

Product Localization Go-to-market Strategies

for an international company X to launch a new
product in China market

Preface

March 2023 — August 2023

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Dear Reader,

Embarking on this research endeavor has been both enlightening and challenging. My navigation through this academic exploration was made possible due to the unwavering support and guidance provided by several key individuals.

First and foremost, I would like to express my deepest gratitude to my academic mentors, **Ellis and Sijia**. Your invaluable feedback compelled me to delve deeper and refine my arguments. It is my great pleasure to receive guidance from you, and your emphasis on structured thinking and clarity was instrumental in enhancing the rigor of this thesis.

During my thesis internship, **Kevin** played a pivotal role as my mentor. Beyond his keen observation and extensive experience, the steadfast support and trust he provided played a crucial role in establishing a solid basis for this study. His patience in listening to my ideas and granting me the autonomy to execute them was invaluable. His support streamlined my market and consumer research efforts, making the entire process more seamless.

To **my parents**, who have always believed in me and generously offered their resources, and to **my friends and colleagues**, who patiently endured my relentless discussions about air-source heat pumps and some even accompanied me undercover as customers at competitor stores, I owe a world of thanks. Their belief in my journey and their unwavering support were pillars of strength.

Lastly, I must also pay tribute to **Taylor Swift**, my favourite singer in the universe. Her music, particularly a piece called "**You Are on Your Own, Kid**," has been my companion through countless midnight hours, helping me pull through all the challenges. If you find yourself reading this thesis late into the night, I highly recommend listening to her album "**Midnights**" as a source of inspiration and solace.

This deep dive into air-sourced heat pumps and their go-to-market strategy has been a profound learning experience for me. The intricacies of the subject, combined with the dynamic nature of the HVAC industry, posed challenges and rewards. I believe the insights obtained from this study will be invaluable in my future professional pursuits.

In conclusion, I hope this thesis offers readers a comprehensive overview of the topic, sparking further interest and conversations in the domain. Thank you for accompanying me on this academic voyage. I trust you'll find the ensuing pages as enlightening as I found the process of crafting them.

Warm regards,



Executive summary

Company X is a renowned engineering and technology corporation based in Germany that has established a prominent presence in China for over a century. Company X is actively promoting and leading the way in adopting environmentally friendly technological projects in response to the green energy trend worldwide. A significant step in this direction is introducing their new air-sourced heat pump product line in their Chinese HVAC department, specifically designed to cater to the unique requirements of the local environment and market.

This study aims to assist Company X in its transition towards green technology by developing a strategic plan for introducing its new product in the Chinese market. Upon joining Company X, the author assumed the role of an external observer and started the research by reviewing internal documents to understand the company's current situation and the product itself. The author concludes that a go-to-market strategy is an essential bridge for its product launch since it can help to meet the company's transitioning from product-driven to emphasising meeting market demands and enhancing user experience.

Since this study focuses on developing a go-to-market plan for Company X, highlighting the product's unique selling point is critical to differentiate from intense market competition. To achieve this goal, the author conducted thorough market and consumer research, which involved studying existing literature, conducting field studies, and gathering feedback through surveys and interviews.

From the gathered data, a strategic product launch roadmap was created for Company X. This roadmap offers advice on highlighting features that make the company's heat pump different from others and on effective launch strategies. A key observation was the varied nature of the Chinese market and the specific demands of its consumers. Since user needs and preferences differ from region to region, it is crucial to adapt strategies and, when needed, test them with local partners before a widespread rollout.

Interestingly, the research also showed that many consumers are not fully aware of the ASHP product, signalling opportunities for educational initiatives. For Company X to truly resonate with its audience, it is essential to reimagine its brand image, emphasising sustainability and user experience. The ultimate objective is for Company X's new product to resonate with its target audience and capture a significant portion of the ASHP market share.

Given the confidential nature of this project, the company under study will be anonymised and referred to as "Company X" throughout this paper. It is also important to note that much of the information in the literature review comes from Company X's documents, originally written in Chinese. Therefore, many of the references in this research are translations done by the author. Every effort was made to keep the true meaning of the original documents while making them understandable for readers of this study.

Reading Guide

Visual Guide

This is the headline

This is a sub-headline

This is a intro text

This is a section title

This is main body text

Figure - text style

This is the key insights box

Theme Color Accent coulor Accent Grey Background

The diagram illustrates various text styles and a color palette. It includes a large headline, a sub-headline, intro text, a section title, main body text, and a figure caption. A key insights box is highlighted in orange. Below, four color swatches are shown: Theme Color (teal), Accent coulor (orange), Accent Grey (dark grey), and Background (light grey).

