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The Impact of Serial Creator’s Learning on Their Crowdfunding Performance: A Panel Data Analysis Based on Indiegogo

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Abstract: With the booming development of Internet finance, crowdfunding as an emerging financing model has gained the favor of many entrepreneurs. Some studies on the influencing factors of crowdfunding performance have been conducted in academia, but most of them stay at the level of a single crowdfunding project. Therefore, we have investigated the impact of serial creator’s learning on the crowdfunding performance of subsequent projects based on entrepreneurial learning theory, and have delved into the direct effects of different learning experience context on crowdfunding performance and their moderating effects on the relationship between learning and crowdfunding performance. The results show that none of the direct experience context has significant effects on crowdfunding performance, and only the direct learning interval positively moderates the relationship between direct learning and crowdfunding performance. The indirect experience context has a significant effect on crowdfunding performance, and both indirect experience richness and learning interval negatively moderate the relationship between indirect learning and crowdfunding performance. This paper provides a new perspective on the factors influencing the performance of serial crowdfunding, and has implications for the subsequent entrepreneurial behavior of creators and successful financing.

Keywords: Crowdfunding, Learning, Serial Creator, Panel data, Indiegogo

1. INTRODUCTION

In recent years, Internet finance has grown rapidly and is widely used in various fields. Crowdfunding, as one of the Internet business models, breaks the traditional financing model by using an online platform to raise funds for a particular project, lowering the threshold of funding and investment. As a result, the market size of the crowdfunding industry has rocketed, with the number of global online crowdfunding platforms growing nearly tenfold from 2009 to 2019 [1]. However, the growth of crowdfunding project financing performance has not been nearly as fast as its market growth. Even Kickstarter, the world’s largest crowdfunding platform, can only achieve a success rate of about 35%, with a large number of projects raising only 20% of their target funding. To help entrepreneurs improve their crowdfunding performance, scholars are currently exploring the factors influencing crowdfunding success from a variety of perspectives. Nonetheless, most of the studies on crowdfunding have remained at the level of single crowdfunding or macro perspective of crowdfunding projects, and then to explore the factors that affect the performance of financing. In fact, since many startups have funding problems that cannot be solved by a single crowdfunding campaign, in recent years, the crowdfunding industry has seen an increase in the number of creators raising funds through multiple serial initiations who are defined as serial creators by scholars.

Serial creators can accumulate certain learning experience and social capital, etc. through multiple funding initiations, and apply the fundraising skills, lessons learned and audience attracted during the operation of past initiations to subsequent crowdfunding campaigns, which can effectively improve the crowdfunding
performance of the project. Some scholars have gradually focused on the impact of serial creators’ learning experience on crowdfunding performance, and findings suggest that running multiple businesses helps serial entrepreneurs develop their management skills as they accumulate more experience, thus increasing the duration of serial entrepreneurs’ next venture [2]. Yang’s empirical results also suggest that serial entrepreneurs not only gain direct learning experience by initiating their own projects gaining direct learning experience, but also indirect learning experience by funding others’ projects, and that the effect of direct experience is relatively higher than that of indirect experience [3]. Although preliminary evidence has been provided on the importance of serial creator learning on crowdfunding performance, these studies have focused only on the direct effect of learning experience on crowdfunding performance, ignoring the important effects of different experience context and time variables in serial crowdfunding activities, which becomes apparent as the number of direct or indirect learning of creators increases. Thus the previous findings are limited and the joint role of serial creator learning and learning experience context on crowdfunding performance should be considered simultaneously.

