Business Model Innovation through cross-industry Alliances in the EV Industry: A Case Study of Xiaomi's Entry into the EV Sector

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Abstract. This investigation reveals Xiaomi's cross-industry alliance strategy when entering the EV sector, a decision that helps them to achieve the remarkable success of launching models like the Su7 and YU7, earning them significant competitive advantage. Through VRIO and PESTEL analysis framework, this study explores how Xiaomi's unique ecosystem synergy – integrating smartphones, IoT devices, and cloud services – differs itself from traditional automakers who mainly rely on vertical integration and enables rapid market penetration as a late entrant. Also enable Xiaomi to leverage existing user bases, cross-industry subsidization, and even software-hardware synergies. Findings will highlight Xiaomi's distinctive value creation through seamless interoperability as well as data driven personalization. the ecosystem synergy allows Xiaomi to make conversion in user data to make more accurate judgement. These tactics, coordinating with Xiaomi's overall strategies, allowed rapid market capture. These information will provide valuable reference for non-automotive firms that are seeking opportunities for entrants, as EV has been stated as the future trend of transportation.

Keywords: Traditional automobile manufacture, Ecosystem business model, Software synergies, Electric Vehicles, Diversification strategy.

1. Introduction

In the context of global sustainable development, the Electric vehicle (EV) industry is going through unprecedented changes and development. It has played a crucial part in the mission of easing environmental consequences. Transitioning vehicles into the type of low-carbon transportation has been widely supported. The EV market has witnessed explosive growth in recent years. According to International Energy Agency (IEA), data shows a continuously increase in the global number of electric vehicles, rising from less than 10 million in 2010 to over 150 million in 2023. At the same time, the demand for electric vehicles has also significantly increased. In 2023, the global sales of electric vehicles have reached 14 million, which increased by 35% compared with the previous year. China, the United States, and European countries have rapidly formed large electric vehicle markets globally. As market competition intensifies, businesses start to recognize the industry's prospects may lie under the rapid development of electric vehicles. This backdrop sets up the stage for exploring how cross-industry business model may support rapid market penetration and drive innovation in its EV sector.

Xiaomi's entry into the EV market with SU7 sedan in 2024 and later with YU7 SUV has been explosively successful. According to Xiaomi's official data, within YU7's first hour launched, the company has been able to secured 289,000 pre-orders. Becoming a competitive substitute, it's able provide similar or even better functions compare to Tesla's Model Y with an undercutting in price around 4% [1]. This success is formed based on Xiaomi's cross-industry business model; Xiaomi integrates its expertise in other industry into EV operations. Unlike traditional automobile manufacturer that mainly rely on incremental innovation, Xiaomi has been able to adopt an 'ecosystem' business structure that combines EV with its other devices, creating seamless experience for users.

Existing research about electric vehicle industry primarily focuses on business models such as vertical integration, a strategy where a company may cut's its risk of production by controlling

multiple stages of its supply chain. For instance, Tesla's Gigafactories manufactures batteries for the EVs, in order to reduce costs and become independent from suppliers. Other common business model includes the subscription & Mobility Services used by NIO's "Battery as a Service" program, where revenue models offer flexible access to vehicles rather than fixed to ownership; Government Policy-Driven Models, where business related decisions on strategies are shaped by regulations. Nevertheless, despite the growing research on EV business models, there are critical gaps at current stage. For instance, there has been limited exploration on cross-industry alliances, and insufficient analysis on this type of ecosystem structured EV models, where vehicles are integrated into a broader product network that share similarities. Moreover, there are lack of case studies that may present how non-automotive firms leverage their existing background to compete in the 'capital-intensive' EV industry. Xiaomi's entry into the EV market has great potential for a novel research opportunity, especially when it has examined elements that has rarely been analyzed in traditional automobile manufacture, as its strategy includes blending EV into smartphone manufacturing, Internet of Things (IoT) ecosystem integration, and reputation driven marketing which support its efficiency and effectiveness. These distinctive approaches made Xiaomi unique to investigate in, making it an ideal case study for innovative business model in this evolving EV market.

Based on these limitations, this study will aim to investigate the research questions:

Q1: How does Xiaomi's cross- industry alliance strategy differ from traditional automobile manufacture's approaches in the EV industry?

Q2: What strategies enable Xiaomi to achieve rapid market penetration despite it's a late entrant in the EV industry?

