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scientific papers

Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration 2023, 31(1), 1650.

DOI: 10.46585/sp31011650
editorial.upce.cz/SciPap

# Unlocking User-driven Innovation and Sustainable Competitive Advantage through Partnership: An Open Innovation Perspective

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**Abstract**

This study addresses a research gap in the impact of partnerships on marketing performance in B2B digital start-ups in Indonesia. Although partnerships have been extensively studied from an innovation theory perspective, there still needs to be more research on how combining the advantages of the two, technology and partnerships, can increase the impact of innovation, such as user-driven innovation. The study proposes to explore user-driven innovation as a mediating variable from the perspective of open innovation theory, which can facilitate the relationship between partnerships and marketing performance in B2B digital start-ups in Indonesia. Structural Equation Modeling tests four hypotheses and uses a sample of 262 digital start-ups on Java Island-Indonesia. The result demonstrates two strategic pathways to enhance marketing performance, user-driver innovation and sustainable competitive advantage. This study introduces the role of user-driven innovation in enhancing marketing performance.

**Keywords**

User-driven Innovation, Partnership, Open Innovation, Sustainable competitive advantage, Start-up performance

**JEL Classification**

M13, M31

## Introduction

The Covid-19 pandemic has resulted in decreased purchasing power (Arslan et al., 2022) and changes in customer behaviour (Zwanka et al., 2021) , which has made it difficult for established and new organizations, including digital startups. Startups, in particular, need more resources, including capital and market information (Cantamessa et al 2018), to maintain consistency in the market. Startups must ensure growth in new users, market expansion, and sales (Gotteland et al., 2020). Therefore, startups need strategies to collect customer and market information, maximize their technological advantage, and commercialize innovation (Dwivedi et al., 2021). Startups can achieve these goals through formal collaborations such as partnerships.

Partnerships can benefit companies by improving performance (Rezaei et al., 2015); reduce the risk of failure (A. Butt, 2021); develop the quality of new products (H.-M. Liu, 2021); expand product range (Kant Hvass et al., 2019); adaptability to market changes (Y. Liu et al., 2019). However, not all partnerships lead to improved performance, as studies have shown conflicting results. For example, Rezaei et al. (2018) conducted a study of 279 SMEs in the high-tech industry in the Netherlands and found that partnerships did not have a positive impact on marketing performance . Gao et al. (2017) investigated 262 logistics companies and found partnerships did not significantly affect company performance. Gu and Su (2018) revealed that 132 low-carbon business partnerships had no impact on performance, as in recent research (Shin et al., 2019). On the other hand, some studies report different results. Cho et al. (2018) found that partnerships positively affect firm performance. These conflicting findings indicate a gap in empirical research and the need for further investigation.

Partnership failure can be a complicated problem due to different motivations and goals, resulting in an imbalanced relationship (Karasik, 2019), distrust (Raza-Ullah et al., 2020), and high opportunistic behaviour (Guerrero et al.,

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2021), especially in technology-based startups. Startups often rely on technology push to create and commercialize innovations without market pull, leading to a lack of market information (Guo et al., 2020). Cantamessa et al. (2018) found similar results using the SHELL method. The obstacle for startups developing innovation is the need for market information (Cantamessa, Gatteschi, Perboli, & Rosano, 2018). This results in innovations that attract customers but do not encourage them to switch to using the products and services offered. Companies must consider partners' potential as external resources for innovation development. Therefore, there is a call to conduct further research on innovations on a partnership basis.

Innovation is based on a company's internal capabilities and openness to external factors (H. Chesbrough, 2019). Innovation is no longer confined to a company's internal capabilities. External factors such as collaboration, partnerships, and knowledge sharing have become critical drivers of innovation. Chesbrough (2019) Companies should actively seek external inputs and collaborate with external partners to access a broader knowledge base, reduce time-to-market, and increase the likelihood of successful innovations. Startups must balance internal and external resources to create innovations that meet customer needs (Brunswicker et al., 2015). Startups often face resource constraints, so tapping into internal and external resources to drive innovation is essential. Brunswicker et al (2015) highlight that startups can acquire necessary resources by forming alliances or engaging in acquisitions. By leveraging external resources and expertise, startups can access complementary technologies, expand their knowledge base, and develop innovations that align with customer needs. Open innovation can help reduce partnership failure by involving partners in innovation (West et al., 2014). Involving partners in the innovation process through open innovation practices can enhance collaboration and mitigate the risk of partnership failure. West et al (2014), discuss the challenges of open innovation and highlight its benefits in their study on open-source software. They argue that engaging partners in the innovation process fosters a sense of ownership and commitment, leading to better collaboration and reducing the likelihood of partnership failure.