In order to fill the gaps of the studies above, we decide to focus on the learning behavior of serial creators themselves, introduce entrepreneurial learning theory, divide learning behavior into direct and indirect learning, and explore their direct effects on crowdfunding performance, as well as the moderating effects of direct and indirect experience context on the relationship between serial creators’ learning and crowdfunding performance. Meanwhile, 12,130 projects initiated by 3,398 serial creators in the reward-based crowdfunding website Indiegogo are studied to construct panel data for empirical analysis. This study contributes to both theoretical and practical aspects. First, compared to previous studies based on single crowdfunding projects, we build a panel model with multiple projects of serial creators to analyze the influencing factors of crowdfunding performance from a dynamic perspective, which enriches the research in the field of serial crowdfunding. Second, we integrate entrepreneurial learning theory into the serial crowdfunding context, specifically exploring the importance of direct and indirect learning behavior of creators and find that different learning experience context can have an impact on learning outcomes. Finally, we provide serial creators of crowdfunding platforms with practical insights related to initiating and supporting projects to enhance the funding performance of their subsequent crowdfunding projects.

2. LITERATURE BACKGROUND AND HYPOTHESIS

2.1 Crowdfunding and crowdfunding performance
Crowdfunding is a new funding model in which entrepreneurs raise funds from users who are interested in their entrepreneurial projects with the help of Internet channels [4]. Crowdfunding can be divided into donation, lending, reward, and equity categories based on the dynamics of the investor’s perspective. In this paper, we choose reward-based crowdfunding, which currently has the highest market share, as the object of study. Crowdfunding performance is a reflection of the success of such entrepreneurial activities. Currently, scholars have mainly explored the factors influencing crowdfunding performance from three perspectives: project-based attributes, creator characteristics, and interactive behavior of the creator and funders.

For example, Wang Wei used rooting theory to classify project language styles into five categories and found that different project categories should use different optimal language styles to influence funders’ prediction of project prospects and investment intentions [5]. SkirnevskiyV et al. confirmed that the number of projects a creator has initiated has a positive effect on crowdfunding performance [6]. Wang Yan argued that online interactions between creators and funders, such as the number of comments and updates on a project, also have a positive effect on crowdfunding success [7].

These previous studies can only illustrate crowdfunding performance from a static perspective, with studies on stand-alone single crowdfunding projects. However, as a matter of fact, as originators of crowdfunding
platforms create their own projects or fund others’ projects, they are able to learn knowledge and skills, and the accumulation of these experience affects their subsequent crowdfunding activities. Thus, the process by which crowdfunding performance is influenced is dynamic for the same creator. We explore how serial creators accumulate effective experience over time and enhance funding performance from a dynamic perspective.

2.2 Serial creator

A serial creator is an creator who has initiated a project in the past. Existing research has preliminarily confirmed that serial creators are more likely to achieve success in crowdfunding than first-time project creators, especially when serial creators have had experience in successful entrepreneurship. This is because serial creators can learn from their past experience and gain valuable resources that can improve their competitiveness and entrepreneurial performance in subsequent entrepreneurial activities [9]. Research on serial creators is still in its infancy and is being explored within the academic community around the effects of pre-project performance, post-project quality, time distance, creator social capital and creator experience on crowdfunding performance.

For example, Chen Yanyan et al. found that the performance of early projects and interactive performance had significant effects on the fundraising performance of later projects, but in very different ways [9]. Jianghong Zeng and Fan Shi verified that serial creators’ internal social capital positively influenced subsequent project crowdfunding performance, while time interval positively moderated the relationship between internal social capital and early resource acquisition [10]. Yang and Wang et al. all preliminarily demonstrated a positive relationship between serial creators’ past experience in initiating and supporting projects and crowdfunding success [3][11]. Kuppuswamy argued that the gender of serial creators affects the next entrepreneurial behavior [12].

It follows that some entrepreneurial characteristics of the serial creators themselves give rise to learning behavior and have a significant impact on crowdfunding performance. Therefore, we introduce entrepreneurial learning theory to further explain the learning behavior of creators.

