among which are: identification marketing, which focuses advertising on the specifics of green investments; storytelling, which points to the examples of successful investment in green projects; and other modern marketing tools (Yan and Yazdanifard 2014, 33).

Several studies (Eneizan *et al.* 2016, 14; Ganda *et al.* 2015, 33) evidence that a well-functioning green investment market provides a number of benefits to all sectors of the economy, leading to GDP growth.

However, the review of research shows the lack of a comprehensive analysis of the provisions covering the theoretical and practical aspects of the use of marketing tools to raise funds for green projects. In addition, there is a lack of studies aimed to prove the advantages for the overall growth of the country's economy provided by the use of green marketing focused on the development of the green investment market. This demonstrates the need for a more in-depth study of the theoretical concept of green marketing in the sphere of investment, as well as for the identification of economic benefits from the development of the green investment market.

Consequently, we have formulated the following research hypothesis: the application of green marketing tools, leading to an increase in green investments, results in GDP growth, as well as a reduction of greenhouse gas emissions and an increase in the share of renewable energy sources in total energy consumption.

The purpose of the present study is to analyze the factors that activate the green investment market through marketing tools and justify the economic benefits of using marketing for the development of the green investment market.

Research objectives:

- to determine the primary functions, components, and tools of green investment marketing;
- to empirically substantiate economic benefits from the use of marketing for the development of the green investment market.

2. Methods

The general scientific research methods used to solve the problems set in the study include: a) the case study method: collection and analysis of information on the problem of research; b) empirical methods – focus group, expert survey; c) mathematical and statistical methods of panel data analysis.

The study was conducted in four phases between June and August 2022.

At the first stage of the study, using the case-study method, information on the use of marketing tools to attract investment in green projects was collected and analyzed. The sources of information were articles in peer-reviewed journals published mainly in the last 10 years, as well as analytical reports on investment opportunities and investment attractiveness of Kazakhstan, the main directions of investment use in the Republic of Kazakhstan, as well as the private equity market of Kazakhstan, including green investments.

The second stage of the study involved a focused interview (focus group method), which identified the main functions, components, and modern tools of green investment marketing. The focus group consisted of nine employees of Kazakhstan's non-governmental organizations involved in the implementation of green projects. The group discussion lasted for 1 hour and 20 minutes and was audio-recorded.

In the third stage of the study, after processing the results of the focus group, we engaged in online communication with a pool of experts, the selection criterion for which was the experience of at least 5 years in the implementation of green projects in the field of green investment. Emails were forwarded to 48 experts. The experts were asked to rank the main functions, components, and current tools of green investment marketing, as identified in the focus interview, online via email.

All participants in the study were informed of the purposes of the study and of the organizers' plans to publish the results in a summarized form.

The consistency of expert opinions in the expert ranking was assessed with Kendall's concordance coefficient (W). The concordance coefficient was calculated using the SPSS software product. The information obtained from the expert ranking was subsequently processed to determine the weights of the expert opinions.

In the fourth stage of the study, in order to highlight the benefits for the domestic economy from the use of marketing for the development of the green investment market, we used a modified economic growth function (2.1).

$$GDP = F(GI, GHG, RE) \tag{2.1}$$

where GDP – GDP per capita; GI – green investments; GHG – greenhouse gas emissions; RE – the share of renewable energy in total energy consumption.

The function used in analyzing the panel data is 2.2.

$$\ln GDP_{it} = \phi + \alpha \ln GI_{it} + \beta \ln GHG_{it} + \gamma \ln RE_{it} + \mu_{it} \tag{2.2}$$

whereby α, β, γ – regression parameters; μ – statistical error; $i = 1, \dots, N$ – cross-sectional objects; $t = 1, \dots, T$ – time periods.

The analysis was conducted for EU countries chosen as the states most developed with respect to green project implementation.

The data set for the analysis was formed from the databases of the World Data Bank, Eurostat, and the European Environmental Agency.