Open innovation practices such as co-creation, crowdsourcing, and joint development enable partners to contribute their expertise actively, reducing the potential for misalignment or conflicts. Therefore, innovation can mediate the relationship between partnerships and performance (Laursen et al., 2006). Innovation plays a crucial mediating role in the relationship between partnerships and performance. Laursen et al (2006) study on UK manufacturing firms investigates the impact of openness on innovation performance. They find that firms engaged in open innovation practices, including partnerships and collaborations, tend to achieve higher performance. The study suggests that partnerships contribute to innovation outcomes, which, in turn, positively affect a firm's overall performance. By leveraging partnerships to drive innovation, firms can enhance their competitive advantage, market position, and performance.

As explained above, this study aims to answer the following research questions: Can user-driven innovation mediate partnership and marketing performance? What is the causal relationship between user-driven innovation, sustainable competitive advantage, and marketing performance?. This study investigates whether user-driven innovation can mediate partnership and marketing performance and explores the causal relationship between user-driven innovation, sustainable competitive advantage, and marketing performance. To test the research model, a B2B digital startup in Indonesia was chosen because startups are associated with innovation and partnerships and have contributed to the shift of customers from offline to online in Indonesia. This study can expand the innovation literature through user-driven innovation and help organizations develop new strategies to improve marketing performance.

## Literature Review

### *Open innovation*

Joseph a Schumpeter (Schumpeter, 1934) provides an excellent theoretical foundation for discussing innovation. He proposed five innovations by combining ownership of internal resources that emphasize efficiency and effectiveness in the production process (Harper, 2020). However, the company's R&D process is only developed on internal resources, such as technology push (Patsavellas et al., 2021). Technology push is the discovery of new technologies that are continuously commercialized to change the market (Baković et al., 2013). However, push technology is sometimes not needed by customers(Gu et al., 2018b), so the results are not effective. According to Porter and Stern (2001), a company can achieve a competitive advantage by creating user-driven innovation (Porter, M. E., & Stern, S. 2001). Nevertheless, Chang et al. (2014) explain companies cannot independently create market traction because market information is expensive and difficult to obtain (Chang et al., 2014). Creating innovations sourced from customers can also increase R&D costs and time when companies work independently, so the results are not efficient.

Our perspective highlights the importance of companies implementing open innovation by combining and maintaining a balance between technology push and market pull obtained from partnerships to be able to create user-driven innovation (Tacer et al., 2018). Open innovation underscores the importance of companies implementing new combinations, especially in organizations with a high R&D culture, technological excellence, and a partnership ecosystem that can synergize all resources to create new products and services that match customer

expectations (H. J. R.-T. M. Chesbrough, 2012). This balance of resources can also increase productivity and sustainable growth (Cristescu et al., 2021) as a marketing performance driver. This factor certainly causes more customers to switch to startups that present innovations that are fast, affordable, and closer to customer needs and wants.

Therefore, innovation theory is appropriate for addressing the research gap between partnerships and marketing performance. Innovation theory views innovation as the key to achieving competitive advantage and sustainable business growth. In the context of partnerships, innovation is an important factor in building strong partnerships and sustaining long-term partnerships' success. Regarding marketing performance, innovation can help improve an organization's competitiveness and ability to respond to market changes and consumer needs. Innovation can also help organizations develop products or services that are better and more in line with customer needs, improving marketing performance.

***The influence of partnership on user-driven innovation***

Organizations cannot survive at a static level of innovation capability in the current era of disruption. To remain relevant to market changes, companies need to create novelty outside of mainstream innovation (Patriotta et al., 2016). Companies need to improvise and experiment using all resources, including external resources such as partnerships, to grow and develop the organization by creating and introducing innovative value from partners (Vestergaard et al., 2021). A partnership is a strategy for organizations to develop, create and disseminate innovation from customers and to customers.

Companies must work within a partner ecosystem to create innovations that meet customer demands (Casidy et al., 2022). Partners in distribution channels can reduce the risk of innovation failure, reduce R&D costs, and gather information about customers and competitors. Therefore, companies can encourage innovation by creating products that can create a competitive advantage (Latunreng et al., 2019). At the same time, companies can adapt by creating innovations according to customer and market needs. Shin et al. (2019) found that highly committed partnerships can produce the desired innovation performance. Highly innovative organizations have an advantage in quickly identifying and capturing market opportunities through close working relationships with partners; This is in line with previous research which states the importance of partnerships to increase innovation (Gao et al., 2017; Shin et al., 2019; Zhang et al., 2015). Therefore, digital startups can leverage technology and partnerships to develop new products and services that are of value and benefit to customers by producing better, cheaper, and technologically superior products and services and providing solutions to every problem in the market. In the end, this innovation can create a migration of customers towards innovation presented by startups. Thus, we propose a hypothesis.