2.3 Entrepreneurial learning theory

The entrepreneurship literature has found that the act of learning and accumulating experience in the entrepreneurial process is called entrepreneurial learning, which is carried out throughout the entrepreneurial process and has a crucial role in influencing the outcome of the venture. This learning behavior can be divided into direct and indirect learning, and in the context of crowdfunding, serial creators learn not only directly by initiating their own projects, but also indirectly by funding others’ projects. Learning by serial creators can dynamically demonstrate how the knowledge skills, social capital, and other experience accumulated in the past influence subsequent crowdfunding activities over time. Yang and Hahn also found that both direct and indirect learning by serial creators positively influenced subsequent crowdfunding success, and that the effect of direct learning was relatively higher than that of indirect learning [3].

Although existing research has provided preliminary evidence that serial creator learning has a positive impact on crowdfunding performance, few studies have paid attention to whether the impact of learning behavior on crowdfunding performance changes across learning experience context. Moreover, learning is a dynamic and serial process, so studies focusing only on a single crowdfunding campaign cannot fully reveal the mechanism by which serial creator learning affects crowdfunding performance.

2.4 Hypothesis

In the context of crowdfunding, the act of entrepreneurs learning from their own entrepreneurial activities and thereby gaining direct experience is called direct learning [3]. More specifically, crowdfunding platforms enable creators to receive timely feedback through comments or personal messages from backers. When creators receive positive performance feedback, they tend to repeat their previous strategies with the expectation of subsequent success. Otherwise, they may be more inclined to explore alternative courses of action. Hence, we purpose the hypothesis as below:
H1: Direct learning behavior of serial creators positively affects the crowdfunding performance.

Except amount of experience, we argue that experience context such as experience richness, time interval between learning behavior, and diversity of experience also have a significant impact on learning effectiveness.

The number of project categories initiated by serial creators in the past indicates the level of involvement of the entrepreneur in the project, which can be conceptualized as direct experience richness [3]. Crowdfunding campaigns, serial creators are exposed to different project framework styles, reward scheme designs, and interactions with backers from different backgrounds from the different categories of projects they have initiated, which helps creators learn in depth how the various components of the different categories combine and work with each other and are less likely to form path dependencies. Serial creators often need to make more decisions and spend more time and efforts when initiating a project on their own, and thus the resulting learning experience usually leaves a deep impression, which can also trigger a drawback: when the time interval between the previous and subsequent initiations is too short, the creator may be easily influenced by the previous initiation and habitually adopt similar strategies or programs, ignoring the important information and features of the project itself. This has a negative impact on the subsequent crowdfunding performance [10]. Serial creators can initiate projects in various categories, and the evenness of the distribution of the number of projects in each category in terms of the total number can be conceptualized as direct experience diversity [3]. When the diversity of direct experience of an entrepreneur is high, it is easier to re-integrate and absorb the accumulated diverse knowledge, uncover the strategic characteristics of different categories of projects and develop suitable personalized solutions by combining their own project information. Otherwise, even if the number of initiated categories is large, the knowledge in them cannot be effectively utilized, it may even instead produce bad results because the experience is too homogeneous. Hence, we purpose the hypothesis as below:

H2: Direct experience richness (H2a), direct learning interval (H2b) and direct experience diversity (H2c) positively affect the crowdfunding performance. When the direct learning richness (H2d) or direct learning interval (H2e) or direct learning diversity (H2f) of serial creators is higher, the effect of direct learning on crowdfunding performance is stronger.

The act of indirect experience gained by the creator through supporting other entrepreneurs’ initiatives is called indirect learning [3]. In indirect learning, creators observe the entrepreneurial activities of others and their associated consequences and relate these observations to their likely scenarios of success or failure. When they observe the successful/failed initiatives of others, creators infer behavior that may lead to positive/negative outcomes and may repeat/avoid similar actions in future actions. Hence, we purpose the hypothesis as below:

H3: Indirect learning behavior of serial creators positively affects the crowdfunding performance.

