Proceedings of ICFTBA 2026 Symposium: Driving Organizational Strategic Change for Financial Gains
DOI: 10.54254/2754-1169/2026.BH39439

Evaluating the Sustainability of DMG's Subway Digital Media Business Model in China

Xuanlin Liu

Guangdong Experimental High School, Guangzhou, China
3605559794@qq.com

Abstract. This paper evaluates the sustainability of Digital Media Group's (DMG) subway digital media business model in China in 2008. Using a qualitative case-study approach, forcing about how DMG created value through passenger information technology, delivered value through subway screen networks, and attempted to capture value through advertising sales. The analysis finds that DMG possessed important strengths, including a distinctive passenger information system, access to an attractive urban audience, strategic partners, and innovative branded content. However, the model was not fully sustainable in 2008 because advertising concessions had become expensive and competitive, many other companies like Vision China which is a core direct competitor. So the company remained unprofitable, advertising utilization was weakening, and revenue depended heavily on government-linked metro authorities. DMG therefore had a promising but conditional business model whose sustainability required greater operational efficiency, stronger stakeholder relationships, disciplined bidding, and more diversified sources of revenue.

Keywords: Subway digital media, Advertising, Model, Screen networks

1. Introduction

A technologically innovative product does not automatically create a sustainable business. A company must also determine who receives value, who pays for that value, and whether revenue can consistently exceed the costs of delivering it. Teece defines a business model as the system through which a firm creates, delivers, and captures value [1]. This framework is especially useful for Digital Media Group (DMG), a Chinese digital out-of-home media company that combined public information technology with commercial advertising on subway screens.

DMG built passenger information systems that displayed arrival times, delays, safety announcements, entertainment, and advertisements. The benefit of providing this technology to metro operators was that it secured DMG the right to sell advertising on subway screens. This model helped DMG expand to several Chinese cities and attract international brands. However, by 2008, the company had not turned a profit and faced aggressive competition for increasingly expensive advertising concessions [2].

This paper investigates the sustainability of DMG's subway digital media business model in China in 2008. Its findings provide references for investors and advertisers, while delivering valuable business insights for the broader digital media sector.

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2. Method and analytical framework

This paper uses a qualitative single-case study based primarily on the Harvard Business School case *Gobi Partners and DMG*. The case's chronology, management accounts, market information, and descriptions of competitors are examined through three dimensions: value creation, value delivery, and value capture. These dimensions are consistent with Teece's business-model framework [1]. Industry pressures are evaluated using Porter's view that profitability is shaped not only by direct rivalry but also by the bargaining power of buyers and suppliers, possible entrants, and substitutes [3].

2.1. Value creation

DMG created value by solving a public communication problem while developing a commercial media channel. Its passenger information system linked metro control centers to screens on platforms and inside trains. Metro authorities could communicate service information and emergency messages to passengers, an important benefit following international concerns about subway safety. Passengers received useful travel information and short entertainment content. Advertisers gained access to a large and relatively affluent urban audience that could not easily avoid the screens during an average journey of approximately 30 minutes [2].

This arrangement resembled a multi-sided business model because DMG coordinated value among metro authorities, passengers, and advertisers. The company did not depend on passengers paying directly. Instead, passenger attention made the platform attractive to advertisers, whose payments financed the commercial model. Amit and Zott explain that business models can generate value by connecting participants and organizing transactions more efficiently [4]. DMG's model followed this logic: one technological network delivered public information, entertainment, and advertising at the same time. Even so, this does not mean DMG could capture the full technical value. Zott argues that business models aim to explain value creation rather than merely value capture, and he suggests these emerging themes may facilitate a more integrated research agenda on business models [5].

2.2. Value delivery

Strategic partnerships strengthened value delivery. NTT DoCoMo contributed knowledge of wireless information transfer, while Dentsu offered advertising-sales support and access to international clients. These partners helped DMG overcome weaknesses that a young Chinese technology company would have struggled to address alone. By March 2008, DMG operated approximately 7,000 screens across 10 subway lines and the Hong Kong Airport Express. Its network gave national and international advertisers access to riders in several major markets.

