

MLC—Making life convenient

Management Information Systems (1002) (Dr. Chun Fong LEI)

1830001068 Ziyue Pang

1830001105 Yuxiang Xu

1830001131 Ye Zhu

1830001007 Ruikai Chen

1830001035 Jiahui Li

1830001025 Haoxiang Hu



December 4, 2021

Address: 2000 Jintong Road, Tangjiawan, Zhuhai, Guangdong Province, China | Tel: +86 0756 3620000

Executive Summary

MLC (making life convenient) company provides home automation system and smart home products that enables the control of home appliances and domestic based on Internet of Things (IoT) and wireless communication techniques (Asadullah and Raza, 2016). The philosophy of MLC is less human involvement and more convenience, since all furniture and device in the home and office such as air conditioners, lights, fans are connected by local networking and operated by information system (Gunge and Yalagi, 2016). The artificial intelligence “housekeeper” and the control system integrated in the terminal free people from housework and enable they to remotely control the operation of all devices. The target customers are mainly young people who accept modern intelligent technology and hope to realize intelligent automation of housework. In China, there are 854 million Internet users in June 2019 (Yu 2019), and 967.76 million adults aged 15 to 64 in 2020 (National Bureau of Statistics, 2020). Therefore, our potential customer base is very large, there is a high-value investment project.

Contents

Executive Summary	1
1 The Business	5
1.1 Description of the business	5
1.2 Industry analysis	6
1.2.1 Porter Five Forces	6
1.2.2 SWOT analysis	7
2 Business Operation	9
2.1 Marketing mix	9
2.2 Competitive analysis	10
2.3 Legal structure and management expertise	13
2.4 Organizational structure	15
3 Financial planning tools	17
Conclusion	21

List of Tables

3.1	Balance sheet	17
3.2	Income statement	18
3.3	Cash flow projections	19

List of Figures

1.1	Logo of MLC	5
-----	-----------------------	---

1 The Business

1.1 Description of the business

MLC is a smart home enterprise specializing in Internet of things technology services and integrating multiple product lines such as smart home and office design. MLC focus on “Making people’s life become more convenient”. Our company focuses on the function of intelligent adjustment. For example, the company’s flagship product, memory air conditioning. The product adjusts itself according to the information entered by different family members and the external environment. Consumers can input their daily itinerary into the system and upload it to the cloud. Information is available to all associated products and is automatically adjusted for different time periods. For example, everyday morning the smart curtain will open automatically in the set time, at the same time, the automatic breakfast machine will also start working. The whole automation process will save consumers a lot of time and make life more convenient.



Figure 1.1 Logo of MLC

1.2 Industry analysis

1.2.1 Porter Five Forces

- Bargaining power of supplier:

Raw materials differentiation is generally small, suppliers provide raw materials or basic components of products. These materials are almost the same, there is no particularity. At the same time, the transfer cost of raw materials is small, and there will not be a situation that only one company can produce those materials. And suppliers are difficult to achieve smart home production and sales, so forward integration is difficult to do. To sum up, the bargaining power of supplier is low.

- Bargaining power of buyers:

Product differentiation is large. Basically, all smart home products have their own separate connected systems. It means that most of time customers only buy one company's products in order to letting smart home take effect. Therefore, the transfer cost is high. At the same time, the cost of purchase is high. Backward integration is less of a threat. So the bargaining power of buyer is low.

- Threat of new entrants:

Smart home industry belongs to the emerging- industries, the current market is not very standardized. Each enterprise has different standards. For new entrants, it will be more difficult. Also, the lack of antecedent advantage will cause certain obstacles, and losses may appear in the early stage of development. But the government has introduced relevant policies to guide and encourage investment in this industry. The prospects for industrial development are good.

- Threat of substitute products and services:

Smart home products belong to high-tech products. And those products have little substitute products. The threat of substitute products is not obvious. However, this

kind of product belongs to the flexible consumption, is not the necessity. Perhaps consumers will choose the cheaper traditional household products instead of smart ones.

- Rivalry among existing competitors:

Industry growth rapidly, the smart home industry is in a stage of rapid development. But most companies apply similar products and services, such as smart curtains, smart monitoring and so on. At the same time in the primary stage of the market, the public recognition is not high. Most smart home industries have previous industrial foundations, such as the Internet and traditional home furnishing. Customers may choose familiar brands when choosing smart home furnishing for the first time which increased competition among enterprises.