Although both direct and indirect learning have positive effects on crowdfunding performance, the strength of their effects may differ. The results of Yang and Hahn’s study suggest that entrepreneurial experience has a greater impact on the likelihood of success of crowdfunding projects than financing experience [3]. That means, direct learning is more effective than indirect learning. And because of this, direct experience context may also has a completely different impact on crowdfunding performance compared with indirect experience context.

Similar to direct experience richness, the number of project categories supported by serial creators in the past can be conceptualized as indirect experience richness. Because indirectly learned knowledge is less deep and specialized and less likely to observe core strategies, the more categories of projects a serial creator supports, the lower the quality of knowledge gained may be, thus hindering the creator’s learning process. Conversely, creators who focus on supporting a fixed category of projects are more familiar with such projects and thus have a more accurate understanding of funders’ preferences, and are more likely to achieve success. Instead of initiating a project on their own, serial creators tend to spend less time and energy thinking about supporting a project, and thus the learning experience generated by indirect learning does not have a very profound impact on
the creator, and the only way to maximize its usefulness is to seize the time and put it to good use in a timely manner. As the time interval increases, the advantage of indirect experience accumulated by serial creators may gradually disappear, and the utility of the resources brought by it may weaken, or even be affected by memory bias, resulting in unsatisfactory crowdfunding performance. The distributional uniformity in the total number of projects in each category supported by serial creators can be conceptualized as the diversity of indirect experience. In the context of IT-supported crowdfunding, each time a crowdfunding project is initiated, new and innovative ideas need to be developed. When the creators have supported too many and too diverse categories of projects, the indirect learning may disrupt the original strategies formulated by the creators and lead to poor crowdfunding performance, which is not conducive to the effective performance of the indirect learning experience. Hence, we purpose the hypothesis that:

H4: Indirect experience richness (H4a), indirect learning interval (H4b) and indirect experience diversity (H4c) negatively affect the crowdfunding performance. When the indirect learning richness (H4d) or indirect learning interval (H4e) or indirect learning diversity (H4f) of serial creators is lower, the effect of indirect learning on crowdfunding performance is stronger.

3. RESEARCH METHOD AND DATA

3.1 Data source and sample selection

We selected Indiegogo, one of the largest crowdfunding platforms in the world, as the data source, and used Python to collect 12,021 projects that have closed funding as of March 2021, screened out 7,087 serial creators, and crawled the details of all the projects that these serial creators had initiated and supported, in which a total of 23,507 projects were initiated and 12,647 projects were supported. In addition, in order to make the data more rigorous and reasonable and the conclusion more reliable, we eliminated 23 projects with invalid data due to five reasons: (1) project URL contains ‘int’ type data; (2) project URL can no longer be found; (3) update times contains ‘string’ type data; (4) project title contains ‘int’ type data; (5) target funding amount contains ‘string’ type data. Finally, 3398 serial creators with number of initiation larger than 1 and number of support larger than 0 were filtered out from the updated data table, involving 12,130 projects.

3.2 Variable definition and model setting

In most studies on the factors influencing crowdfunding financing performance, the successful achievement of a crowdfunding project’s target fundraising amount is seen as a marker of crowdfunding success, whereas Yang and Hahn argued that the funding percentage captures the degree of success better than a simple binary variable (i.e., success versus failure)\(^3\), and therefore we use the funding percentage of a crowdfunding project as a measure of crowdfunding performance, and several key project attributes (number of images, number of videos, target funding amount, funding period, number of project updates, number of Facebook friends, number of commented on, number of supporters) as control variables. Besides, we use the number of the past projects initiated and the number of the past projects supported by serial creators to represent their past direct and indirect learning, which implies that the learning experience possessed at each project initiation is dynamic, and ordinary cross-sectional data cannot measure the dynamic impact of learning on subsequent crowdfunding performance, so we use a panel model to construct an unbalanced short panel data for subsequent analysis.