Mathematical processing of the data was conducted with the following methods:

- in order to test the data for stationarity, panel unit root tests were administered with the use of traditional unit root tests: the Levin-Lin-Chu test (LLC) (Choi 2001, 249) and the Im-Pesaran-Shin test (IPS) (Im *et al.* 2003, 53);
- the Pedroni test was used to test the data for panel cointegration (Pedroni 2004, 597);
- a modified method of least squares (Fully Modified Ordinary Least Squares) was employed to detect statistically significant relationships between the amount of green investments, greenhouse gas emissions, the share of renewable energy in total energy consumption, and GDP.

3. Results

Based on the analysis of the focus group results and expert evaluation, we identified the following main functions of green investment marketing (Table 1).

Table 1. Primary functions of green investment marketing

No.	Functions of green investment marketing	Rank	Weight
1	Segmentation of the market for green investment projects and their positioning	1	0.33
2	Development of a plan for investment and marketing activities	2	0.24
3	Analysis of trends and dynamics in the global green investment market	3	0.18
4	Forecasting of green investment market conditions	4	0.12
5	Building a profitable green investment portfolio	5	0.08
6	Reducing the asymmetry of information between the main stakeholders of the green investment market	6	0.05

Note: the value of the concordance coefficient $W = 0.77$ ($p < 0.01$), indicating the consistency of expert opinions

The results of the focus group discussion suggest that the system of marketing tools to promote green investments should consider the specifics of green investments, in which regard the main components of green investment marketing are presented in Table 2.

Table 2. Main components of green investment marketing

No.	Components of green investment marketing	Rank	Weight
1	Green investment as a product	1	0.35
2	Pricing with green goals in mind	2	0.25
3	Creating a green image and brand of the project (company)	3	0.18
4	Promotion of the green brand of the project (company)	4	0.13
5	Positioning in the green investment market	5	0.09

Note: the value of the concordance coefficient $W = 0.81$ ($p < 0.01$), indicating the consistency of expert opinions

During the focus group it was noted that the efficiency of a marketing program to raise funds for green projects depends on the effective set and combination of tools to promote the product of green investments. For this reason, a green investment marketing program needs to incorporate modern instruments (Table 3) in addition to traditional marketing tools (direct advertising, online advertising, PR, etc.).

Table 3. The main modern tools of green investment marketing

No.	Tool	Characteristic	Rank	Weight
1	Identification marketing	advertising focuses on the specifics of green investments	1	0.29
2	Storytelling	examples of successful investments in green projects	2	0.22
3	Crazy PR	enacts the boldest and most creative advertising ideas	3	0.16
4	Sensitive marketing	draws on the emotions and feelings of the target audience	4	0.10
5	Unconventional outdoor advertising	penetrates the environment of the target audience	5	0.08
6	Engagement marketing	promotion of green investments through email newsletters, improved visualization or website, and posting of relevant content	6	0.07
7	Co-marketing	collaboration and cooperation of green stakeholders	7	0.05
8	Shock advertising	the use of unconventional and original advertising, forming a spectrum of non-standard emotions in the target audience	8	0.03

Note: the value of the concordance coefficient $W = 0.75$ ($p < 0.01$), indicating the consistency of expert opinions

The obtained value of Kendall's concordance coefficient (W) demonstrates the consistency of the experts' opinions, as the value of $W > 0.5$ indicates that the evaluation is unbiased.

To prove the hypothesis that the application of green marketing tools, bringing about an increase in green investments, leads to a rise in GDP along with a reduction in greenhouse gas emissions and an increase in the share of renewable energy in total energy consumption, we conducted panel tests for the unit root in order to test the data for stationarity, tested the data for panel cointegration, and identified statistically significant relationships between the amount of green investments, greenhouse gas emissions, the share of renewable energy in total energy consumption, and GDP.

The results of the panel tests for the unit root show that the data become stationary after Level 1 (Table 4).