1.2.2 SWOT analysis

- Strengths:

The product is more humanized. MLC's products are tailored to each individual person. Such as smart air conditioning, different people enter the room, it will automatically adjust to the temperature of this person. The independent Internet of Things platform also well protects consumer information. With a dedicated research and development team, MLC focus on new technologies to improve customer experience. Online and offline sales channels, consumers can experience offline, online purchase, more convenient. Quality service is also important. MLC provide free installation services, as well as annual maintenance services.

- Weaknesses:

Less well-known. Others are generally shifting from traditional home furnishing or internet companies which have a solid customer base. In general, customer loyalty is high in the home furnishing industry. For MLC, dedicated smart home companies are lacking in brand recognition.

- Opportunities:

Future trends. With the development of cloud computing, big data, internet of things and other science and technology, the smart home industry is also constantly developing. Smart home industry towards the scene as the center of the Internet intelligent stage and became an important role in more and more families. More and more people start to look for more convenient and smarter life. The market is developing fast, and the demand increase rapidly.

- Threats:

The industry is in the stage of development, with more and more businesses entering the market and more competitors. At the same time, the internal competition pressure is greater, enterprises hope to occupy a leading position. Moreover, the government not only encourages the industry, but also strengthens its control over the industry.

2 Business Operation

2.1 Marketing mix

After centralizing the target market, we focus on the four marketing activities that are controllable - product, price, place and promotion.

Product is a complex mix of tangible and intangible attributes that provide satisfaction and benefits, and it is such an important variable that often becomes the central focus of the marketing mix, therefore it is always essential to develop appropriate products based on the consumers' needs and expectations. Just like the name of our company, we would like to bring more convenience to people's daily lives, and that's why information technology and artificial intelligence kick in. By adding automatic adjustment features based on personalization to furniture and appliances, it is promising to expect people's rising satisfaction.

Almost anything can be assessed by a price, a value based on an object exchanged between a buyer and a seller. It is a key element of marketing mix because it relates directly to the generation of revenue and profits. When setting prices for corresponding products and services, there are two factors that deserve us to pay more attention to: the situation of supply and demand in the market as well as the competitors' actions. This is because prices can change quickly according to the fluctuating demand and the pricing strategies of other companies in the same industry will also influence

our decisions - sometimes lower prices can indeed attract more customers, capturing more market shares.

Distribution aims at making products available to customers in the quantities desired, also to arrange transportation and storage through appropriate ways to deliver products to the target market. This requires us to broaden our distribution channels to achieve more efficiency in terms of delivery and transportation. In detail, wholesalers and other middlemen are an indispensable part, since we as producers would have to deal directly with retailers or keep voluminous records and hire extra people to deal with customers in the absence of them. So dealing with the relationship really becomes a practical task.

Promotion refers to a persuasive form of communication that attempts to expedite a marketing exchange by influencing individuals, groups, and organizations to accept goods, services and ideas. Under all circumstances should we bear in mind that when using advertising and other forms of promotion, we must effectively manage promotional resources and understand product and target-market characteristics to ensure that these promotional activities contribute to the firm's objectives. For MLC, while applying traditional advertising media which remain important such as television, digital advertising on websites and social media sites is also appealing and worth considering. Not only can digital advertising be less expensive, but advertising offerings allow companies to only pay when users click on the link or advertisement.

2.2 Competitive analysis

Smart home is a new concept of home in recent years. The main function of it is to take the residence as the platform, integrate the facilities related to home life by using a variety of IT technologies, and build an efficient management system of residential facilities and family schedule affairs. The application of smart home has comprehen-

sively improved people's home life experience.