<table>
<thead>
<tr>
<th>Variable Description</th>
<th>Measurements</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crowdfunding Performance</td>
<td>Project funding percentage</td>
<td>Funding amount/target funding amount*100</td>
</tr>
<tr>
<td>Direct Learning</td>
<td>Number of projects initiated</td>
<td>Number of past projects initiated by serial creator</td>
</tr>
<tr>
<td>Indirect Learning</td>
<td>Number of projects supported</td>
<td>Number of past projects funded by serial creator</td>
</tr>
<tr>
<td>Direct Experience Context</td>
<td>Direct learning interval</td>
<td>Interval between last launch and current launch</td>
</tr>
</tbody>
</table>
4. DATA ANALYSIS AND RESULT

4.1 Descriptive statistics and correlation tests

Descriptive statistics on the raw data show that the total amount of all projects raised is $199,770,000 and the number of contributors reaches 2,126,053. Among them, the maximum number of projects initiated by the creators in the past is 196, the maximum number of projects supported in the past is 20, the maximum number of project categories initiated in the past is 13, and the maximum number of project categories supported in the past is 12. In order to avoid heteroskedasticity, variables with large standard deviations are logarithmically processed in this study to eliminate the differences between variables. Correlation analysis of all variables in this paper shows that the correlation coefficients between all variables are basically less than 0.7, and the VIF values are basically less than 6, indicating that there is no multicollinearity among the variables.

4.2 Fixed effects regression analysis

We use Stata 16.0 statistical software to perform a series of tests on the panel data to select the most appropriate model for it. Ultimately, we determine that the fixed effects model outperforms the random effects model through the Hausman test. The regression results of models 1-5 are illustrated in Table 2. Model 1 shows that, except for number of images, number of videos, and number of updates, other control variables have significant effects on funding percentage. We put control variables in all subsequent models, and the results did not change significantly and are not shown in the table due to space limitations.

Model 2 shows that number of past projects initiated (DL), positively and significantly affects crowdfunding performance, while number of past projects supported (IL), does not have a significant effect on crowdfunding performance in this model, but after adding experience context variables in models 3-5, it has a positive and significant effect on crowdfunding performance. H1 and H3 are supported. And by comparing the regression coefficients it can be seen that the effect of direct learning is relatively higher than the effect of indirect learning. In model 3, direct experience richness (DER) has no significant effect on crowdfunding performance, and indirect experience richness (IER) negatively affects crowdfunding performance, so H2a is not supported and H4a is supported. Model 4 demonstrates that direct learning interval (DLI) has insignificant effect on crowdfunding performance, and indirect learning interval (ILI) negatively affects crowdfunding performance, so H2b is not supported and H4b is supported. Model 5 shows that direct experience diversity (DED) does not have a significant effect on crowdfunding performance, and indirect experience diversity (IED) negatively affects crowdfunding performance, so H2c is not supported and H4c is supported.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>-0.024***</td>
<td>0.049***</td>
<td>0.047**</td>
<td>0.039***</td>
<td>0.048***</td>
</tr>
<tr>
<td>NB</td>
<td>0.905***</td>
<td>0.005</td>
<td>0.057**</td>
<td>0.032***</td>
<td>0.020**</td>
</tr>
<tr>
<td>NFF</td>
<td>1.829***</td>
<td>0.009</td>
<td>-0.079**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FP</td>
<td>-0.077***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Results of direct effects regression analysis
In model 7, the multiplication of number of past initiated projects and direct experience richness (DER * DL), and multiplication of number of past initiated projects and direct experience diversity (DED * DL) are not significant, so H2d and H2f are not supported. The multiplication of number of past projects initiated and interval (DLI * DL) is significantly correlated with crowdfunding performance, therefore H2e is supported. To further explain the moderating effect, we did a simple slope test. From Figure 1, we can see, the longer the time interval, the stronger the effect of number of past projects on crowdfunding performance, and this difference keeps getting larger as the number of projects initiated increases.