*H1: Partnership has a positive influence on user-driven innovation*

***User-driven innovation has a positive influence on marketing performance***

In the current situation, innovation is not just creating novelty but adding value to products and services that are needed by customers (Tacer et al., 2018) as a marketing performance driver. Therefore, innovations that are created and disseminated to customers must have added value that can attract customers and have an impact on the market by providing efficiency, effectiveness, solutions, and customer satisfaction. Our research refers to the main view of Porter and Stern (2021) (Porter, 1990; Porter et al., 2001), which reveals that the customer is seen as the main creator creating innovation. In the end, the innovations produced have an impact on changing customer behavior and creating new networks, and increasing customer loyalty which can ultimately improve marketing performance. Thus, we propose a hypothesis.

*H2: User-driven innovation has a positive influence on marketing performance*

***The influence of user-driven innovation on sustainable competitive advantage***

The key to successful innovation is capitalizing on unmet customer needs. Thus the success of innovation depends on innovation that can be accepted, absorbed, and needed by the market to ensure company performance (Edwards-Schachter, 2018). Therefore, companies need to create innovations that originate from the needs and wants of customers. In the end, this innovation is difficult for competitors to imitate. The key lies in the company's carefulness in identifying market trends, developments, needs and wants (Y. Wang, 2018). Consequently, this innovation can increase sustainable competitive advantage (Kuncoro et al., 2018; Quaye et al., 2019).

User-driven innovation is increasingly being considered an important means of creating a sustainable competitive advantage because the products offered can be purchased and consumed by customers (Dattée et al., 2018). This kind of innovation also has an impact that can spread innovation to various business unit sectors because this innovation is needed by customers. Innovation is considered to be one of the strategic processes that can help companies adapt both internally and externally in response to meeting consumer needs. Innovation can also make a company able to move quickly and precisely as a challenge in the current era of disruption. Therefore, it is considered important for the Company to collaborate to respond to the speed of the innovation process in order to produce advantages that differentiate it from competitors (Wu et al., 2022; Zhang et al., 2023). This is what makes

the company continue to innovate as the start of a business movement towards changes that are more attractive, easier, more affordable, and have an impact on customers and partners.

*H3: User-driven innovation has a positive influence on sustainable competitive advantage*

***The influence of sustainable competitive advantage on marketing performance***

Sustainable competitive advantage refers to activities that generate sustainable economic value by combining the capabilities of internal and external company resources such as partnerships (Kuncoro & Suriani, 2018; Lichtenthaler, 2021; Lu et al., 2021). Therefore, in today's competition, companies must present innovations that are sought after by customers, and in the end, these innovations are consumed by customers and affect sustainable competitive advantage (Kuncoro & Suriani, 2018; Sharapov et al., 2022). Previous research has found that superior company performance originates from a distinct sustainable competitive advantage (Cristescu & Nerișanu, 2021; Quaye & Mensah, 2019). Companies can exploit a combination of internal and external resource capabilities to achieve a sustainable competitive advantage based on differentiation in customer-focused innovations that can effectively and efficiently improve their performance compared to competitors by selling mainstream innovation. Thus, we proposed the hypothesis:

*H4: Sustainable competitive advantage has a positive influence on marketing performance*

***User-driven innovation mediates partnership and marketing performance***

In the current business era, the social and economic environment varies, coupled with increasingly fierce competition, companies realize that in order to maintain a competitive advantage, companies must adjust the right strategy by strengthening partnerships (A. S. Butt, 2021; Lindskov, 2021; Musarra et al., 2021). Partnerships can result in more effective and efficient product development by capturing market value and creating products that match customer needs and wants (Barrane et al., 2020), reduction of R&D costs (Ferrigno et al., 2021), and market information sources (Gu et al., 2018a). This study departs from conflicting results about the effect of partnerships on marketing performance, so we assign a role to the variable user-driven innovation as a mediation between partnerships and marketing performance.

