# Can Digitalization Promote the Innovation Cooperation of Enterprises—Taking New Energy Automobile Enterprises as an Example

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*Abstract*—**With the application and development of digital technology, digital economy is becoming a new driving force for national economic development, and accelerating the deep integration of digital technology and real economy has risen to the national strategic level. As an important engine of national economic growth, new energy automobile is of great significance to understand the innovation and cooperation development of enterprises under the background of digitalization. Based on the data of listed companies in China's new energy automobile industry from 2012 to 2022, this paper constructs a fixed effect model to explore the relationship between digitalization and enterprise innovation cooperation. The results show that digitalization can positively promote the innovation cooperation of new energy automobile enterprises, and the influence of digitalization on innovation cooperation is more significant in state-owned enterprises and large enterprises. In addition, the digitalization level of new energy automobile enterprises is generally low, and the innovation cooperation with other entities is also low. Its conclusion has certain reference value for the long-term development of new energy automobile industry and is of great significance for the high-quality development of the country.**

*Index Terms*—**Digitalization, cooperation, new energy vehicles**

## I. INTRODUCTION

At present, a new round of global scientific and technological revolution and industrial transformation is booming, and competition among big countries is intensifying. Accelerating the innovation-driven development strategy is still an important measure to achieve high-quality development. As an important strategic and pillar industry of the national economy, the automobile industry has a long industrial chain and a high proportion of total social output, which is an important field to expand consumption and stimulate domestic demand. With the advantages of new energy, new materials, Internet, big data, artificial intelligence and other revolutionary technologies, new energy vehicles have promoted the transformation and upgrading of energy, transportation, information, and communication infrastructure, and become the main direction of the transformation and development of the global automobile industry and an important engine to promote the sustained growth of the world economy. In 2021, China's new energy vehicles exceeded 3.5 million, a year-on-year increase of 1.6 times, and entered a stage of rapid growth. The

new energy vehicle industry has a strong development momentum and the competitiveness of enterprises has been greatly enhanced. However, it is still in a new stage of overlapping, convergence, and development. With the application and development of digital technology, digital economy is becoming a key force to reorganize factor resources and reshape economic structure, which has brought new impetus to cross-domain, cross-industry, and cross-departmental integration (coordination) development, especially digital technology makes innovation more cooperative and provides good internal and external conditions for innovation. The new energy automobile industry has become the only way for China to move from a big automobile country to a strong automobile country. It is the future development direction and trend of the automobile industry to promote its electrification, interconnection, and intelligence by using digital technology. Therefore, it is of great theoretical and practical value to explore the innovative cooperation and development of new energy automobile industry under the digital background, which is of great significance to accelerate the integration and development of digital economy and real economy.

## II. LITERATURE REVIEW

As the future development direction of automobiles, new energy vehicles are also important measures to deal with climate change and green development. Scholars have been paying attention to and exploring the innovative development of new energy automobile industry from different angles. On the one hand, in order to cultivate strategic emerging industries and strengthen energy conservation and emission reduction, policy guidance has played a vital role in the initial stage of the development of new energy vehicles. Li *et al.* (2021) studied the cooperative innovation game between upstream and downstream enterprises under the composite traction mechanism in the post-subsidy era, and held that the composite mechanism with multiple policies is more effective than the market mechanism guided by the double-point policy. And the driving factors are different under different mechanisms. Xu and Sun (2020) held that under the market mechanism, government subsidies, liquidated damages and income distribution coefficient can obviously drive cooperative innovation, while under government supervision, reasonable tax rates and administrative penalties are conducive to promoting the stability of cooperative innovation of new energy vehicles. In addition, Wu *et al.* (2021) thought in the "Industry-University-Research" cooperation mode of enterprises, universities and the government, the government's willingness to participate will