Table 3. Results of moderation effects regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 6</th>
<th>Model 7</th>
<th>Variable</th>
<th>Model 8</th>
<th>Model 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL</td>
<td>0.054**</td>
<td>0.085***</td>
<td>IL</td>
<td>0.081**</td>
<td>0.090***</td>
</tr>
<tr>
<td>DER</td>
<td>0.002</td>
<td>-0.081</td>
<td>IER</td>
<td>0.040</td>
<td>0.041</td>
</tr>
<tr>
<td>DLI</td>
<td>0.001</td>
<td>-0.003</td>
<td>ILI</td>
<td>0.018***</td>
<td>0.025***</td>
</tr>
<tr>
<td>DED</td>
<td>-0.001</td>
<td>0.002</td>
<td>IELD</td>
<td>-0.034***</td>
<td>-0.037**</td>
</tr>
<tr>
<td>DER * DL</td>
<td>-0.027</td>
<td>IER * IL</td>
<td>-0.218*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLI * DL</td>
<td>0.029***</td>
<td>ILI * IL</td>
<td>-0.030**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DED * DL</td>
<td>0.063</td>
<td>IED * IL</td>
<td>0.071</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob &gt; F</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
<td>0.0000</td>
</tr>
<tr>
<td>within R2</td>
<td>0.7101</td>
<td>0.7103</td>
<td>0.7102</td>
<td>0.7101</td>
<td>0.7102</td>
</tr>
</tbody>
</table>

In model 9, the multiplication of number of past funded projects and indirect experience diversity (IED * IL) is not significant, so H4f is not supported. The multiplication of number of past projects supported and indirect experience richness (IER * DL), and multiplication of number of past projects supported and the time interval (ILI * IL) are significantly and negatively related to crowdfunding performance, indicating that indirect experience richness and indirect learning interval significantly and negatively moderate relationship between indirect learning and crowdfunding performance, so H4d and H4e are supported. As Figure 2 illustrates, the lower richness, the stronger the positive effect of number of past projects supported by serial creators on crowdfunding performance, and this difference keeps getting larger as the number of supported projects increases. As shown in Figure 3, compared to the longer time interval, the shorter the interval, the stronger the positive effect of number of past projects supported by serial creators on crowdfunding performance, and this difference keeps getting larger as number of supported projects increases.
4.3 Robustness test

The model was tested by replacing the basis for determining crowdfunding performance with the success of the project, and the results showed that the significance of the core variables was essentially the same, except for a change in the direction of the moderating effect of the direct learning interval. In addition, the second set of empirical diversity variables, originally measured by Simpson’s index, was replaced and the results remained unchanged. Finally, in order to ensure the authenticity of the data, we did not do special treatment on the observation of projects, but in the actual fundraising process, there may be cases that the fundraising percentage and the number of initiated projects exceed the normal value due to the serial creators being team start-ups or having organizational support. For this reason, we regressed the original data set again after outlier processing and obtained the same results. In summary, the analysis results of this paper are overall more robust.

5. DISCUSSION

5.1 Main conclusions

The purpose of this study is to understand: (1) the impact of serial creators’ learning on their subsequent project crowdfunding performance and (2) the impact of different learning experience context on learning effectiveness. Based on the results of data analysis, the proposed hypotheses were partially supported.

It was found that, first, the learning behavior of serial creators in their past participation in projects plays an important role in improving the crowdfunding performance of subsequent projects, and the impact of direct learning is relatively higher than the impact of indirect learning, implying that initiating a project on one’s own results in more gains in future fundraising performance than supporting a project.

Second, compared with indirect learning, the direct experience learned by initiating a project is more solid, and different direct experience context is less likely to affect subsequent crowdfunding performance. While the moderating effect of direct experience richness and diversity is not significant, indirect experience richness does have a significant negative moderating effect, probably because creators gain more by initiating projects than by funding them, and the learning experience they learn from their own projects is more specific and detailed, and less likely to influence the choice of subsequent project strategies because of their broader exposure to knowledge; meanwhile, each entrepreneurial activity requires the development of new ideas, and neither the variety nor the richness of previous experience can ensure the continued success of entrepreneurial activities.