Previous research reveals partners can increase the impact of innovations and spread them to customers and end consumers (Shin et al., 2019) because partners are the organizations closest to the market. Product innovation decisions require the strategic integration of collective knowledge and market demand characteristics. Knowledge of market demands obtained from partners can provide certain R&D qualities, significantly affect the value of new products and services produced, and ultimately lead to higher marketing performance (Cho et al., 2018). Therefore, companies must maximize the role of partnerships to create and disseminate innovations that provide added value to customers to improve marketing performance. Consequently, we propose a hypothesis:

*H5: User-driven innovation mediates partnership and marketing performance*

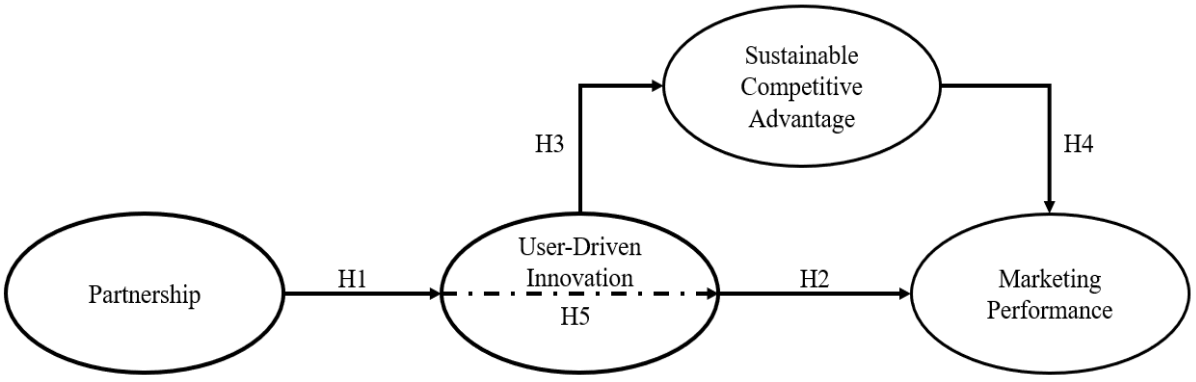


**Fig. 1.** Conceptual model.

As shown in Figure 1, it is suspected that there is a positive correlation between partnership and user-driven innovation (Compagnucci et al., 2021; Xue et al., 2020). Companies must rely on something other than static innovation capabilities to remain relevant. To stay ahead of the competition, they need to create new and innovative products and services that meet customers' changing needs. Partnerships can effectively allow companies to access new ideas, reduce R&D costs, and gather information about customers and competitors. Innovation today is not just about creating new things but adding value to products and services that customers need. Thus, User-driven innovation is expected to affect marketing performance positively (Bhatti et al., 2022; Compagnucci et al., 2021).

Innovations must offer efficiency, effectiveness, solutions, and customer satisfaction to drive marketing performance. User-driven innovation is particularly valuable because it responds directly to customer demand and

can help companies adapt to changing market conditions. Collaboration and responsiveness are key to staying ahead of competitors in the fast-paced world of innovation. Innovation is essential for creating attractive, affordable, impactful products and services for customers and partners. By presenting innovations sought after by customers and can be effectively and efficiently consumed by them, companies can improve their performance compared to competitors. Therefore, user-driven innovation positively affects sustainable competitive advantage and marketing performance (Keiningham et al., 2020; Nasifoglu Elidemir et al., 2020).

## Methods

### *Population and sample*

The population of this study is digital startups in the B2B sector, with a total of 1,190 digital startups in Indonesia. The sample is drawn from the database Indonesia Digital Creative Industry Society (MIKTI, 2021). The sampling technique in this study uses cluster sampling because the number of startups is widespread in various provinces in Indonesia (Haseeb et al., 2019; Sekaran et al., 2016). We choose Jabodetabek (39.59%), Bandung (7.87%), Semarang (0.90%), Solo (4.10%), Yogyakarta (7.05%), Surabaya (4.26%) and Malang (10.01%) with a total of 886 startups (73.79%), we chose provinces with the most populated startups. Notwithstanding, due to the COVID-19 circumstance, we use an online questionnaire (Ball, 2019).

### *Data collection method*

To ensure the quality of the questionnaire instrument, it underwent a pre-test through online Zoom meetings with startup owners or managers, representatives from the Ministry of Communication and Information Technology, and digital startup incubators. The informants provided feedback to improve the survey items. Additionally, a pilot test was conducted by randomly distributing 30 questionnaires to respondents, and 22 questionnaires were returned and met the minimum sample size for the test. SPSS was used to test the validity and reliability of the instrument.