decrease with the increase of enterprises and universities' willingness to participate, and the incentive cost of the government will affect the government's willingness to participate. On the other hand, it is an important part for scholars to grasp the innovation and development of new energy automobile industry by exploring the influence of proximity on innovation and cooperation through innovation network. Yu *et al.* (2018) found that geographical, social and technological proximity can affect the cooperative innovation of enterprises to varying degrees. Among them, geographical proximity and cognitive proximity have little influence on Industry-University-Research cooperation of new energy automobile industry, while social proximity, organizational proximity and institutional proximity have positive effects on its innovation network according to Cao and Zhang (2023). And Wei *et al.* (2021) discovered that multi-dimensional adjacent preferential connection will promote the balance of innovation cooperation in the whole network. In addition, according to Xu *et al.* (2020), in the innovation network of new energy automobile industry, network characteristics, network connection strength and concentration will also affect innovation cooperation, and there are significant regional differences. Zhen *et al.* (2020) found that the strength of network connection has no significant effect on exploitative innovation, but has a significant inverted U-shaped effect on exploratory innovation, while network centrality has a significant positive effect on exploitative innovation and a significant inverted U-shaped effect on exploratory innovation, and the enterprise's ability to absorb knowledge plays a part of the intermediary and adjustment role.

In recent years, enterprises have seized the historical opportunity of the vigorous development of digital economy and accelerated the digital transformation. Yi and Cao (2022) found that digital transformation is becoming a new kinetic energy for enterprises to seek innovation opportunities, increase their competitive advantages and increase their growth. First of all, digitalization can promote the internal innovation of enterprises. Xu (2022), Song *et al.* (2022) discovered that enterprises have improved their dynamic capabilities, information sharing level and knowledge integration ability through digital transformation to further promote technological innovation of enterprises. But Zhang and Du (2022) put forward a more in-depth view that it only promotes the "increment" of enterprise technological innovation, but does not promote the "quality improvement" of enterprise technological innovation. Secondly, with the deepening of research, scholars began to pay attention to the influence of digitalization on the external innovation links of enterprises. Zynga *et al.* (2018) proposed the wide application of digital intelligence technology strengthens the open innovation connection between innovation subjects, and then breaks the traditional closed boundary of enterprises, making innovation flow between external environment and internal innovation activities of companies. According to Yuan (2023), digitalization can promote collaborative innovation in Industry-University-Research by affecting intellectual property protection and corporate absorptive capacity. Moreover, according to Aranja and Zaby (2019), and Lin *et al.* (2017), in the vicinity of higher digitization level, it is easy to realize the efficient circulation and effective matching of resources between regions, so as to strengthen the relationship between the cooperative subjects and benefit from knowledge spillover.

After summarizing the above literature, we can find that the research on innovation cooperation in new energy vehicle industry has a long history and is comprehensive, but there are still some shortcomings: (1) Under the background of digitalization, there is little research on the relationship between digitalization and innovation cooperation in new energy vehicles; (2) The research on innovation cooperation of new energy automobile industry mostly focuses on game analysis and innovation network of new energy automobile industry, and lacks the research on innovation cooperation from the perspective of micro-enterprises. Therefore, from the perspective of new energy automobile enterprises, this paper constructs a fixed effect model to explore the relationship between digitalization and innovation cooperation of new energy automobile, and expands the research content of innovation cooperation of new energy automobile industry, which is of great significance to the long-term development of new energy automobile industry.

## III. THEORETICAL REVIEW AND RESEARCH HYPOTHESIS

In the Research on Digital Transformation Index of Enterprises in China, Ezesen pointed out that with the wide application of technologies such as big data and cloud computing, the emergence of digital native enterprises makes the advantages of technology more and more obvious, and it is the only choice for enterprises to rebuild their business and expand their boundaries through digitalization. From the existing research, the influence of digital transformation on enterprise innovation cooperation, on the one hand, digital transformation promotes the strengthening of cooperative relations among subjects. The development of digital economy has shortened the time and space interval of cooperation among enterprises, promoted the spatial flow and diffusion of knowledge and information, and made cross-regional communication and interaction between innovation subjects more convenient according to Yuan (2023), can also achieve all-day, instant and lasting connection in Mazmanian (2013) report to promote more frequent exchanges and communication between innovation subjects, and then deepen cooperation between subjects and stabilize cooperative relations. In addition, the high transaction cost and opportunism caused by information asymmetry make it difficult for innovation subjects to maintain long-term cooperative relations. The development of a new generation of digital technology provides an opportunity to reduce the information asymmetry in the transaction process of enterprises according to Liu *et al.* (2022). Enterprises can not only process internal information through digital transformation, but also transmit information to market participants to realize the openness, connectivity and sharing of information from Pan and Gao (2022) report, can effectively improve the transparency of enterprise information and the quality of enterprise information disclosure, help reduce the degree of information asymmetry, enhance the degree of trust between enterprises, and lay a good foundation for cooperative innovation of enterprises according to Guo and Chen (2021). On the other hand, digital