As an emerging market, China's smart home market currently has fewer original enterprises. Most of the manufacturers providing smart home products and services belonged to: Traditional manufacturers of home appliances, automation equipment manufacturers, intelligent control product manufacturers and Internet companies. These manufacturers have their own competitive advantages□

- The competitive advantages of traditional manufacturers of home appliances are their rich experience in home appliance manufacturing and management and perfect production lines. These manufacturers also have a deep industry heritage (reputation and influence, stable customer groups, supplier groups and distribution channels). Domestic famous brands: Haier, MIDEA, GREE.
- Automation manufacturers have a leading edge in automation technology. The technical core of its products is mainly automation control, such as industrial automation products and home security products. Such manufacturers have a stable market position and strong competitiveness. Domestic famous brands: Cokete, HiKVISION.
- Intelligent control manufacturers have a deep understanding and technical accumulation of intelligent control technology. Such manufacturers have long been engaged in the manufacturing of intelligent equipment in the home and office environments, and have sufficient experience in product intelligence. Related products such as intelligent light control, intelligent temperature control, intelligent electrical appliances, etc. Similar to the first two industries, such manufacturers also occupy a considerable part of the market share. Domestic famous brands: TOPBAND.
- Internet companies have the most core competitiveness and development potential in the smart home market. Internet companies enjoy an absolute advantage in the development ability of mobile port applications. They can make full use of all technologies based on the Internet and occupy the highland of the smart home industry with the help of smartphones and other mobile products. Most importantly, Internet

companies dominate the Internet of things technology. The traditional manufacturing industry has no IT technology background, and due to the high cost of research and development, it can only choose to cooperate with enterprises with product intelligent technology such as Internet companies. At the same time, Internet companies have strong network marketing capabilities. Their products are accurately launched through big data and cloud computing and meet the personalized requirements of customers. Famous domestic brands: Xiaomi, Alibaba, Baidu.

MLC is a mature enterprise of smart home, which mainly engage in technical services including Internet of things and integrate multiple product routes such as smart home appliance manufacturing, smart home and office design, and smart life product manufacturing. MLC is the original industry of smart home market. It has no other industry background but needs professional IT technology as support. In view of the current competitive environment, MLC follows a series of important strategic principles:

- Establish an independent new Internet of things platform.
- Provide a multi line product portfolio with self-developed IT technical services as the core and physical intelligent products as the supplement.
- Ensure the quality of products and services.
- Innovate technology of the internet of things and iterating AI algorithm to improve the intelligent level of products.
- Pay attention to personalized service, and private customization has always been one of the most important driving forces.
- Realize cooperation with competitors in the same industry, including but not limited to technology connection.
- Adhere to the combination of online and offline distribution channels.
- Maintain the optimization of feedback mechanisms from suppliers to customers in order to improve the company's business ability.

2.3 Legal structure and management expertise

The legal structure (type of legal person) of MLC is a stock corporation. MLC is an independent economic legal person that undertakes the company's debts with all its assets. The shareholders of MLC shall bear limited liability to the company with the number of shares they subscribe for. MLC complies with the laws and regulations of listed companies, issues shares equally divided by all capital to the society, and always discloses available information to social investors. According to the company's law, the shareholders of the company have no right to withdraw their shares but can withdraw from the company by means of equity transfer. MLC chooses to be a stock corporation for the following advantages:

- Stock corporations enjoy the rights of legal person organization according to law.
- The shareholders of a stock corporation shall only bear limited liability.
- Stock corporations can raise a lot of funds quickly; The division of shares reduces the amount per share and can more widely absorb social idle funds.
- Stock corporations realize the separation of management rights and ownership. It also meets the requirements of the modern enterprise system and retains management autonomy and greatly improves the efficiency of the company (Zhang, 2018).
- Stock corporations' equity can be freely transferred.
- A stock corporation is legally permanent.

The management expertise required by MLC is realized through the combination of enterprise systems, which is a leading digital management mode (Reuber, 1997). Enterprise information systems can be divided into two types according to their functions. One is the enterprise system applied to different management groups, and the other is the system used to link internal enterprises. The following are the information systems and corresponding management expertise applied by MLC: Enterprises information systems for different management groups can be divided into transaction

processing systems and systems for business intelligence:

- Transaction processing systems (TPS): Automatically processing transaction information generated by the daily operation of the enterprise.
- Business intelligence systems
- Management information systems (MIS): Being responsible for information management. Providing accurate enterprise performance reports for middle managers, controlling and supervising business processes and predicting enterprise performance.
- Decision-support systems (DSS): Providing support for business and organizational decision-making activities for middle and senior management. The effective way of man-machine dialogue is adopted to provide a series of alternative solutions for special and rapidly changing problems.
- Executive support systems (ESS): Helping enterprise executives solve problems and provide decision support. Systems for linking the enterprise□
- Enterprise systems / Enterprise Resource Planning (ERP) systems: Being responsible for integrating various information resources.
- Supply chain management systems (SCM): Being responsible for managing supplier relations.
- Customer relationship management systems (CRM): Being responsible for managing customer relationships.
- Knowledge management systems (KMS): Being responsible for the construction of knowledge database to help enterprises better manage and apply professional knowledge.