The questionnaire was validated and found to be reliable. We sent the questionnaire to 886 respondents and collected data from 268 respondents. We met the minimum sample size of 138 respondents. However, we had to exclude some respondents and startups that were unreachable. We performed data cleaning by removing indicator items that did not meet the cut-off value and identified outliers due to non-normal data distribution.

**Table 1.** Assessment of univariate and multivariate normality.

| Variable | Min | Max | Skew | C.r. | Kurtosis | C.r. |
|---|---|---|---|---|---|---|
| UDI1 | 6,000 | 10,000 | ,047 | ,312 | -,005 | -,018 |
| UDI2 | 6,000 | 10,000 | ,093 | ,612 | ,630 | 2,080 |
| UDI3 | 5,000 | 10,000 | ,034 | ,222 | ,656 | 2,166 |
| UDI5 | 6,000 | 10,000 | ,028 | ,182 | ,416 | 1,375 |
| UDI6 | 6,000 | 10,000 | -,153 | -1,010 | ,411 | 1,357 |
| MP4 | 5,000 | 10,000 | -,183 | -1,211 | ,670 | 2,215 |
| MP3 | 5,000 | 10,000 | -,123 | -,810 | ,728 | 2,405 |
| MP2 | 5,000 | 10,000 | -,184 | -1,216 | ,728 | 2,406 |
| MP1 | 5,000 | 10,000 | ,087 | ,574 | ,706 | 2,333 |
| PS2 | 7,000 | 10,000 | ,210 | 1,387 | ,517 | 1,707 |
| PS3 | 7,000 | 10,000 | ,364 | 2,403 | ,364 | 1,204 |
| PS4 | 7,000 | 10,000 | -,013 | -,084 | -,370 | -1,221 |
| PS6 | 7,000 | 10,000 | ,364 | 2,405 | -,016 | -,052 |
| SCA6 | 6,000 | 10,000 | ,121 | ,802 | -,307 | -1,015 |
| SCA5 | 6,000 | 10,000 | -,032 | -,214 | -,246 | -,814 |
| SCA2 | 6,000 | 10,000 | ,070 | ,464 | ,576 | 1,904 |
| SCA1 | 6,000 | 10,000 | ,121 | ,797 | ,062 | ,205 |
| Multivariate | | | | | 25,241 | 8,037 |

**Source:** Authors' calculation; **Note**: UDI – User Driven Innovation; MP – Marketing Performance; PS – Partnership; SCA – Sustainability Competitive Advantage; skew–skewness; C.R.–critical ratio.

Six indicators were removed due to low loading factor values, and seven respondents were excluded due to being identified as outliers. The final sample comprised 262 respondents, 31.7 percent being Level C executives and 68.3 percent being managers. The largest sector represented was e-commerce, accounting for 36.6 percent of the

respondents. Fintech was the second largest category with 29.4 percent, followed by logistics at 16 percent, web analytics at 22.9 percent, and artificial intelligence at 3.8 percent.

**Table 2.** Measurement of validity and reliability of the construct.

| Variable | Scale item | Std. Loading | Construct Reliability | Variance extracted (AVE) | Discriminant validity (DV) |
|---|---|---|---|---|---|
| Partnership (Rezaei, Ortt, Trott, et al., 2018) | | | | | |
| PS1 | Our firm and partners together overcome difficulties in product development and promotion* | 0.42 | 0.805 | 0.508 | 0.71 |
| PS2 | Our firm and partners share information in product research and development | 0.74 | | | |
| PS3 | Our firm and partners share costs, benefits, and risks | 0.73 | | | |
| PS4 | Our firm and partners share information to improve product and service quality | 0.71 | | | |
| PS5 | Our firm and partners understand each other's business well* | 0.24 | | | |
| PS6 | Our firm and partners keep a long-term commitment | 0.67 | | | |
| User-driven innovation (Tacer et al., 2018) | | | | | |
| UDI1 | We actively encourage users to present their ideas on improving our products or services, andtheir thoughts on new ones. | 0.66 | 0.894 | 0.630 | 0.793 |
| UDI2 | We are including the users in all phases of the innovation process | 0.76 | | | |
| UDI3 | Users are a part of a developmental team for new products/services | 0.81 | | | |
| UDI4 | We conduct personal interviews with the users when developing new products or services* | 0.07 | | | |
| UDI5 | When developing products or services, we cooperate with leading (advanced) users | 0.76 | | | |
| UDI6 | We encourage users to share their experiences and stories about their habits, product usage, shopping decisions, etc | 0.86 | | | |
| Sustainable competitive advantage (Zhang et al., 2023) | | | | | |
| SCA1 | The quality of the products or services that our company offer is better than that of the competitor's products or services | 0.74 | 0.77 | 0.470 | 0.686 |
| SCA2 | Our company is more capable of R&D than the competitors | 0.52 | | | |
| SCA3 | Our company has better managerial capability than the competitors* | 0.21 | | | |
| SCA4 | Our company's profitability is better* | 0.26 | | | |
| SCA5 | The corporate image of our company is better than that of the competitors | 0.57 | | | |
| SCA6 | The competitors are difficult to take the place of our company's competitive advantage | 0.86 | | | |
| Marketing performance (Y. Gu & D. Su, 2018a; rezaei, ortt, & trott, 2018) | | | | | |
| MP1 | Market share growth | 0.86 | 0.909 | 0.715 | 0.846 |
| MP2 | Sales volume increase | 0.90 | | | |
| MP3 | Average turnover growth | 0.78 | | | |
| MP4 | Customers growth | 0.84 | | | |