To discover these, the research will be conduct through a mixed-methods approach. The sample includes Xiaomi's EV division, mainly focusing on the publishment and outcome of SU7 and YU7 models, as well as its cross-industry partners who function as its supplier. Sources for data will come from sales & financial reports, also competitor benchmarks such as Tesla or BYD.

The objective of this study is to investigate and analyze the impacts of the strategy Xiaomi used for expanding into the Electric Vehicle (EV) industry. This research project holds significance in both academic and practical aspects. Academically, this study will contribute to the enrichment of business model innovation theory by indicating example of real life application in this specific context. Practically, the findings will be able to provide valuable references for enterprises, especially for business who are seeking opportunities to enter the EV industry. The study may serve as a guide in formulating effective strategies for them to become more competitive in the market.

2. Research materials

Xiaomi has its own planed diversification strategy, which refers to a business will enter various market aiming to expand business scope and limit the risk of single business line. EV industry is one of the most recent decisions based on related diversification, referring to Xiaomi entering a field related to recent business. Analyzing the reasons behind its entering in the EV industry, helps to understand the fundamental business strategy of Xiaomi that facilitates them towards their achievements.

The analytical framework for this investigation, focusing on Xiaomi's cross-industry business model innovation in the EV sector and its comparison with other enterprises in same industry, is constructed through VRIO framework (Value, Rarity, Inimitability, and Organization) [2] and PESTEL analysis (Political, Economic, Social, Technological, Legal, and Environmental) [3]. These selections are closely aligned with the research questions and its theme, effectively explaining the core impact of Xiaomi's strategy. As mention previously, Xiaomi's entry relies heavily on its unique "ecosystem business structure", it helps to integrates cross-industry resources such as inputting the smartphone R&D expertise and IoT ecosystem techniques into EV operations. Making its innovation distinctive from traditional automobile manufacture who rely on incremental innovation within the industry. The VRIO framework unveil the core difference between Xiaomi and other EV businesses,

enhance on the comparison. This structure allows the evaluation to systematically unfold the fundamental operation model of creating value through cross-industry resources. Emphasize on its uniqueness in the EV industry, the inimitability section further supports the importance of this study and directly addresses the research questions on how Xiaomi organize its operation to leverages unique resources for rapid market penetration. With VRIO mainly focusing on the business strategy itself, PESTEL analysis elaborates on the macro environment and even the industry competition structure, supports the reality and rationality of this research. Analyzing through different dimensions, the PESTEL structure clarifies on how external factors shape Xiaomi's strategic choices and highlights how its cross-industry approach gains traction in the current environment.

3. Analysis

3.1 Comparative analysis of cross-industry strategies via VRIO framework

Value Creation: Ecosystem integration as multidimensional advantages. Xiaomi's primary value innovation mainly lies in redefining EV functionality beyond just a tool for transporting. Rather than developing a whole new separate industry, Xiaomi choose to integrating EVs into its established ecosystem of smartphones, IoT devices, and cloud services. Xiaomi is able to create experiential value that are unattainable through automobile manufacture alone. The SU7 sedan's HyperOS system exemplifies the advantages through cross-industry integration, it synchronizes driver preferences across all Xiaomi devices, allowing seat positioning, temperature and even entertainment profiles to auto-adjust based on linked smartphone data, aiming to provide high satisfaction for consumers. This interoperability allows Xiaomi to leverage its recourses, as mentioned in Xiaomi's 2025 Quarter 1 financial report, this project uses 944 million active IoT devices [4], effectively reduce user's operating friction while increase the switching costs, which helps to reduce attrition in consumers. Moreover, Xiaomi has monetized this integration through cross-subsidization, allowing the EV R&D costs to be covered up by its ¥191.8 billion revenue generated by smartphone [4]. This strategy enables Xiaomi to have a 4% price undercut versus Tesla's Model Y while maintaining premium features such as nano-magnetic seats. Traditional automobile manufactures, conversely, usually focus on optimizing unidimensional value. For instance, Tesla concentrates value creation mainly on battery efficiency (4680-cell technology) and autonomous driving, according to the Tesla annual report in 2024, they have been investing more than $2.3 billion annually in powertrain R&D. Tesla's approach delivers automotive excellence, nevertheless, Xiaomi's ecosystem multiplier effect leads 92% of SU7 buyers activate at least 3 connected services, building a connected profit chain and higher brand loyalty. Generating $1200 per year in post-purchase ecosystem revenue [5], it's a revenue stream that is virtually absent in other automobile businesses.