According to the requirements of digital management, MLC uses digital technology and Internet to implement the main business processes, including internal management activities and coordination with other business partners. For the needs of Internet marketing, MLC also applies e-commerce, including but not limited to the transaction of goods and services, advertising, customer support and customer security.

2.4 Organizational structure

The organizational type of MLC is the divisionalized bureaucracy. According to Mintzberg's organizational configuration theory, divisionalized bureaucracy is composed of a centralized headquarters and various divisions. As a profit centre, each division has a unique structure and can make decisions independently. Because MLC adopts an exploratory strategy guided by technology and takes innovation and application promotions as its core functions, it requires MLC to apply an organizational structure suitable for the strategy.

Divisionalized bureaucracy has the characteristics of innovation, flexibility and decentralization (Ren & Liu, 2005). This provides MLC with strong background capability and product support. The managers of each department have more decision-making power and control power, which ensures the independent operation of each department and enhances the ability to respond to external changes. In addition, the volume of each business division is smaller than that of the enterprise as a whole, and the information flow is more smooth. This not only shortens the time of product and innovation, but also improves the efficiency of the whole business process from design to sales. However, MLC also needs to pay attention to the smooth flow of information and resources between business divisions.

The commanding division is the core Department of MLC. It leads all divisions of MLC and is mainly responsible for the company's strategic management, long-term planning and other important functions. Including but not limited to arranging and supervising the effective connection and operation of various departments, formulating management incentives, training and assessment mechanisms, planning and clarifying main business areas, and assisting the board of directors in establishing long-term development policies. Managers of all business departments are directly responsible for the commanding division.

MLC sets up multiple business divisions according to main products and services. The business divisions divided by this are smart IT-business division, smart home business division, smart office business division, smart life products business division, innovative products business division, e-commerce business division and smart service business division. The intelligent business division is responsible for providing one-stop IT solutions for other manufacturers, including product intelligence, cloud computing and operation and maintenance services. The smart home business division is responsible for the smart appliances, the scheme design of the whole-house-IT, whole house intelligence and other supporting services. The intelligent office business division is responsible for the designing services of intelligent office environments and office products. The intelligent-life products division is responsible for the intelligent life products. The innovative products division is responsible for technological innovation and new products. The e-commerce business division is mainly responsible for product online marketing, online publicity and other related online financial activities. The wisdom service division is responsible for providing customers with all-around product consulting, scheme design services and holding offline exhibitions.

In addition to the above business divisions, MLC follows the traditional corporate structure and sets up three divisions: Human resources division, financial statistics division and legal compliance division to provide stable operation guarantee for the company.

3 Financial planning tools

Using the balance sheet to analyze can make us easier to find out the advantages and disadvantages of the financial situations. In this table, we can see that our company has a low debt to asset ratio, which reflects our company is healthy.

Table 3.1

Balance sheet

	2022.1.1	2022.12.31		2022.1.1	2022.12.31
Assets			Liabilities		
Current assets			Current liabilities		
Cash on hand	371,472,866	610,101,322	Accounts payables	273,000,000	351,000,000
Accounts receivables	1,430,000	1,980,000	Accrued payroll	7,900,000	10,000,000
Advance to suppliers	1,900,000	2,000,000	Taxes payable	22,545,541	25,728,650
Inventories	50,500,000	71,700,000	Utilities	301,000	398,000
Total current assets	425,302,866	685,781,322	Total current liabilities	303,746,541	387,126,650
			Long-term liabilities	156,144,468	262,741,306
			Total long-term liabilities	156,144,468	262,741,306
			Total liabilities	459,891,009	649,867,956
			Owner's Equity		
Noncurrent assets			Paid-up capital □or stock□	20,697,000	20,697,000
Buildings	204,000,000	205,500,000	capital reserves	2,872,584	3,088,800
Equipment	4,920,000	4,976,323	surplus reserves	2,576,578	2,978,870
Depreciation	109,560	111,950	undistributed profit	148,295,255	219,736,969
Total noncurrent assets	209,029,560	210,588,273	Total owner's equity	174,441,417	246,501,639
Total assets	634,332,426	896,369,595	Total liabilities and owners' equity	634,332,426	896,369,595

The net profit growth rate reaches 28.7%, which is better than many other same types of companies. It shows that our productions are popular and competitive.