**Notes:** UDI – User Driven Innovation; MP – Marketing Performance; PS – Partnership; SCA – Sustainability Competitive Advantage
SFL= Standardized factor loadings. * eliminated because it is below the cut-off value.

***Development of measures***

This study used a numerical scale of 1-10 to measure the instrument (Höhne et al., 2022). It provides a simple and easy method for respondents to express their opinions or perceptions. Using numerical scales can also provide quantitative data that can be analyzed statistically, allowing researchers to make comparisons and draw

conclusions based on the responses collected. We retained some of the scales from their original form. Partnerships were developed using six scales adapted from (Y. Gu & D. Su, 2018a; Lahiri et al., 2009). User-driven innovation was adapted from (Tacer et al., 2018)**,** sustainable competitive advantage was measured by six scales adapted from (Zhang et al., 2023), and marketing performance was measured by four scales adapted from.

### *Non-response bias*

The data collection by returning the questionnaires in two waves requires a non-response bias test (Armstrong, 1977; Armstrong et al., 1977; Podsakoff et al., 2012)**.** Non-response bias testing can determine whether participant characteristics differ from non-participating and participating respondents, by looking at the Levene test (Levene et al., 1989)**.** If Levene's Equity Variance value shows a significant level above 0.05, then there is no significant difference between the average answer scores of the respondents (Gastwirth et al., 2009). The result shows partnership Levene's Test sig. of 0.334, user-driven innovation sig. 0.132, sustainable competitive advantage sig. of 0.929, and marketing performance sig. of 0.516. This indicates no bias among respondents who submitted answers in June-September and October-December, since the value of Levene's test for equality of variance sig. outweighted 0.05 threshold.

## Results

### *Statistical analysis and results*

We used Structural Equation Modeling (SEM) to test the hypotheses since it can test the theory (Blunch, 2008); can perform confirmatory factor analysis in table 2 (Brown, 2006), and hypothesis testing (Table 3). Test the mediation hypothesis to see if there is full or partial mediation (Table 4) (Tabachnick et al., 2014). In the second stage, as seen in Table 3, all hypotheses are accepted. The assessment used in this study is to look at the critical ratio value (c.r) and the probability value (p-value). If a critical ratio value is smaller than 2.0 and the p-value is greater than 0.05, then the hypothesis is rejected. If the critical ratio value is > 2.0 and the p-value < from 0.05 (5%), then the hypothesis is Supported.

**Table 3.** Hypothesis testing.

| Hypothesis | | Estimate | S.E. | t-value | p-value | Conclusion |
|---|---|---|---|---|---|---|
| H1 | The partnership has a positive influence on User-driven innovation | 0.350 | 0.100 | 3.503 | *** | Supported |
| H2 | User-driven innovation has a positive influence on marketing performance | 0.132 | 0.061 | 2.147 | 0.032 | Supported |
| H3 | User-driven innovation has a positive influence on sustainable competitive advantage | 0.326 | 0.92 | 3.549 | *** | Supported |
| H4 | An sustainable competitive advantage has a positive influence on marketing performance | 0.210 | 0.077 | 2.741 | 0.006 | Supported |

**Source:** Authors' calculation. **Note**: P-partnership; UDI-User-driven innovation; MP-marketing performance.

In the final step, we tested the mediation hypothesis using four steps (Baron et al., 1986).