transformation can better integrate and promote the optimal allocation and utilization of innovative resources. Digital transformation makes the relationship between innovation subjects closer, and further accelerates the overflow and diffusion of resources and knowledge. For example, Yuan (2023) proposed that cross-regional knowledge exchange in Industry-University-Research is more frequent under the digital background, which greatly disperses the risks in collaborative innovation in Industry-University-Research. In particular, the innovation-oriented digital platform can expand the allocation space of innovation resources, bring innovation subjects together better, and exchange innovation knowledge and resources across regions and fields, which is conducive to promoting innovation cooperation and digital transformation can effectively enhance the absorption capacity of enterprises, better promote innovation subjects to absorb and utilize knowledge exchange and resource exchange, further improve the success rate of innovation, and in turn also attract more innovation subjects to participate in innovation cooperation. Therefore, this paper puts forward the hypothesis:

The level of digitalization can positively promote the innovation cooperation of enterprises.

## IV. DATA AND RESEARCH DESIGN

### A. Sample Selection and Data Sources

This paper selects listed companies in the new energy automobile industry from 2012 to 2022 as research samples. First, the listed companies in the new energy automobile industry were screened out, and then 2,039 observations were finally screened out by eliminating companies that had been delisted and companies with missing data. Among them, the financial data of enterprises and the data of control variables come from China Tai an Database (CSMAR), and the data of innovation cooperation come from China National Intellectual Property Administration (CNIPA). In order to eliminate the influence of extreme value, the data obtained in this paper are truncated by 1% up and down.

### B. Model Design

Drawing on previous research literature, this paper constructs the following two-way fixed effect model to test the influence of digitalization on enterprise innovation cooperation:

$$\ln Partners_{it} = \alpha_0 + \alpha_1 DIG_{it} + \alpha_2 col_{it} + \mu_i + \gamma_t + \varepsilon_{it}$$

Among them, the explained variable, $\ln Partners_{it}$, represents the innovation cooperation of enterprises. the core explanatory variable, $DIG_{it}$, is the digitalization level of enterprises. And $col_{it}$ represents the control variable. $\alpha_1$ is the coefficient to be estimated, indicating the influence level of the core explanatory variables on the explained variables. If it is greater than 0, it means that the digitalization level can positively promote the innovation cooperation of enterprises. $\mu_i$ and $\gamma_t$ represent individual-fixed and time-fixed effects, respectively. $\varepsilon_{it}$ is random interference terms.

### C. Definition of Variables

#### 1) Enterprise innovation cooperation

At present, the research of enterprise innovation cooperation is mostly measured by cooperative innovation patents. This paper draws lessons from Li *et al.* (2023) and uses the number of external partners of the innovation subject to measure enterprise innovation cooperation.

#### 2) Digital level of enterprises

There are three ways to measure the level of enterprise digitalization. First, Yu *et al.* (2021) uses the proportion of the part related to enterprise digitalization in the intangible assets details at the end of the year to measure the digitization level. Secondly, a large number of researches are conducted to measure the digital transformation or digital level of enterprises by using the number or proportion of words frequency of digital related keywords in the annual report (Song *et al.*, 2022). And in Li *et al.* (2023), the frequency of digital related keywords is logarithmized to measure the level of digitization; The third is to obtain the digital level data of enterprises by means of questionnaire survey according to Liu *et al.* (2020). In this paper, Li *et al.* (2023) is used for reference, and the management analysis and discussion part of the company's annual report in the sample is searched, and the digital related keywords in this part are crawled through Python, and the sum of the frequency of these keywords is logarithmized to measure the digitization level.

#### 3) Control variables

Control variables are expressed as factors that may affect the explained variables; This article refers to the research about Li *et al.* (2023). According to the literature research, the control variables adopted in this paper are: enterprise Size (Age), profitability (ROA), equity concentration (Top10), financial leverage (lev) and fixed assets ratio (PPE). The main variables and their meanings are shown in Table I.