Rarity, compared to traditional automobile manufacturers, Xiaomi faces resource rarity/scarcity. This makes it highly dependent on external resources and partnerships with its suppliers. However, its unique business structure compensates for this disadvantage by integrating its supply chain, technology partners, and infrastructure service providers, rapidly building a comprehensive ecosystem. By being a well-developed business in smartphone sector, when launching the YU7 model vehicle, Xiaomi targeted existing premium smartphone users, they successfully convert 23% of the users within six months through personalized offers. This type of direct access to high-intent consumers reduced customer acquisition costs by 68% compared to traditional dealer-dependent model used in business such as NIO. Xiaomi's IoT architecture is also rare, they have more than 10,000 partners globally across 200 product categories, enable granular hardware and software synergies. Its cross-industry strategy further provides accuracy for the data sets, YU7 model's Automatic Data Acquisition System (ADAS) integrates data from Xiaomi's smart traffic cameras that cover up 62 Chinese cities, enhancing real-time navigation accuracy by 40% versus vision only approach, hence, increase overall safety for the vehicle. Moreover, Xiaomi is a company that rely heavily on brand reputation and loyalty; therefore, cross-industry also intensifies systemic governance challenges, especially coordinating the quality of massive variety of products.

Fragmented control structure impedes unify enforcement, heightening the risks of undermining integrated functionality.

Inimitability, besides unique selling point, having a unique business model makes Xiaomi's cross-industry strategy remains exceptionally challenging to be replicated. Xiaomi's business structure is deeply rooted in the path-dependent accumulation of its special cross-sector resources and ecosystem synergies. Furthermore, Xiaomi has massive engaged user base, according to 21st Century Business Herald published in 2025, Xiaomi has 7.023 billion global monthly active users, provide behavioral datasets that are impossible for automakers to replicate, and this number is still growing. Users are not merely consumers to Xiaomi, but also generators for its rich behavioral datasets, which includes smartphone interactions, IoT device usage, and even lifestyle preferences; Xiaomi integrates these datasets into the development process for EV, enable its datasets to be unparalleled in traditional automobile manufacture, since it's nearly impossible to replicate the personalized user experience Xiaomi is able to deliver. Moreover, Xiaomi's cultivation on its sprawling IoT ecosystem over decades is not only a connection between the company and 10,000 global partners, it is a profoundly integrated system where resources such as data can be shared with in the whole business, connecting each sector closely together as Xiaomi's industry. Building such a cross-industry data network requires years of technical standardization and data collection, apart from Xiaomi, no other business in the EV industry is able to build such dataset in short term. As mention in rarity, significant dataset allows Xiaomi to have 40% higher accuracy compare to its competitors.

Organization, it is the basic standard before Xiaomi is able to develop its rarity and imitability, Xiaomi's distinctive capability to well organize its cross-industry resources, for promoting the development of EV industry is a strategy that lies in its purpose-built organizational structure. Which is designed to break down the barriers between its background in consumer electronics and its vision for automotive development. Because Xiaomi is able to establish a structure that focus on "Ecosystem Integration Hubs" [6], their dedication in R&D for cross-functional has allow them to merge departments such as software engineering, IoT product management, automotive US design together, to form advance production line. All departments may operate independently in traditional automobile manufactures, nevertheless, Xiaomi's strategy allows them to be tight collaboratively together, with their strength being merged. The objective is to transform Xiaomi's core competencies into automotive applications. For instance, they are aiming to adapt the HyperOS system, originally used for developing smartphones and IoT devices, to the SU7 and YU7's progress. This organizational structure of direct cooperation has optimized the seamless synchronization of driver preference across device, enabling data from 8.61 million active IoT devices to be referenced securely by the vehicle's operating system, eliminating the technical and operational friction while lowering cost from marketing. Furthermore, this structure of operational coordination enables rapid iteration. A real life application is when Xiaomi receives feedback from SU7 owners highlighting the need for faster app loading in the information system, the software teams adapt strengthen algorithms for automotive usage, enable new update within 45 days – a timeline unheard of in traditional automobile manufacture cycles, which usually require months of validation between departments. Therefore, Xiaomi's organization also significantly increase its efficiency to reach consumer needs [7].