**Table 4.** Mediation hypothesis.

| H5 | User driven innovation mediates the influence of partnership on marketing performance | | | | | Partial mediation |
|---|---|---|---|---|---|---|
| | P1: P → MP | 0.303 | 0.107 | 2.830 | 0.005 | Supported |
| | P2: P → UDI | 0.316 | 0.099 | 3.177 | 0.001 | Supported |
| | P3: UDI → MP | 0.243 | 0.077 | 3.155 | 0.002 | Supported |
| | P4: P → MP | 0.233 | 0.109 | 2.147 | 0.032 | Supported |
| | Total effect size | | | | | |
| | Partnership → Marketing performance | | | | | 0.089 |
| | User-driven innovation → Marketing performance | | | | | 0.253 |
| | Sustainable competitve advantage → Marketing performance | | | | | 0.326 |

**Note:** P-partnership; UDI-User-driven innovation; MP-marketing performance.

First, regressing the independent variable (P) with the dependent variable (MP) and here the independent variable affects the dependent in the first equation; this process produces a significant regression weight of 0.303. Second, regressing the independent variable (P) to the mediator variable (UDI), the independent variable influences the

mediator variable. This process produces a significant regression weight of 0.316. Third, regressing the mediator variable (UDI) to the dependent variable (MP), the mediator variable affects the dependent variable; this process produces a significant regression weight of 0.243. Fourth, rerun the independent variable (P) to the dependent variable (MP) by entering the mediating variable (UDI). This process resulted in a significant regression weight of 0.233, a decrease from 0.303 to 0.233. The terms of the mediation test are fulfilled, with the mediation variable producing a decreasing influence value from the independent variable (partnership) to the dependent variable (marketing performance). We can conclude that the mediating variable has a partial mediating effect.

The next stage is to evaluate the strategic path to improve marketing performance, which can be analyzed by comparing the effect of the total variables in this structural model. The total effect of the partnership is 0.089, which is smaller than the total effect of UDI (0.253) and SCA (0.326).

This figure shows the importance of UDI as a mediation of partnerships and marketing performance. The total effect size indicates the importance of the sustainability competitive advantage as a strategic instrument to support user-driven innovation in improving marketing performance.

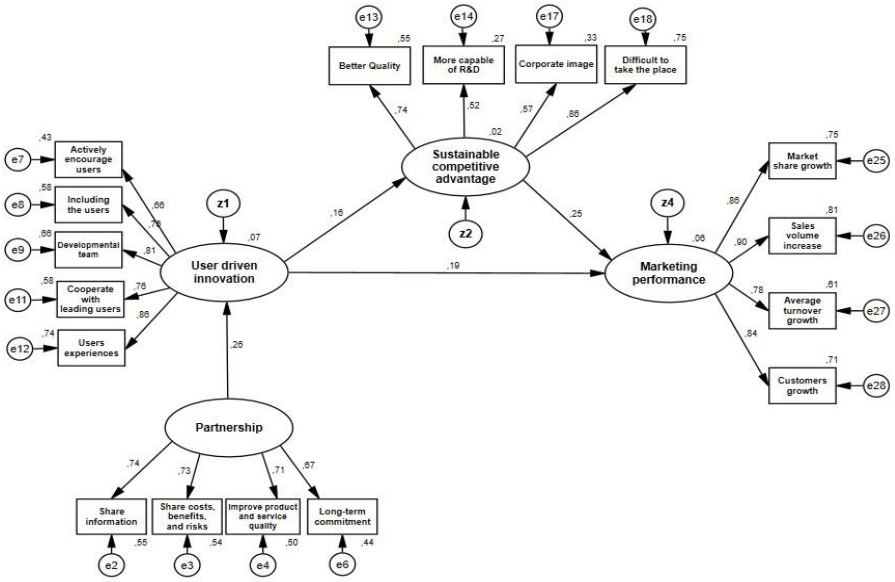


**Fig. 2.** Conceptual research model.

## Discussion

Acceptance of the first hypothesis shows that when startups put aside opportunism and work together with users, companies can identify new needs, opportunities and challenges and develop innovative solutions to address them. Companies can also obtain valuable information about customer needs and preferences regarding developing new products or services. This collaboration can help companies hear users' voices throughout the development process, leading to more user-friendly and innovative products. It concluded that partnerships could positively influence user-driven innovation by providing a collaborative platform that fosters creativity and brings together diverse perspectives and expertise that lead to sustainable excellence (Wan et al., 2020). User-driven innovation can help companies stay ahead of the curve regarding customer needs and preferences (Fu et al., 2022). When users actively engage in the innovation process, companies can develop products and services better suited to their needs, increasing customer satisfaction and loyalty.