Abbreviation

ASHP - Air-sourced heat pump

Go-to-market strategy - GTM

Heating, Ventilation, and Air Conditioning - HVAC

Air-to-air heat pump - AAHP

Air-to-water heat pump - AWHP

Chinese Yuan Renminbi - RMB/CNY

Coefficient of performance - COP

Return on Investment - ROI

Table of Contents

<i>Preface</i>	2
<i>Executive Summary</i>	4
<i>Reading Guide</i>	6

Chapter 1 Introduction

1.1 Project background	12
1.2 Research objectives	13
1.3 Research methods	14

Chapter 2 Contextual Research

2.1 About Company X	20
2.2 About air-sourced Heat Pumps	22
2.3 About go-to-market strategy	26

Chapter 3 Market Assessment

3.1 Macro-environment	30
3.2 Real-estate market	33
3.3 Heat pump market	36
3.4 Market selection	40
3.5 Competitor analysis	43

Chapter 4 Consumer Research

4.1 Trend Research	48
4.2 Field research (Qual & Quant)	52

Chapter 5 Go-to-market strategies

5.1 Consumer Persona (People)	72
5.2 Marketing mix (4P)	75
Positioning	75
Product & Service	76
Price	79
Promotion	80
5.3 Sales Channel (Place)	83
5.4 Customer Journey (Process)	86
5.5 Launch Strategy Roadmap (Process)	88

Reflection 92

Reference 94

Appendix A Survey Question (QNT) 98

Appendix B Interview Question (QL1) 108

Appendix C Project Brief 110

Chapter 1

Introduction

1.1 Project background

In 2022, China's National Development and Reform Commission (NDRC) introduced its 14th Five-Year Plan, specifically tailored for the energy sector. The plan's fundamental principles—cleanliness, low carbon emissions, safety, and efficiency—align with the blueprint in March of the previous year. The plan's objectives for 2025 are bifurcated into two primary areas: (1) Enhancing energy security through the augmentation of domestic production, and (2) achieving peak carbon emissions by 2030 and attaining carbon neutrality by 2060. Considering that coal currently fuels half of China's electricity generation, the second objective implies an impending transition away from coal-based power (NDRC, 2022). This shift has led to an increased demand for environmentally friendly energy sources for HVAC systems, with air-source heat pumps (ASHPs)—known for their efficient heating and cooling solutions—gaining a larger market share in China in recent years.

Company X, a globally recognised technology and services provider with German roots, has operated in China since the 1900s. Over time, Company X has expanded its operations in the country, establishing business sectors across various fields, catering to both businesses and consumers. One of the consumer-oriented businesses is its HVAC (Heating, Ventilation, and Air Conditioning) department, which offers efficient and eco-friendly heating and hot water systems for residential and commercial buildings.

In Germany, Company X has a robust reputation for producing heat pumps. However, in the Chinese market, it only manufactures water and heating boilers. Keen to penetrate the green energy sector, Company X has decided to produce air-source heat pumps for residential use. This new product line presents Company X with a multitude of challenges, both internal and external. Externally, Company X is stepping into a fiercely competitive ASHP market in China (Insights & Info Consulting Ltd, 2023), grappling with limited brand recognition in the industry. Internally, a potential deficiency in knowledge and resources within the organisation could hinder the production of ASHPs.

1.2 Research objectives

Despite the hurdles mentioned above, the primary objective of this project is to facilitate the successful launch of a new heat pump product line by Company X's HVAC department in the Chinese market. This will be achieved by offering a product that stands out for its high quality, reliability, and energy efficiency, thereby complementing its existing boiler products within the HVAC department.

In order to meet the objective, Company X needs to define its ideal customer profile, develop sales channels that can reach them, and establish a unique selling proposition for its ASHP product line. Constraints such as budget, timeline, and available resources will be considered during the project's execution. However, other limitations, including company X's complex internal structural hurdles, will be overlooked in the project. The desired outcome is a comprehensive go-to-market strategy (GTM) that will position Company X's heat pump product line for success in the competitive Chinese market.

The problem statement for this research project can be refined based on the information provided above into the following question:

What is a good go-to-market strategy for company X to launch their new air-sourced heat pump product in the Chinese market?

The problem statement can be dissected into the following sub-questions to enhance the structure of this research and provide academic relevance to the SPD field and to Company X. Each of these will be elaborated upon in the next section - research methods.

RQ1: What is a go-to-market strategy and why is it important for Company X's product launch?

RQ2: What are the key trends and dynamics in China's HVAC market, particularly in relation to air-source heat pumps (ASHPs)?

RQ3: What is the competitive landscape of the ASHP market in China?

RQ4: What resources and capabilities does Company X need to successfully launch and sustain the ASHP product line in China?