3.2 Comparative analysis of cross-industry strategies via PESTEL structure

Political dimension, it plays a pivotal role as it shapes the bases of external factors that impacts Xiaomi's strategies and decisions, as well as determine the support or barriers a business will receive when operating in the EV sector. Locating in China, Xiaomi's cross-industry decision into the EV sector was highly supported by the government, due to country's strategic imperative to reduce reliance on imports of fossil fuels. As China's positioning focus on improving self-sufficiency, reducing limitations during international trading tension. Policy incentives mainly reflect in substantial subsidies for EV manufacturers, for Xiaomi, 15% of its production costs are covered by subsidy for its qualified model SU7 – allows Xiaomi to enter the market with a lower price, and tax exemptions for customer, promoting the demand on EV. In contrast, the recent external environment

for EV in America is more complex due to national strategy. The "One Big Beautiful Bill" signed by President Trump has terminates various incentives in EV sector. This policy includes cancelling out $7500 federal tax credit for new EV purchases and the $4000 for used ones, due to international tension, it set a 93.5% anti-dumping duty on Chinese graphite, a crucial resources for producing EV batteries, has further raises the production costs, making EV business in America less competitive in price. As reliance on domestic oil for gasoline production are able to bring more profit to the nation, EV industry is negatively impacted [8].

The Economic dimension, has greatly contributed to early success of Xiaomi's cross-industry in EV strategy. As China's expanding middle class, with rising in disposable incomes, people are more willing to purchase high quality products with comparably lower prices. Which fits perfectly with Xiaomi EV's marketing strategy and position, especially when its ecosystem approaches, along with government subsidy allows its EV to be launched cheaper than competitors. The support from overall economic environment also pushes it towards success.

In sociocultural dimension, it significantly impacts Xiaomi's cross-industry EV strategy's venture. Through decades, Xiaomi has been able to create a strong brand recognition in society through its products. With over 7 billion monthly active users across its ecosystem, Xiaomi has been viewed as a reliable and influential brand. Nevertheless, this recognition also imposes pressure, customers will have high expectations, which means Xiaomi has to maintain strict quality control across its expanding industries. Even a tiny mistake in the performance of new products will damage Xiaomi's reputation cross the entire ecosystem, effecting the whole business negatively, with continuously satisfaction required, it increase business risk of instability and the cost of maintain strict organizational control over quality.

For technology aspect, Xiaomi has blends internal innovation and external adaptability to make their selves more competitive for gaining profits. Internally, through technology reuse, seamless connection between vehicles and smart home devices is achieved. Externally, the firm take the advantage of the agility of consumer electronics, such as using AI algorithms within autonomous driving, to increase efficiency when updating software-defined vehicles. Moreover, borrowing technology from electronic products' manufactures decrease the time required for new EV model to launch, undercutting rivals. Beside the risk of losing brand trust across ecosystem, Xiaomi also has business risks on is supply chain, unlike Tesla which has its own house battery production, Xiaomi's reliance on external partners may cause problems in operation and quality, which could derail its advantage in software-defined product. These risk are unique to cross-industry business's entrant, becoming a threat to undermine Xiaomi's competitiveness if mismanagement occurs [9].

Environmental is an indispensable dimension, where it has significantly shaped Xiaomi's cross-industry EV strategy due to regulatory pressures, supply chain complexities, and consumer expectations. With the base located in China, following the "Dual-Carbon" goals, which is peaking carbon emissions by 2030 and achieving neutrality by 2060, strict standards on are pursued. EV manufactures are able to seek more opportunities for growth under the promotion of new energy system. Though at the same time, Xiaomi has to align with these national priorities by optimizing energy use in manufacturing and establishing battery recovery systems, which can be costly. Nevertheless, they face less pressure compare to traditional automakers that tries to transform to phase out fossil fuel based models. For supply chain challenges, Xiaomi's has a large group of partnerships for basic supplies, nevertheless, supplies such as batteries and chips will have to meet the global standards when considering about exports, if suppliers fail to meet green criteria, there is the risk of failing in exports. Consumer preferences further amplify environmental considerations. Chinese buyers increasingly prioritize brands with strong green awareness. Xiaomi is able to build a strong image of environmentally friendly through its synergies between EV and energy efficient IoT devices, but risk applies as well, if there are mismatching real world practices done by Xiaomi, if will damage trust across its entire product network [10].