Table 4. Unit root test results

Variable	LLC		IPS	
	Stat.	Prob.	Stat.	Prob.
<i>Level 0</i>				
GDP	-2.84	0.002	0.57	0.71
GI	-4.09	0.00	-0.15	0.44
GHG	-7.81	0.00	-3.08	0.001
RE	-6.05	0.00	0.57	0.27
<i>Level 1</i>				
GDP	-25.05	0.00	-11.54	0.00
GI	-18.87	0.00	-7.18	0.00
GHG	-21.76	0.00	-10.43	0.00
RE	-12.67	0.0000	-6.11	0.00

Note: GDP – gross domestic product per capita; GI – green investment; GHG – greenhouse gas emissions; RE – share of renewable energy in total energy consumption; LLC – the Levin-Lin-Chu test; IPS – the Im-Pesaran-Shin test

The results of the Pedroni panel cointegration test indicate the presence of 1% and 5% co-integration between the analyzed variables. The presence of cointegration relationships gave grounds to use the Fully Modified Ordinary Least Squares method (Table 5).

The results obtained (Table 5) demonstrate statistically significant relationships between the analyzed parameters, *i.e.* the amount of green investments, greenhouse gas emissions, the share of renewable energy in total energy consumption, and GDP. The empirical calculations (based on UN countries) suggest that a 1% rise in the amount of green investment entails a 6.3% increase in GDP, a 3.05% reduction in greenhouse gas emissions, and a 5.4% higher share of renewable energy sources in total energy consumption.

Table 5. Results of the modified least squares method

Variable parameters	Non-variable parameters	Coefficient	Prob.
GDP	GI	6.39	(0.00)*
	GHG	0.41	(0.00)*
	RE	37.17	(0.00)*
GHG	GDP	9.29	(0.00)*
	GI	-3.07	0.28
	RE	-5142.45	(0.00)*
RE	GDP	0.002	(0.00)*
	GI	5.63	(0.00)*
	GHG	0.01	(0.00)*
GI	GDP	0.18	(0.0001)*
	GHG	0.004	(0.0002)*
	RE	98.65	(0.01)**

Note: GDP – gross domestic product per capita; GI – green investment; GHG – greenhouse gas emissions; RE – share of renewable energy in total energy consumption

1. Discussion

The presented study proposes to consider green investment as the main product that stands at the center of marketing in this sphere. In this respect, there is a need for advertisement and popularization of the main objective of the product (green investment), which is to balance environmental, social, and economic goals, and the pricing policy has to account for the aforementioned specifics of green investment.

In the course of the focus group, positioning and branding were noted as two of the most important factors in the popularization of green investment. This finding concurs with the conclusions of B.M. Eneizan, K. Abd.Wahab, and T.F.B. Obaid (2016), who argue that the main goal in this aspect should be the formation of a positive image of green investment. That is, the starting point is a business entity's declaration of its eco-oriented activities (introduction of energy-efficient technologies, alternative energy sources, green education, etc.), which serves as a foundation for the formation of a positive information space around green investment (Yan and Yazdanifard 2014, 33). Furthermore, it is necessary to establish effective communication with the main stakeholders of green investments and to use the principle of differentiation by the type of green assets for investment and the target audience (Ganda *et al.* 2015, 33).

During the focus group, it was also highlighted that the marketing of green investments enables companies to attract socially responsible investors to finance green projects. This conclusion is consistent with the results of H.S. Du *et al.* (2019) indicating that a company that tries to establish effective green investment marketing needs to develop a unique and well-thought-out investment marketing strategy relying on the competitive advantages that distinguish the company from others.

Meanwhile, according to Y. Zhang and H.M. Berhe (2022), green marketing cannot be considered in isolation, because the implementation of green projects affects both procurement and financial and human resources, technology, and supplies (Degtev *et al.* 2022, 868). Thus, it is critical that the planning and implementation of green marketing utilize a systematic approach, the priorities in it being (Eyraud *et al.* 2013, 852): the development of an overall environmental management strategy (Islamutdinov *et al.* 2021, 1882); forming a green project strategy that minimizes harmful effects on the natural environment and the use of natural resources; the development of a green project promotion strategy, which points to the company's environmental image; the formation of a personnel strategy designed to raise the level of environmental awareness of each employee; improvement of environmental information systems (Manuylenko *et al.* 2022, 1022) and environmental monitoring, and the like (Kalymbek *et al.* 2021, 1299).