RQ5: Who are the consumers that Company X is targeting for its ASHP product line and how can Company X differentiate itself to attract them?

RQ6: How can Company X leverage its unique selling proposition to secure a significant market share in the ASHP market?

The answers to these sub-questions will provide a comprehensive understanding of the problem statement and guide the strategic direction for Company X's entry into the ASHP market in China.

1.3 Research methods

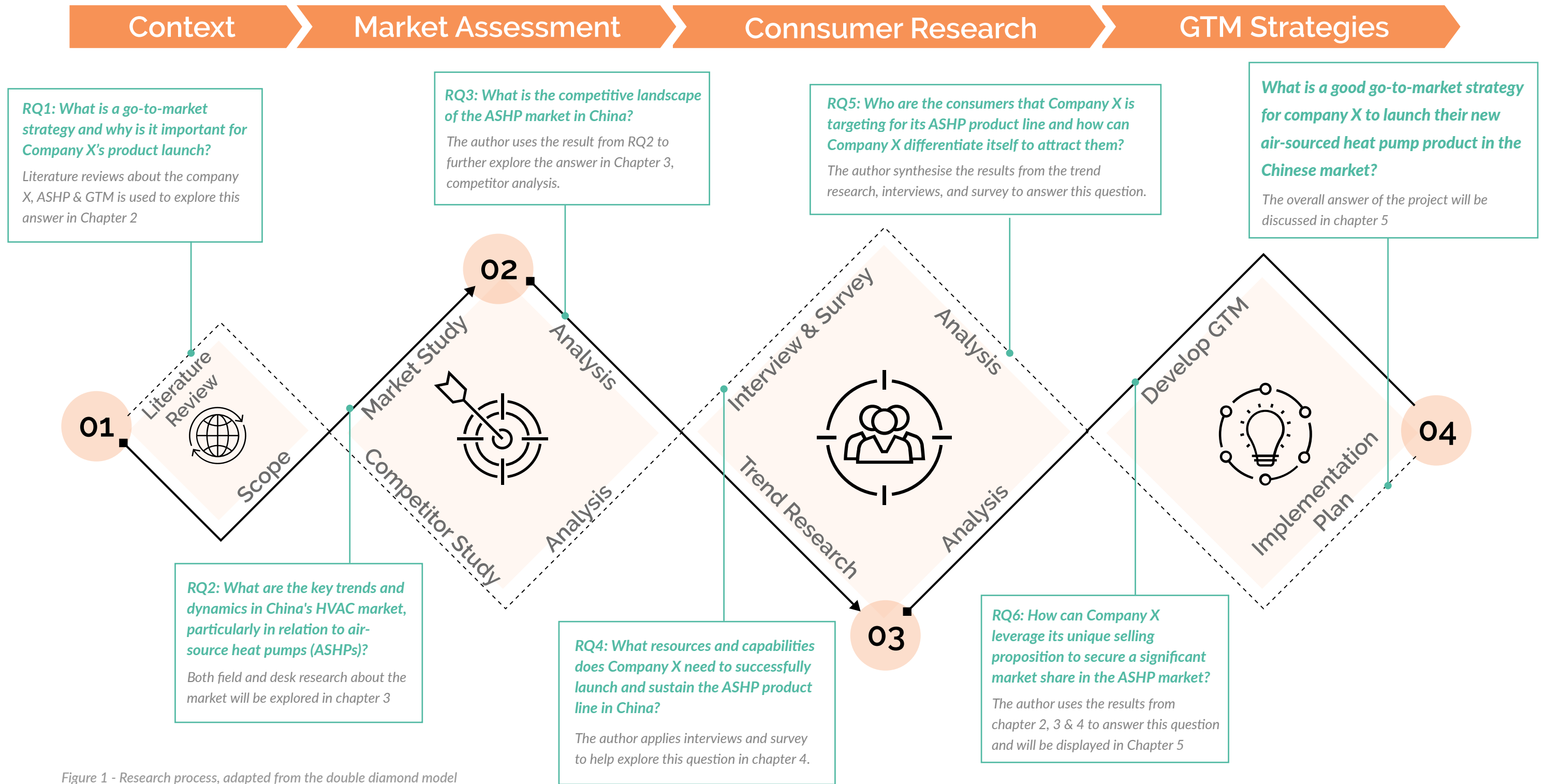


Figure 1 - Research process, adapted from the double diamond model

As shown in *Figure 1* on the previous page, the design methodology applied to the development of the product launch involves a systematic and iterative process that is adapted from the Design Council's Double Diamond model. The Double Diamond is a framework to show how, ideally, design happens. Each diamond is split into two halves, representing divergence and convergence (British Design Council, 2005). The double diamond can provide a structured, user-centred, and iterative approach to developing a GTM strategy, which can increase its effectiveness and success (Saad, 2020). In this project, the author added two more diamonds due to the complex nature of the study and tailored the process toward the outcome of a GTM.