TABLE I: MAIN VARIABLES AND THEIR MEANINGS

| Variable | Meaning and measurement method |
|---|---|
| lnPartners | Enterprise innovation cooperation; The number of partners is measured by logarithm. |
| Digital | Digitalization level; The sum of digital keyword frequencies takes logarithm. |
| Size | Enterprise scale; Level of total assets. |
| Age | Enterprise age; Years of enterprise establishment. |
| ROA | Profitability; Return on shareholders' equity, that is, net profit/net assets. |
| PPE | Proportion of fixed assets; Fixed assets/total assets. |
| lev | Financial leverage; Asset-liability ratio, total assets/total liabilities. |
| Top10 | Equity concentration; The sum of the shareholding ratios of the top ten shareholders. |

## V. EMPIRICAL ANALYSIS

### A. Descriptive Statistical Analysis

Table II shows the descriptive statistical analysis results of the main variables, in which the minimum and maximum values of enterprise cooperative innovation are 0 and 2.773, and the mean and standard deviation are 0.466 and 0.692, respectively, indicating that the overall level of enterprise innovation cooperation is low, and most enterprises have not formed cooperative relations with other entities. The minimum and maximum values of digitization level are 0 and

5.525, respectively. The digitization level of different enterprises varies greatly, and the average value is 2.917, indicating that the digitization level is not high.

### B. Correlation Analysis

The correlation analysis of the main variables is shown in Table III, which shows the correlation between the main variables. The results show that there is a positive correlation between digitalization level and enterprise innovation cooperation.

TABLE II: DESCRIPTIVE STATISTICAL ANALYSIS OF MAIN VARIABLES

| Variables | N | mean | sd | min | max |
|---|---|---|---|---|---|
| lnPartners | 2,039 | 0.466 | 0.692 | 0 | 2.773 |
| Digital | 2,039 | 2.917 | 1.065 | 0 | 5.525 |
| Age | 2,039 | 19.97 | 5.766 | seven | 36 |
| Size | 2,039 | 141.0 | 279.4 | 3.963 | 1,956 |
| lev | 2,039 | 2.731 | 1.859 | 1.088 | 11.94 |
| ROA | 2,039 | 0.0432 | 0.164 | −0.996 | 0.376 |
| PPE | 2,038 | 0.210 | 0.114 | 0.00237 | 0.613 |
| Top10 | 2,039 | 0.536 | 0.148 | 0.188 | 0.921 |

TABLE III: CORRELATION ANALYSIS OF MAIN VARIABLES

| | lnPartners | Digital | Age | Size | lev | ROA | PPE |
|---|---|---|---|---|---|---|---|
| lnPartners | one | | | | | | |
| Digital | 0.200*** | one | | | | | |
| Age | 0.205*** | 0.148*** | one | | | | |
| Size | 0.339*** | 0.050** | 0.258*** | one | | | |
| lev | −0.112*** | −0.116*** | −0.193*** | −0.179*** | one | | |
| ROA | 0.052** | −0.0270 | −0.040* | 0.107*** | 0.105*** | one | |
| PPE | −0.0240 | −0.180*** | −0.095*** | −0.121*** | −0.058*** | −0.039* | one |
| Top10 | 0.0240 | −0.159*** | −0.179*** | 0.229*** | 0.051** | 0.165*** | 0.029 |

### C. Benchmark Regression

TABLE IV: BENCHMARK REGRESSION ANALYSIS (DIGITAL TRANSFORMATION AND INNOVATION COOPERATION)

| VARIABLES | (1) lnPartners | (2) lnPartners | (3) lnPartners |
|---|---|---|---|
| Digital | 0.130*** | 0.071*** | 0.052** |
| | (9.23) | (3.06) | (2.19) |
| Age | | | 0.015 |
| | | | (0.61) |
| Size | | | 0.001** |
| | | | (2.27) |
| lev | | | 0.014 |
| | | | (1.26) |
| ROA | | | −0.056 |
| | | | (−0.92) |
| PPE | | | 0.347 |
| | | | (1.26) |
| Top10 | | | 0.146 |
| | | | (0.75) |
| _cons | 0.086** | 0.204*** | −0.237 |
| | (1.96) | (3.45) | (−0.59) |
| Company FE | NO | YES | YES |
| Year FE | NO | YES | YES |
| N | 2038 | 2038 | 2038 |
| Number of code | 186 | 186 | 186 |
| adj.$R^2$ | 0.040 | 0.069 | 0.104 |