Third, the accumulated indirect experience is forgotten more quickly, being short-term memory knowledge, especially as number of experience increases, the shorter indirect learning interval the more performance can be improved. Conversely, direct experience has a stronger impact on crowdfunding performance and requires more
time to digest and assimilate the acquired knowledge, so only when the interval between two funded projects is longer can the creators keep their innovative thinking from being confined to the previous entrepreneurial activity, thus enhancing the positive impact of direct learning on crowdfunding performance.

5.2 Theoretical implications

First, we enrich the research findings on the analysis of factors influencing serial crowdfunding funding performance. Although previous studies have explored the influencing factors of crowdfunding performance from the perspectives of creator information, project-based attributes, and online interactions between creators and funders, most of these studies have focused on individual crowdfunding projects and ignored the importance of serial crowdfunding. We introduce entrepreneurial learning theory and explore the impact of learning behavior on subsequent crowdfunding performance from a dynamic perspective by studying multiple serial projects of serial creators and developing a panel model. The results of the study successfully demonstrate that both direct and indirect learning of the creators are important influences on crowdfunding performance, and that direct learning has a greater impact. We also find that different indirect learning experience context has an effect on crowdfunding performance, and that too rich and diverse funding experience may inhibit crowdfunding performance, while direct experience context does not have this effect.

Second, we explore the interaction effects of learning experience context and learning, providing a new perspective for research related to creator learning. Previous studies have only concluded that there is a positive effect of serial creators’ learning experience on crowdfunding success; few scholars have focused on the moderating role of the context of learning experience between the two. We added experience richness, diversity, and time interval as different experience context variables to the model, and the results showed that the effect of whether the initiated projects were rich or diverse on the direct learning effect was not significant, and only the time interval between two initiated projects was something that required special attention of the creators. Both the richness and time interval of the funded items had a negative effect on the effect of indirect learning.

Finally, we enrich the application of the panel data model to the field of serial crowdfunding research. Previously, not many studies have applied panel data models to the field of crowdfunding, which are basically based on the level of individual crowdfunding projects to explore funder behavior or information hiding behavior of funders. In this paper, from the perspective of serial funders, we use the number of initiations as a time series to investigate how different context of direct/indirect learning and learning experience of funders affect their subsequent entrepreneurial behavior and outcomes as the number of initiations increases.

5.3 Practical implications

We provide some guidance on the financing behavior of serial creators in crowdfunding platforms. First, serial creators should draw lessons from projects they have initiated and supported in the past, and pay more attention to past initiation experiences in particular, and the knowledge gained either from their own projects or from the projects of others can be a positive guide for subsequent projects. Second, the knowledge gained by serial creators through supporting others’ projects is not solid and specific enough, creators should try to choose the same category of projects to fund, otherwise it is easy to lose the sense of direction, and fail to choose a funding strategy that best suits their own projects. And the shorter the time between their last contribution and their next project initiation the more likely they are to achieve higher crowdfunding performance. Third, serial funders should not blindly measure their experience based on the number of projects they have initiated and supported, as this is prone to cognitive bias, and the level of crowdfunding performance may be influenced by different learning experience.

5.4 Limitations and future research

We note two limitations of this study that can provide directions for future research. First, the sample data in this study were all sourced from the Indiegogo website, which indicates that future studies could be extended
to multiple other platforms for data collection. Besides, there are a small number of serial creators with a high funding percentage or number of initiations in the data of this study, which may be related to factors such as the social capital accumulated by creators, whether they are team start-ups and whether they have organizational support, and future studies can add the variables above to the model for in-depth explopercentage.

ACKNOWLEDGEMENT

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