DMG also attracted audiences by innovating advertising formats. Its subway drama, *A Sunny Day*, consisted of short episodes designed for the viewing conditions of metro passengers. Starbucks and Pepsi products were integrated into the story, and sales of bottled Frappuccino reportedly exceeded expectations during the campaign. This project proved DMG could deliver more than conventional screen inventory. This capability allowed it to command premium pricing through original content.

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2.3. Value capture and financial weakness

Despite these strengths, DMG struggled to transfer the value it created into profit. The company generated advertising revenue after securing a concession and could theoretically increase income by attracting more advertisers, selling more minutes, or charging higher rates. However, the financial data show a gap between growth and sustainability. Revenue increased from RMB 5.8 million in 2006 to RMB 54.4 million in 2007 and was projected to reach RMB 92.4 million in 2008. But the net losses also increased from RMB 25.5 million in 2006 to RMB 45.3 million in 2007, with a projected RMB 56.2 million loss in 2008, as reported in Table 1 [2].

Operational expansion did not guarantee better economics. The company expected its number of screens to rise from 7,332 to 15,695, but projected advertising utilization declined from 41.2% to 39.4%. At the same time, concession fees were expected to increase from RMB 47 million to RMB 65 million. These trends suggest that DMG was adding capacity faster than it could sell advertising. A larger network maybe could create future value, but it also increased the cash-flow pressure of the company.

Table 1. DMG unaudited pro forma financials as of March 2008

	2006A	2007A	2008P	2009E
Revenue (RMB millions)				
Chongqing	—	2.7	3.2	5.8
Hangzhou	—	0.0	0.0	0.0
Hong Kong	—	2.2	2.4	3.9
Nanjing	—	5.3	10.2	15.5
Shanghai (existing lines)	—	28.1	—	—
Shenzhen	—	2.7	8.0	14.7
Tech	—	10.3	7.0	12.5
Tianjin	—	3.1	3.8	7.2
Beijing	—	0.0	7.5	57.8
Bus shelter	—	0.0	1.1	9.8
Shanghai (all lines)	—	—	49.2	89.7
Total Revenue Anticipated	5.8	54.4	92.4	216.9
Gross Profit	—	(9.5)	1.7	60.1
R&D	—	13.9	16.9	15.9
Sales & Marketing	2.5	3.9	11.6	11.8
General & Administrative	9.1	11.6	23.6	23.7
Total Operating Expenses	11.6	29.4	52.1	51.4
EBITDA	—	(38.9)	(50.4)	8.7
EBIT	—	(53.8)	(57.3)	(49.3)
Net income	(25.5)	(45.3)	(56.2)	(54.9)

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Table 1. (continued)

Net working capital	228.2	156.7	50.9	—
Operating Metrics				
Operating lines	—	11	15	23
Number of screens	—	7,332	15,695	34,152
Passenger flow (millions/day)	—	4.4	13.1	14.9
Utilization rate	—	41.2%	39.4%	34.9%
Concession fee (RMB M)	—	47	65	94
exchange rate	7.8041	7.294	6.8173	6.8173
in USD Millions				
Total Revenue Anticipated	$0.7	$7.5	$13.6	$31.8
Gross Profit	—	($1.3)	$0.2	$8.8
R&D	—	$1.9	$2.5	$2.3
Sales & Marketing	$0.3	$0.5	$1.7	$1.7
General & Administrative	$1.2	$1.6	$3.5	$3.5
Total Operating Expenses	$1.5	$4.0	$7.6	$7.5
EBITDA	—	($5.3)	($7.4)	$1.3
EBIT	—	($7.4)	($8.4)	($7.2)
Net income	($3.3)	($6.2)	($8.2)	($8.1)
Net working capital	$29.2	$21.5	$7.5	unk.
Long term debt	$ —	$ —	$ —	$ —
CapEx	$ —	$ —	$ —	$ —

The forecasts were particularly uncertain because projected Shanghai revenue assumed that DMG would win the city's bus shelters and all 13 subway lines, while Beijing figures assumed three lines. Therefore, the apparently rapid future growth was conditional on successful bids that depend on large up-front payments. DMG's model thus appeared highly sensitive to a small number of binary concession decisions.