The first diamond

The first diamond in the process is *defining the context*. This process involves a literature review to examine three essential aspects of the context: understanding a GTM strategy, researching the company, and gaining a deep understanding of the product. The aim is to understand the company's goals, values, capabilities, future vision, the product's unique features and benefits, and how a GTM strategy can help bridge the gap between the two. This step answers ***RQ1, what is a go-to-market strategy and why it is essential for Company X's product launch, and provides the foundation for the rest of the process.***

The second diamond

The second diamond of the research is *market assessment*. This step uses both desk research and field research to gain a thorough understanding of the market. The desk research begins with an analysis of the broader landscape, encompassing the macro-environment and the real estate market, which are closely intertwined with the Air-Source Heat Pump (ASHP) market. This part aims to select a sub-market for Company X's ASHP product line within China and answers ***RQ2 what are the key trends and dynamics in China's HVAC market, particularly in relation to air-source heat pumps (ASHPs).***

Field research was also conducted because of the complexity of the Chinese market and the limited availability of competitor information online. This part helps to answer ***RQ3: What is the competitive landscape of the ASHP market in China.*** The field research involved visiting competitors' stores and attending ASHP exhibitions. These field visits aimed to gain firsthand insights into the opportunities and challenges present in the market and understand how Company X and its product line fit into this landscape.

Combining desk research and field research ensures a well-rounded understanding of the market, providing a solid foundation for developing the Go-To-Market strategy.

The third diamond

The third diamond of the research is customer research. Building upon the insights gained from the market research, this section delves deeper into understanding user needs and segmentation. This section also involves both desk research and field research. The desk research is looking at the current consumer trend behaviour related to the HVAC industry. The field research involves both quantitative research to gauge customer needs and qualitative expert research to gain nuanced insights into these needs. This research stage involves identifying and understanding the target customer segments, their specific needs and preferences, and their purchasing decision-making processes. The objective is to comprehensively understand who the product's intended users are, why they would be interested in purchasing it, and the most effective strategies to reach them. This section answers both ***RQ4: What resources and capabilities does Company X need to launch and sustain the ASHP product line in China successfully*** and ***RQ5: Who are the consumers that Company X is targeting for its ASHP product line and how can Company X differentiate itself to attract them.*** By focusing on customer research, we can ensure that the Go-To-Market strategy is not only aligned with the market landscape but is also tailored to the specific needs and preferences of the target customers. This customer-centric approach is vital to successfully launching and adopting the new Air-Source Heat Pump product line for company X.

The last diamond

The last diamond is about delivering a comprehensive GTM Strategy: Synthesising the insights gained from the previous steps to develop a comprehensive GTM strategy and answer the overall problem statement - ***What is a good go-to-market strategy for company X to launch their new air-sourced heat pump product in the Chinese market.*** The result includes defining the value proposition, developing the marketing and distribution strategy, defining the sales strategy, and planning for customer relationship management. The author applies the 4P model with additional 3Ps to better answer ***RQ6: How can Company X leverage its unique selling proposition to secure a significant market share in the ASHP market.*** The aim is to develop a GTM strategy that effectively bridges the gap between the company and its target customers, leveraging the unique features and benefits of the product to create value for the customers and the company.

Conclusion

In conclusion, this design methodology provides a systematic and iterative approach to developing a GTM strategy. Starting with a deep understanding of the context and ending with the delivery of a comprehensive GTM strategy ensures that the strategy is grounded in solid research and tailored to the target customers' unique needs and preferences.

Chapter 2

Contextual Research

2.1 About Company X

This section discusses the mission of Company X and its brand image among consumers. Given the company's longstanding history and significant size, it is crucial to understand its profile. This can inform the development of the Go-To-Market strategy, ensuring it aligns with the company's mission and considers its brand image and any existing challenges or needs.

Company X, a prominent global technology and services provider, has established a substantial presence in China since the early 1900s. Over the years, it has become deeply ingrained in the country's economic development, evolving in tandem with the Chinese market. Company X's diverse product offerings in China encompass various sectors, such as automotive and intelligent transportation, industry, consumer goods, and HVAC (Heating, Ventilation, and Air Conditioning) systems. Within the consumer-facing realm, Company X delivers an extensive array of products within the consumer-facing realm, including power tools, home appliances, and heating solutions. These products are produced in different departments and thus operate independently.