User-driven innovation can help companies create products that are more likely to succeed in the market and are less likely to be replaced by competitors. User-driven innovation can positively influence sustainable competitive advantage by helping companies develop products and services that better meet the needs of their target markets and by remaining agile and responsive to changing market conditions, as reflected in the third hypothesis.

## Conclusion

### *Theoretical contribution*

This current research builds upon the seminal work of Porter and Stern (2001) and extends it by focusing on the strategic relationship between technology push and pull-through market partnerships to create user-driven innovations. While previous studies have acknowledged the importance of external capabilities for innovation, this study emphasizes the integration of external partnerships and internal resources, such as technology, in the innovation process. By highlighting the advantages of being user-driven in the innovation process and considering

customers as the primary developers of innovations, this research contributes to the understanding of how organizations can effectively leverage market opportunities through partnerships. It recognizes that user-driven innovation can lead to organizational efficiency and provides empirical evidence of potential strategies from the perspective of open innovation to adapt to market changes and environmental uncertainty. Furthermore, this study addresses a research gap by bridging the relationship between partnership and marketing performance, drawing upon the innovation theory proposed by Hall et al. (2001).

By examining the strategic relationship between technology push and market pull through partnerships, this research offers insights into how companies can enhance their marketing performance through user-driven innovations. To better describe the contribution, the study incorporates more recent references and provides a more focused approach to the research topic. It presents a model that elucidates the role of partnerships in creating user-driven innovations, emphasizing the need for a harmonious balance between internal and external factors. By expanding the perspective of innovation beyond technology, this research highlights the significance of openness in organizations and its potential impact on innovation outcomes.

***Managerial implication***

The acceptance of proposed hypothesis provides conclusions on several strategic steps for companies to improve marketing performance. First, companies must continue to expand and maintain the partnership ecosystem. A partnership is a significant antecedent for companies to develop, create, and spread innovations to customers, thereby improving marketing performance. The recommendation to expand and maintain the partner ecosystem to drive innovation and improve marketing performance aligns with the findings of Laursen and Salter's (2006) earlier study. Their research highlights openness's positive impact on innovation performance, including partnerships. While the specific partnerships and collaborative opportunities may vary depending on the industry and market context, the general principle of building and nurturing strategic alliances and partnerships for innovation applies broadly to managers seeking to improve marketing performance.

Therefore, companies must continue to echo innovation by offering various customer-focused solutions. The concept of echoing innovation by offering various customer-focused solutions aligns with Chesbrough's (2019) perspective on open services innovation. The importance of understanding customer needs and engaging customers throughout innovation to create value and achieve competitive advantage. While the specific approaches and strategies may vary across territories, the overarching recommendation to prioritize customer-centric innovation applies to managers aiming to improve marketing performance.

As a novelty in this research, User-driven innovation provides a broader treasure and strengthens innovation theory to see the company's ability to maximize technological advantages and the partnership ecosystem. The User-driven innovation created by the company can encourage consumers to continue to use, buy, and distribute the products offered. So that the sustainability of the company's competitive advantage is maintained because consumers get the innovations needed and desired by customers. The notion of user-driven innovation contributing to sustainable competitive advantage is consistent with Von Hippel's (1986) concept of lead users (Von Hippel, 1986). The lead user theory suggests that involving users in innovation can lead to novel product concepts that provide a competitive edge. While the specific implementation may vary depending on the market and user context, the recommendation to embrace user-driven innovation aligns with the broader literature. It can be relevant for managers seeking to enhance marketing performance.

***Research limitations***

This study investigates the impact of partnerships on User-driven innovation in digital startups for the first time. Although this study succeeded in meeting its objectives, there remains limitations to the study. First, this study only looks at the impact of innovation on economic benefits. It does not fully address the implications of innovation created by startups. The social effects of startups also significantly impact the economy and the environment. Second, this study only focuses on startup performance and disregard the role of customers in startup success. Third, in this study, we omit several indicators and as such future research could develop the model and indicators of this research in subsequent analysis.

***Future research***

Future research may investigate the perspective of social innovation, such as the social and economic impact on the environment of social innovation theory. Future studies should examine the dyadic effect between startups and retailers to analyze the interaction process. Finally, the partnerships used in the research model are general partnerships. Therefore, future research could investigate partnership dimensions, such as production partnerships, logistics partnerships, technology partnerships, market partnerships, and R&D partnerships, in their impacts on company performance.

## Acknowledgement

This paper was supported by internal research Universitas Islam Riau, Number 258/ A-UIR/ 4-DPPM/2023.

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