The results of empirical calculations confirm the assumption that the growth of green investments, associated with the use of green marketing tools to attract them, leads to an increase in GDP, as well as a decrease in greenhouse gas emissions and an increase in the share of renewable energy in total energy consumption. Thus, the study substantiates the need to utilize green investment marketing tools as a factor that positively affects various sectors of the economy.

Conclusion

The research results demonstrate that the primary goals of green investment marketing are: the popularization and promotion of green investments among potential stakeholders for the purpose of attracting extra funds for the

implementation of measures to achieve the indicative sustainable development goals; providing stakeholders with reliable, complete, up-to-date, and credible marketing information on green financial market trends, the structure and dynamics of demand for green investments, and the priorities of corporate and private investors; the development of an effective set of marketing communications to ensure the targeted promotion of green investments. Moreover, the marketing of green investments should on the one hand create a profitable portfolio of green investments for stakeholders and, on the other hand, promote companies and projects that declare their activities as environmentally oriented.

The empirical findings confirm the need to use green investment marketing tools as a factor that positively affects various sectors of the economy through GDP growth.

The prospect for further research could be the study of the basic principles for the formation of a green brand of Kazakhstan and Kazakh companies as a marketing tool to attract additional green investments into the national economy and companies, respectively, as well as the analysis of competitive green marketing strategies aimed at identifying the conditions in which corporate environmental strategies contribute to the company's competitiveness, which is of interest to a potential investor.

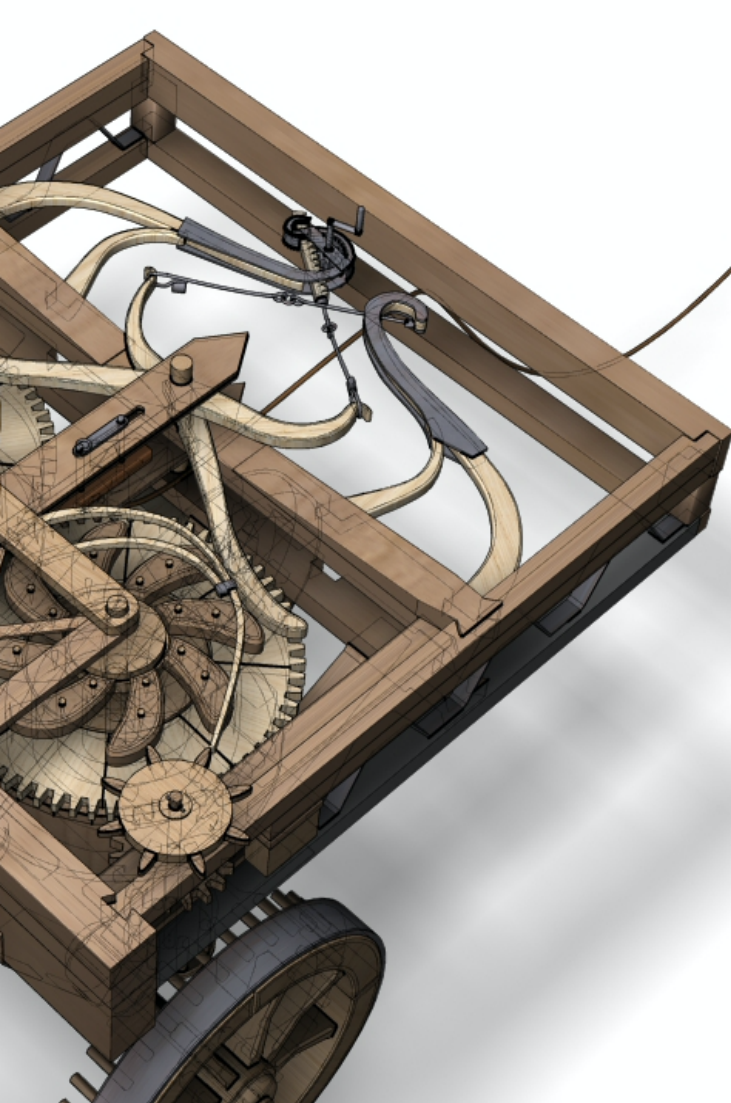
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