According to internal research, Company X has forged a unique brand image in China, distinguished by its innovative prowess and premium quality. These attributes are evident across its wide-ranging product lines, from automotive solutions to home appliances. The company's knack for melding aesthetics with functionality in straightforward solutions underscores its innovative strength. Generally, Chinese consumers appreciate Company X's German heritage, associating it with quality and durability. However, subsequent market and user research has revealed mixed perceptions of the brand experience. Some consumers have expressed concerns about the quality of Company X's products compared to other German brands.

In China, Company X's HVAC department's current product portfolio includes an assortment of natural gas boilers catering to both businesses and consumers. These boilers fulfil dual functions, supplying both room heating and water heating. The existing sales channels are mainly sales to real estate developers and dealers, with no direct pathway for sales to end consumers. It is significant to note that the dealers responsible for selling boilers are separate from those handling other home appliances, reflecting their alignment with different departments within the company. Consumer research, detailed in Chapter 4, reveals that many consumers need to be aware of Company X's products in the HVAC industry. This lack of knowledge may pose a challenge as the company seeks to expand its presence in this sector, underscoring the need for targeted marketing and education efforts.

At the beginning of 2023, Company X undertook a significant rebranding initiative, renaming its HVAC department to align with the previous year's corporate purpose: making home products more sustainable. It also underscores the company's future commitment to the comprehensive electrification of all energy flows and the intelligent, efficient interaction of all energy consumers in a building, aiming to promote a sustainable lifestyle. Company X aims to continue outpacing the market and advancing the transformation of heat supply. According to the market and user research, the author has yet to identify its new brand vision in any consumer touch-points.

Air-sourced heat pumps, which use electricity to provide energy and offer higher efficiency for both cooling and heating solutions, are the perfect product to align with the company's green energy objectives. Consequently, as part of its mission to transition to the green energy sector, Company X has already launched the ASHP product line in the European and US markets. It is also a strategic plan for Company X to launch ASHP products in the Chinese market.

Key Takeaway:

In conclusion, Company X must invest in creating a new supply chain, nurturing expert knowledge, and fostering brand recognition for its ASHP product line in the Chinese market. For this project, the author is going to focus on the later and help Company X explore how they can uniquely position its ASHP during the product launch.

In addition, it is also imperative for Company X to thoughtfully redesign its brand touchpoint to align with its new corporate brand initiative. It can not only refresh its brand experience but also help to enhance exposure for its HVAC products, especially ASHPs, and forge a stronger connection between its brand and the products. To achieve this goal in this project, the author will also address the existing gap in consumer awareness and align Company X's brand image more closely with user-driven, sustainability, and innovation, attributes that resonate with its new company vision.

2.2 About ASHP

This section examines the product Air-Source Heat Pumps (ASHPs), outlining the various categories within this technology as well as the types of users it is best suited for. In addition, it describes the benefits of ASHPs compared to conventional HVAC products and why it is an essential step for Company X to move to the green sector.

Product Introduction

In China's strategy for climate change action, energy efficiency and renewable energy play essential roles in achieving the goal. In its plan for sustainable growth, the electrification of residential heating is recommended as a low-carbon solution. Due to its electrical energy source and high efficiency, the heat pump emerges as a sustainable solution for harnessing heat from diverse sources for use across a range of industrial, commercial, and residential applications. Consequently, the heat pump becomes a key component in an energy recovery system with great potential for energy savings (Chua et al., 2010). Air-source heat pumps (ASHPs) are one of the most common types of heat pumps in China. As of 2021, 90% of heat pumps sold in the residential market are ASHPs (China OIL, 2021). It has been widely used for heating in central and southern China in the winter since the 1990s (Fan & Long, 1994).