Robust *t*-statistics in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table IV shows the estimation results of this model. Among them, the first column in the table shows the regression analysis results of digitalization level and innovation cooperation without adding control variables or and fixing individuals and time; The second column shows the regression analysis results of fixed individuals and time without control variables; The third column shows the regression analysis results of adding control variables and also fixing individuals and time. The results show that there is always a significant positive correlation between the level of digitalization and innovation cooperation, regardless of whether the control variables are added or not, and the individual and time are fixed or not, and the level of digitalization can promote the innovation cooperation between enterprises and other entities. The first two columns are significant at the level of 1%, and the third column is

significant at the level of 5%. And according to the comparison of three cases, it is found that R squared value ranges from 0.040 to 0.104, it means that the fitting degree between digitalization level and innovation cooperation is better after adding control variables and fixed time effect, and the explanation of the explained variables is strengthened. From the economic point of view, if the digitization level increases by one unit (equivalent to a standard deviation of 1.065), the innovation cooperation of enterprises will be enhanced by about 0.055($1.065 \times 0.052$), which is equivalent to 11.8% of the average value of innovation cooperation of enterprises ($1.065 \times 0.052/0.466$), that is, if the digitization level increases by one unit, the innovation cooperation of enterprises will increase by 11.8%. The model hypothesis of this paper is verified.

### D. Heterogeneity Analysis

Because of the heterogeneity of enterprises, it may affect the impact of digital level on innovation cooperation. Therefore, this paper explores the impact of enterprise heterogeneity on the model from the nature of equity and enterprise scale, and the regression results are shown in Table V. The first and second columns in Table V show the heterogeneity of the ownership of enterprises, which are divided into non-state-owned enterprises and state-owned enterprises. By regression analysis, it can be found that when enterprises are state-owned enterprises, the level of digitalization can promote the innovation cooperation of enterprises, which is significant at the level of 1%; When it is a non-state-owned enterprise, although the estimation coefficient is greater than 0, the significance is less than 10%; Moreover, the estimation coefficient of digitalization in state-owned enterprises is 0.095, higher than that in non-state-owned enterprises, which shows that the influence of digitalization level on enterprise innovation cooperation is more significant and effective in state-owned enterprises compared with non-state-owned enterprises. The third and fourth columns show the influence of enterprise scale heterogeneity on the model. This paper draws lessons from Li *et al.* (2023). In this study, the average enterprise size is divided into two samples: large enterprises and small

enterprises. The third and fourth columns show the influence of large enterprises and small enterprises on the model respectively. Regardless of whether it is a large enterprise or a small enterprise, the estimation coefficient of digitalization level is at least 10%, but compared with small enterprises, the estimation coefficient of digitalization level of large enterprises is at 5% and that of small enterprises is at 10%, and the estimation coefficient of digitalization level of large enterprises is higher than that of small enterprises, that is to say, large enterprises have more resources and funds, and more capability of digital transformation and digital talents absorption, more capability of absorbing information and resources, to promote innovative cooperation among enterprises.

TABLE V: ANALYSIS OF ENTERPRISE HETEROGENEITY

| | (1) Non-state owned | (2) state-owned | (3) big business | (4) small business |
|---|---|---|---|---|
| VARIABLE | lnPartners | lnPartners | lnPartners | lnPartners |
| Digital | 0.028 | 0.095*** | 0.119** | 0.034* |
| | (1.37) | (2.89) | (2.35) | (1.86) |
| Age | 0.021*** | 0.004 | 0.005 | 0.013** |
| | (3.68) | (0.50) | (0.33) | (2.35) |
| Size | 0.001*** | 0.001*** | 0.001*** | 0.001 |
| | (5.33) | (5.37) | (5.64) | (1.02) |
| lev | 0.021** | 0.007 | 0.093 | 0.015* |
| | (2.23) | (0.25) | (1.21) | (1.80) |
| ROA | −0.039 | −0.125 | −0.110 | −0.033 |
| | (−0.53) | (−0.96) | (−0.53) | (−0.52) |
| PPE | 0.488*** | −0.433 | −2.013*** | 0.208 |
| | (2.69) | (−1.09) | (−2.83) | (1.21) |
| Top10 | 0.098 | 0.087 | 0.575 | 0.032 |
| | (0.66) | (0.27) | (1.42) | (0.22) |
| _Cons | −0.321* | −0.010 | −0.225 | −0.108 |
| | (−1.94) | (−0.04) | (−0.56) | (−0.73) |
| adj.$R^2$ | 0.079 | 0.152 | 0.245 | 0.029 |
| Company FE | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES |

$t$-statistics in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

*E. Robustness Test*

TABLE VI: ROBUSTNESS TEST

| | (1) | (2) | (3) |
|---|---|---|---|
| VARIABLES | lnPartners | lnPartners | lnPartners |
| L.Digital | | 0.062*** | 0.060*** |
| | | (3.27) | (2.99) |
| Digital | 0.052** | | |
| | (2.19) | | |
| Age | 0.015 | −0.009 | −0.018 |
| | (0.61) | (−0.26) | (−0.45) |
| Size | 0.001** | 0.001*** | 0.001*** |
| | (2.27) | (6.89) | (5.58) |
| lev | 0.014 | 0.010 | 0.006 |
| | (1.26) | (0.92) | (0.55) |
| ROA | −0.056 | −0.039 | −0.025 |
| | (−0.92) | (−0.60) | (−0.36) |
| PPE | 0.347 | 0.152 | 0.021 |
| | (1.26) | (0.82) | (0.10) |
| Top10 | 0.146 | 0.091 | 0.212 |
| | (0.75) | (0.63) | (1.29) |
| Constant | | 0.198 | 0.343 |
| | | (0.35) | (0.49) |
| Individual fixation effect | control | control | control |
| Time-fixed effect | control | control | control |
| N | 2038 | 1,852 | 1666 |
| adj.$R^2$ | 0.104 | 0.097 | 0.085 |

According to the previous literature research, in this paper, the digitization level is delayed by one period and two periods respectively as an index to measure the digitization level for robustness test, and the test results are shown in Table VI. The second and third columns in Table VI show the regression results with a lag of one period and two periods, respectively. The influence of digitalization level on enterprise innovation cooperation is significant at the level of 1%, and the estimation coefficient of digitalization level is also positive, indicating that the benchmark regression results are still stable, and the digitalization level of enterprises can positively promote enterprise innovation cooperation.

## VI. MAIN CONCLUSIONS AND POLICY IMPLICATIONS

Based on the data of listed companies of new energy vehicles from 2012 to 2022, this paper constructs a fixed effect model to explore the relationship between digitalization level and innovation cooperation, and concludes that digitalization can positively promote innovation cooperation of new energy vehicle enterprises, and the conclusion is still valid after a series of robustness tests. Heterogeneity research shows that compared with non-state-owned enterprises, the digitalization level of state-owned enterprises can significantly promote the innovation cooperation of enterprises; Compared with the scale of enterprises, the role of digital level in enterprise innovation cooperation is more obvious in large enterprises. And in the research, it is found that the digitalization level and the average value of innovation cooperation of new energy automobile enterprises are low, and most enterprises have low digitalization level and low innovation cooperation with other entities.

Digital economy is becoming a new driving force for China's economic development. It is of practical significance for the long-term development of new energy vehicles to understand the law of innovation and cooperation of new energy vehicles under the background of digitalization, and it is also of reference significance for realizing the deep integration of digital economy and real economy. According to the conclusions drawn in this paper, the following inspirations can be drawn: (1) Accelerating the construction of digital infrastructure, increasing the publicity of digital transformation and supporting the digital transformation of enterprises are still the key tasks at this stage. In particular, the support of digital transformation about non-state-owned enterprises and small-scale enterprises should be increased; (2) Encourage and support innovation cooperation and coordinated development among innovation subjects. The government should introduce corresponding policies to encourage enterprises to accelerate collaborative innovation and achieve integrated development. (3) Enterprises themselves should speed up digital transformation and use digital technology to help the development of innovation activities. In particular, the use of digital technology to strengthen exchanges and cooperation between cooperative entities, better integrate knowledge, resources, and information, and promote innovation performance, thereby to attract more innovative cooperative entities and form a good cycle.

## CONFLICT OF INTEREST

The author declares no conflict of interest.

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