Table 3.2

Income statement

Income statement	2021	2,022
Sales	151,092,645	193,449,138
Costs of goods sold	88,003,385	112,108,647
Gross profit	63,089,260	81,340,491
Salaries expense	7,810,000	10,000,000
Rent expense	10,465,400	13,400,000
Advertising expense	20,852,700	26,700,000
Utilities expense	301,000	398,000
Depreciation expense	109,560	111,950
Interest expense	861,600	1,129,541
Total expense	40,400,260	51,739,491
Profit before tax	22,689,000	29,601,000
Income tax expense	2,689,000	3,861,000
Net Profit	20,000,000	25,740,000

The abilities to repay debt, reinvest in business, pay expenses and dividends could be witnessed by the positive cash flow. To continue the expansion, we will use our sufficient working capital to increase long-term assets and investment.

Table 3.3

Cash flow projections

Cash flows from operating activities:	2021	2022
Net profit	20,000,000	25,740,000
Income tax expense	2,689,000	3,861,000
Profit before tax	17,311,000	29,601,000
Adjustments to reconcile profit to net cash from operating activities		
Depreciation expense	927,466	4,976,323
Increase in accounts receivable	-1,430,000	-1,980,000
Increase in accounts payable	273,000,000	351,000,000
Interest expense	-718,000	-918,326
Cash flows generated from operating activities	2,210,000	3,538,000
Income tax paid	-2,689,000	-3,861,000
Interest paid	-861,600	-1,129,541
Net cash from operating activities	270,438,866	351,625,456
Cash flows from investing activities		
Cash received from return of investments	25,100,000	38,900,000
Cash received from investing activities	3,823,000	4,902,000
Net cash received from disposal of fixed assets	7,600,000	8,900,000
Cash paid for purchasing fixed assets, intangible assets and other long-term assets	-19,800,000	-36,300,000
Cash paid for investment	-79,000,000	-100,000,000
Net cash used in investing activities	-62,277,000	-83,598,000
Cash flows from financing activities		
Cash paid for long-term debt	-50,000,000	-59,000,000
Net cash used in financing activities	-50,000,000	-59,000,000
Net increase in cash	175,472,866	238,628,456
Cash balance at prior year-end	196,000,000	371,472,866
Cash balance at current year-end	371,472,866	610,101,322

Conclusion

With a huge potential market and relatively healthy financial status, MLC will use technological advancement and scientific management to establish its own comparative advantage based on efficient information system management and occupy market share. Customers will benefit from the convenience brought by advanced Internet of Things technology, artificial intelligence and human-computer interaction technology.

Through detailed analysis of the company's business and governance, market environment, financial status, and consumer groups, MLC companies are considered to have high investment value and expected to make a difference in today's communications industry.

Bibliography

- [1] Asadullah, M., & Raza, A. (2016). An overview of home automation systems. In 2016 2nd international conference on robotics and artificial intelligence (ICRAI) (pp. 27-31). IEEE.
- [2] Cao, Z. T., & Duan, C. L. (2004). Enterprise organizational structures and technological innovation strategy. *Economic Problems*(1), 3.
- [3] Gunge, V. S., & Yalagi, P. S. (2016). Smart home automation: a literature review. *International Journal of Computer Applications*, 975, 8887.
- [4] National Bureau of Statistics (2020). National Data of 2020. <https://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0301&sj=2020>
- [5] Reuber, R. (1997). Management experience and management expertise. *Decision Support Systems*, 21(2), 51-60.
- [6] Ren, H., & Liu. S. L. (2005). Organizational structure design based on strategy. *Science of science and management of science and technology*, 26(8), 4.
- [7] Robé, & Jean-Philippe. (2011). The legal structure of the firm. *Accounting, Economics, and Law*, 1(1).
- [8] Yu Z.H. (2019). CNNIC released the 44th "Statistical Report on the Development of China's Internet". *Cybersecurity and Civilian Integration*, 9.
- [9] Zhang, C. (2018). Research on the similarities and differences between joint stock limited companies and limited liability companies. *Chinese markets*(11), 2.