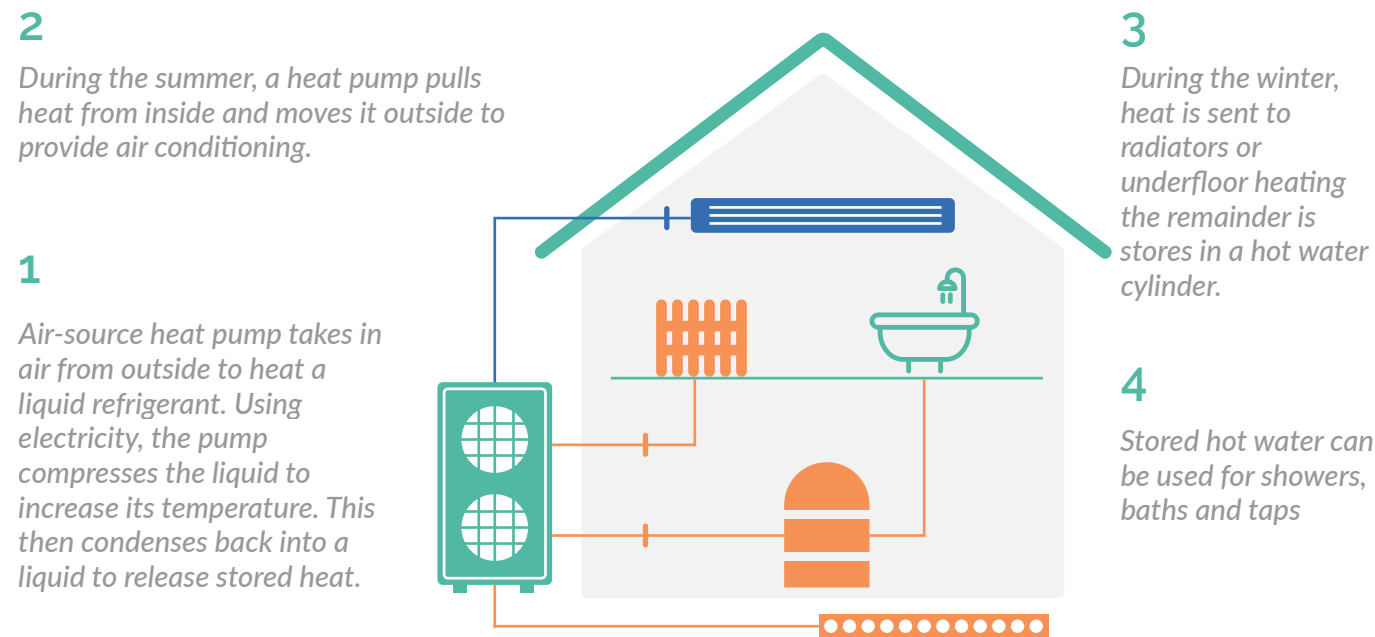


Figure 2 - How Does an Air-Sourced Heat Pump Work? adapted from (TSS Facilities, 2020)

Figure 2 is an illustration of how an air source heat pump works. The term ASHP, as used in this study, refers to a two-stage Air-Source Heat Pump. This system operates on the application of heat transfer, extracting heat from the outdoor air during the winter to warm the interior and reversing the process in the summer to cool the building (Bertsch & Groll, 2008). This functionality is particularly beneficial for climates that experience both hot summers and cold winters, as the system can seamlessly switch between heating and cooling modes in response to changing weather conditions.

ASHP vs other HVAC Products

Despite its long application history in the Chinese market, ASHP has yet to gain widespread recognition among Chinese consumers. The prevailing methods of residential heating are coal-powered centralised heating systems in the northern regions and natural gas boilers in the southern areas (Zhang et al., 2019). As part of the user research phase of this project, the author will also assess consumer knowledge and recognition of ASHPs.

Compared to traditional heating methods such as boilers, ASHP offers several advantages. Firstly, they are more energy-efficient. While boilers generate heat by burning fuel, air-source heat pumps transfer heat from the outside air, requiring significantly less energy (Bertsch & Groll, 2008). This efficiency can lead to substantial savings on energy bills. Secondly, two-stage air-source heat pumps can provide both heating and cooling, making them a versatile choice for year-round climate control (Bertsch & Groll, 2008). Table 1 below is a comparison between ASHPs and boilers.

Heat pumps also have greater efficiency than conventional electrical heating, making them a more appealing option given their lower carbon footprint. (Vorushylo et al., 2018). However, it's worth noting that the environmental friendliness of air-source heat pumps depends on how the electricity they use is generated. If the electricity comes from renewable sources, the environmental impact is significantly reduced.

	ASHP	Boiler
Function	Both heating & cooling	Heating Only
Efficiency	COP ~ 4	90-97%
Upfront Cost	1w RMB - 10w RMB	1w RMB - 10w RMB
Operational Cost/sqm/month	1 RMB - 20 RMB	1 RMB - 20 RMB

Table 1 - ASHP vs Boilers

Despite their advantages over boilers, Air-Source Heat Pumps (ASHPs) also have several limitations. Both theoretical and practical evidence suggests that conventional ASHPs have a significant shortcoming that hinders their application in northern China: as outdoor temperatures drop, the heating capacity of the ASHP decreases sharply. This means that in extremely cold climates, where heating is most needed, heat pumps are least capable of supplying sufficient heat.

Another limitation is the reliability of ASHPs at ambient temperatures below -5°C. Under these conditions, the Coefficient of Performance (COP) - a measure of a heat pump's efficiency - decreases, making the ASHP less effective than in warmer outdoor temperatures. Furthermore, the discharge temperature of the refrigerant continues to increase under these conditions, which could lead to compressor failure unless the ASHP is stopped (Guoyuan et al., 2003).