3. Competitive and institutional risks

As the industry matured, the early advantage of DMG's technique become weaken. Metro authorities initially focused on passenger communication and had not fully recognized the commercial value of screen advertising. After they understood the value of advertising, they began auctioning media rights. DMG could still deliver superior subway media technology, yet as Chesbrough argues, firms commercialize new ideas and technologies through their business models [6]. While companies may have extensive investments and processes for exploring new ideas and technologies, they often have little if any ability to innovate the business models through which these inputs will pass. This matters - the same idea or technology taken to market through two different business models will yield two different economic outcomes. DMG's technology no longer guaranteed the advertising

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concession. This separated value creation from value capture: DMG might help create a valuable communication platform, but they can not afford the higher price. Finally, a competitor with a higher bid secured the advertising revenue.

The bargaining power of metro authorities was therefore high. They controlled access to essential locations, and only a limited number of major concessions were available. So the relationships with local governments were also important, increasing the business model's dependence on political and institutional factors. Poor stakeholder relationships could threaten revenue even when DMG's technology performed well.

The competitive in the industry was also intense. Focus Media had already achieved a major public listing, while VisionChina competed aggressively for transit advertising rights. VisionChina's bus network expands faster because buses and shelters already existed, whereas DMG depended on the slow construction of new subway lines. Advertisers could also choose television, online media, building displays, or bus advertising as substitutes. In Porter's terms, strong suppliers of locations, capable rivals, and alternative advertising channels limited DMG's ability to retain the value its network generated [3].

Internal management problems made these external risks more serious. Sales teams in different cities sometimes competed for the same customers, senior managers lacked regular coordination, and relationships with metro authorities deteriorated under the former CEO. DMG's weak coordination reduced its ability to sell available advertising and protect institutional relationships.

4. Conditions for greater sustainability

DMG's model could become more sustainable, but only under several conditions. First, the company needed disciplined bidding rules that considered realistic advertising demand rather than pursuing network size alone. Winning a prestigious concession would destroy value if its fee exceeded achievable advertising revenue. Second, DMG needed stronger sales coordination and better audience measurement to raise utilization and demonstrate value to advertisers. Third, maintaining relationships with metro authorities was essential because they were both operational partners and gatekeepers.

DMG also needed to reduce its dependence on conventional advertising. It could explore additional profit-generating services, such as licensing its passenger information technology, developing content-production services, rolling out branded entertainment across subway and online channels, or establishing revenue-sharing agreements to reduce fixed concession-related risks. These options would build on existing capabilities while creating additional revenue streams. Teece emphasizes that business models must adapt as technology and markets evolve [1]. For DMG, adaptation was necessary because the original exchange of technology for advertising access was becoming less favorable.

5. Conclusion

DMG's subway digital media business model was sustainable only to a limited and conditional extent in 2008. The company created meaningful value through a distinctive passenger information system, an attractive audience, strategic partnerships, and innovative advertising content. Its network connected public-service communication with commercial media in a way that competitors could not immediately duplicate. However, DMG had not demonstrated reliable value capture. Rising revenue was accompanied by continuing losses, lower projected advertising utilization, and increasing concession fees. The company's dependence on a small number of government-linked

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metro authorities gave those stakeholders considerable power, while auctions allowed aggressive competitors to separate DMG's technological advantage from the advertising rights needed for revenue. Forecast growth also depended on winning uncertain, capital-intensive bids. Overall, DMG had a promising concept rather than a proven sustainable model. Greater viability required disciplined concession bids, higher advertising utilization, stronger management, and diversified revenue so that DMG could capture enough value to finance operations.

The method has limitations. The data used for researching was prediction data that based on winning major concessions. Therefore, the data lacks authenticity. Also, DMG's financial statements were unaccounted. A relatively short time span because the research just focus on DMG in 2008 without tracking the long-term business transformation, so, it is difficult to observe how its business model change when the market and policy environment change. Although the passage also mentions some companies such as VisionChina, the research do not compare the certain data like financial statement, business model and bidding strategy between VisionChina and DMG, which lacks enough sample to appropriate for other digital businesses.

Based on these limitations, the improve method in the future is that collecting the clearly data about the DMG's public news, the advertising project, the resources investors public and the screen stocks in order to enlarge the data types. Also, searching DMG's business operation situation around 2008 to measure its long-term operation situation and adaptation about the market environment change. Additionally, interviewing the people who has experience about digital media like advertising agency to replenish the data loss.

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