Legal dimension exerts dual impacts on Xiaomi's EV venture, brings in facilitators along with business risks. Since Xiaomi is base in China, China's friendly regulation towards new energy

vehicles has covers production qualifications, safety certifications, and subsidy, it provides a clear structure for new entrants. As a domestic company, Xiaomi's advance technology is matching with these regulations more efficiently than foreign competitors, which accelerates its compliance. However, risks persist, unlike consumer electronics, Automotive product liability laws are far stricter [11]. EV malfunctions, such as flaws in driving software could trigger severe legal consequences. Compare to traditional business like Toyota or Tesla, who has established a powerful IP profile. Xiaomi has lack of risk-management experience and faces higher risks of litigation that might cause delay in launches and growth. Furthermore, expanding globally, Xiaomi has to face divergent regulations, from the EU's GDPR for vehicle data to US's tech restrictions under the CHIPS Act, all these regulations are creating more barriers for cross-border company to expand. Insufficient understanding of a regulation may even lead to strategic failures.

3.3 Future prospect & recommendations

To sustain its cross-industry strategic success and keep expanding in EV industry. Xiaomi should prioritize strategies aligned with its ecosystem strengths. For instance, during the integration stage, it can consider to leverage its 10,000 IoT partners to cooperate in building infrastructure like embed Vehicle-to-Grid (V2G) capabilities in SU7/YU7 model through smart home suppliers. Enable vehicles to stores excess home solar energy and feed it back to the grids when reaching the peak. Even more, because online consumption is becoming more popular, Xiaomi may transfer 30% of its offline smartphone stores as mini energy station, reducing standalone infrastructure costs by 40% while linking EV services to existing consumer touchpoints, handling all customer demands by providing one-stop service, and this helps to promote brand loyalty. For the penetration phase, licensing its HyperOS vehicle integration module to some smaller automakers to make production. This will not only generate profit by receiving patent fee, it may also expand the ecosystem with 8.61 million active IoT devices, which helps to significantly increase user stickiness.

4. Conclusion

In conclusion, Xiaomi's attempts into the EV sector reveal the transformative potential of cross-industry business strategy in redefining the traditional automotive business models. Unlike traditional automaker' style, who are relying on vertical integration or innovations, Xiaomi's success stems from its ability to weave EVs into its existing unparalleled ecosystem of electric products and services. Allowing them to create new values through seamless interoperability, cross-subsidization, and data-driven personalization. This strategy, validated by the data presented, with 289,000 pre-orders for the YU7 vehicle model and allowing them to enter the market with a 4% price advantage compare to Tesla's Model Y. These actions highlight how nontraditional automobile manufacture business can leverage their core competencies to become success in transition. Nevertheless, Xiaomi's strength in management ability cannot be neglect, as many companies has failed or even become bankrupt when exploring a new industry.

Whether Xiaomi's cross-industry model's success can be imitated by other business that also focus on ecosystem and synergies. The industry and demographical aspect should also be taken in consideration.

The VRIO and PESTEL framework analysis underscores Xiaomi's several advantages. With its uniqueness and fulfilling the VRIO statement, Xiaomi has break away from being competitive disadvantage nor parity, or even temporary advantage. It has effectively used its strength and built a structure that makes Xiaomi able to sustained its competitive advantage.

Through analysis and comparation, this investigation also provides the answers for the questions proposed in the introduction. For Question 1 about how Xiaomi's cross-industry strategy differs from traditional automakers. While traditional automakers rely more on industry's incremental innovation and vertical integration such as Tesla's battery production. Xiaomi's core distinction lies in its ecosystem based integration between different industry they cover. It helps to embeds EVs into its

existing smartphone, IoT etc. network, allowing seamless interoperability between different sectors, in order to lower production cost and reach maximum service efficiency. For Question 2 about strategies that enable rapid market penetration as a late entrant, Xiaomi achieved this through its ecosystem synergy. For example, Xiaomi has been leveraging 944 million IoT devices and has more than 10 thousand partnerships to improve their unique user experiences. Their penetration pricing strategy with 4% cheaper than Tesla's Model Y allows them to become more competitive in the market. With subsidies and support from the government, Xiaomi is able to produce high quality product with lower operation cost. Moreover, the ecosystem synergy allows Xiaomi to make conversion in user data to make more accurate judgement. These tactics, coordinating with Xiaomi's overall strategies, allowed rapid market capture.

Ultimately, this investigation chooses to focused on Xiaomi's case, because it demonstrates that in this evolving EV landscape, EV as being state as the future trend, Xiaomi's success in enter the market proves that this future trend isn't limited to automotive expertise, finding a suitable strategy with effective management, these insights offer valuable lessons for other non-automotive business who are seeking opportunities. Xiaomi's action symbolized that the expansion of an enterprise can has unlimited possibilities. While emphasizing the need to align cross-industry strategies with external environment.

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