Additionally, the higher upfront cost of ASHPs compared to boilers may deter consumers in the Chinese market from considering this heating option. Lastly, the installation requirements for ASHPs are more stringent than those for boilers. ASHPs require outdoor space for the installation of the external unit, and the installation process can be more complex and time-consuming, potentially requiring modifications to the building's existing heating system. These factors can add to the overall cost and complexity of installing an ASHP, making it a less attractive option for some consumers (Zhang et al., 2017).

Air-Source Heat Pumps (ASHPs) primarily fall into two categories: air-to-air (AAHP) and air-to-water (AWHP). AAHPs facilitate heat transfer between outdoor and indoor air, making them a common choice for space heating and cooling in residential and commercial buildings. Conversely, AWHPs absorb heat from outdoor air and transfer it to a water-based system, enabling the heated water to be used for space heating, hot water supply, and even underfloor heating systems (Urchueguía et al., 2008).

Company X, having produced AWHPs in other countries, has strategically chosen to manufacture AWHPs in the Chinese market to leverage its existing expertise. While both types of heat pumps operate on the same basic principle of heat transfer, their applications differ based on the medium they use to distribute heat—air or water. The choice between the two often hinges on the specific heating and cooling needs of the building. *Table 2* on the left is a comparison between the two.

Generally, AAHPs have a greater advantage in smaller apartments, typically those under 150 square meters. Compared to AWHPs, they provide a slightly faster cooling experience, are typically easier to install, and thus have lower up-front costs (Urchueguía et al., 2008).

In contrast, AWHPs are better suited for larger apartments exceeding 100 square meters. This is primarily because of the additional space requirements, which necessitate the installation of water tanks alongside the hydronic units. Although both types offer similar heating experiences, AWHPs have the added advantage of producing a more comfortable breeze and can help maintain the humidity at a more human-friendly level, addressing one of the major pain points associated with air conditioners. This advantage will be further explored in the customer research phase. A more detailed discussion of the market share between AAHP and AWHP will be included in the market research section.

AAHP vs AWHP

	AWHP	AAHP
Medium	Water	Air
Housing Type	Big Apartment	Smaller Apartment
Experience	Softer Breeze	Faster Cooling
Installation	Hard to install	Easy to install

Table 2 - AAHP vs AWHP

Key Takeaway:

Company X's ASHPs, especially the AWHP type, offer several benefits. However, it's crucial for Company X to use these advantages to target the right markets and consumers. For instance, it may not be a wise decision for Company X to target northern regions or cater to those with smaller apartment sizes.

2.3 Go-to-market strategy

In the final section of the contextual research, the author delves into the concept of a Go-To-Market (GTM) strategy and its role in aligning Company X's future vision with the launch of its Air-Source Heat Pump (ASHP) product line.

In the Company X has encountered multiple instances of unsuccessful product launches. A closer analysis reveals the root cause: the absence of a comprehensive Go-To-Market (GTM) strategy. The underlying issues span across different areas, including a misalignment of product attributes with market needs and user preferences, a lack of full dealer support, and unfavorable after-sales experiences.

A Go-To-Market (GTM) strategy acts as a meticulously planned roadmap for successfully introducing a product to the market. Just as a product manager carefully designs, documents, and delegates every facet of a product's functionality, a GTM strategy encapsulates the entirety of the product launch process, ensuring strategic execution at every stage.

The GTM strategy operates through a network of interlinked plans, enabling a smoother achievement of market-oriented objectives and customer satisfaction goals. This comprehensive approach compels an in-depth examination of every aspect of a product launch. Thus, potential hurdles are identified ahead of time and addressed proactively.

The essence of a successful GTM strategy lies in its ability to align marketing efforts, revenue projections, and overall objectives, thereby minimizing the risk of wasting resources on poorly planned marketing activities. Instead, it fosters a focused and effective pathway to market, contributing to business success and sustainability.

The steps involved in a GTM strategy for a product launch typically include the following:

Market Research: The first step involves understanding the market landscape, including the size of the market, customer needs and preferences, and competitive analysis.

Customer Segmentation: This step involves identifying and defining the target customer segments. It's crucial to understand who the product is for and why they would buy it.

Value Proposition: This involves defining the unique value that the product offers to the target customer segments. It's about understanding what sets the product apart from the competition.

Marketing and Distribution Strategy: This step involves deciding on the best channels to reach the target customers. It could include a mix of online and offline marketing channels, depending on where the target customers are most likely to be reached.

Sales Strategy: This involves defining the sales process, including pricing and sales channels. It's about understanding how to best sell the product to the target customers.

Customer Relationship Management: This step involves planning how to manage relationships with customers after the sale, including customer service and support.

Key Takeaway:

The GTM strategy will outline the target market for the ASHP product line, the value proposition that sets it apart from competitors, and the sales and marketing tactics that will be used to reach potential customers. It will also consider the customer experience, ensuring that the product meets the needs and expectations of Chinese consumers.

By aligning the GTM strategy with Company X's future vision, the company can ensure that the launch of the ASHP product line is not just a standalone effort, but a key part of its broader transformation into a green energy company. This alignment can help ensure the success of the product launch and the company's long-term growth and sustainability.

Chapter 3

Market Assessment

3.1 Macro-environment

The author chooses to apply the PEST framework to conduct macro environmental analysis that closely related to the ASHP market. PEST analysis is a strategic framework used for understanding the macro-environmental factors that impact an organisation. The acronym stands for Political, Economic, Social, and Technological factors, each of which is external to the Company and can influence its profitability and competitiveness (What Is PEST Analysis? Its Applications and Uses in Business, 2023).

Political Factors

As mentioned in the previous chapter, the Chinese government has implemented several policies to promote the use of renewable energy and improve energy efficiency. The development of the heat pump industry contributes to China's goal of striving to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060 (NDRC, 2022). It serves as a significant method for households and businesses to save energy and reduce emissions. The governments of various provinces have issued a series of related policies and regulations, including subsidies and incentives for the use of energy-efficient technologies, which have helped stimulate the growth of the air-source heat pump market (Insights & Info, 2023).

Economic Factors

The economic landscape in China also significantly influences the air-source heat pump market, as it determines the extent to which consumers' spending intentions can translate into tangible consumption demand. By 2022, the total GDP in China exceeded 121 trillion RMB, marking an increase of 3% from the previous year. Even amidst the economic challenges posed by the 2020 pandemic, the per capita disposable income of residents maintained a positive trajectory. The People's Bank of China (PBoC) launched comprehensive policies to stabilise the economy, providing adequate assistance to the actual economy and achieving market stability. It is anticipated that the People's Bank of China (PBoC) will maintain its relatively accommodative monetary policy in 2023, to bolster economic recuperation (PWC, 2022).

Alongside the incentives to maintain a steady growth of GDP and societal and technological advancements, the consumption capacity, structure, methods, and concepts of urban and rural residents in China are continually evolving (McKinsey, 2023).

Notably, there is an increased emphasis on the interactivity of the consumption process, a heightened demand for personalised products, and a stronger focus on the overall consumption experience.

As China's economy continues to expand, the demand for energy-efficient heating and cooling solutions in both residential and commercial sectors is on the rise. Furthermore, the government's commitment to reducing carbon emissions and promoting sustainable development has spurred increased investment in renewable energy technologies, including heat pumps.

Social Factors

In the past two decades, China's rapid development has sparked a significant surge in the public's demand for comfort, catalyzing a radical shift in living standards. In the early 2000s, window-type air conditioners were viewed as luxury commodities; however, they have now been eclipsed on the market by the proliferation of split and cabinet air conditioners, and even central household air conditioning systems (China IOL, 2023). A decade ago, the paramount concern for people in the south was summertime cooling, while their counterparts in the north contemplated winter heating solutions. Today, regardless of their geographic location, residents are seeking indoor environments that offer respite from the summer heat and winter chill.

The emerging heating market in the central and southeast regions is particularly noteworthy, since the government only provides centralized heating to the northern areas. For instance, in 2005, Wuhan, a city in the south, had fewer than 20 heating equipment companies servicing less than 1,000 households. Fast forward to 2013, and this number had grown to over 400 firms of varying sizes, servicing an impressive 80,000 households with individual heating systems (Insights & Info, 2022). The advent of heating equipment like floor heating and radiators into residences in southern cities is set to stimulate the demand for heat pumps. The relative affluence of southern cities, coupled with this market-driven development momentum, forms a steadfast and enduring force propelling the heat pump industry toward future growth.

Concurrently, public consciousness about rights protection has been bolstered, with internet technology playing a pivotal role in mitigating information asymmetry between merchants and consumers. Assisted by these digital advancements, consumers are evolving into more discerning purchasers, raising the bar for product reliability, usage cost, and user experience. Manufacturers are thus compelled to heighten their research, design, and production prowess to address not only complaints about their products but also issues affecting consumers' lives indirectly, such as noise from a neighbor's air conditioner.

On the other hand, it necessitates merchants to foster honest and collaborative relationships with their customers, contributing to the collective advancement of the heat pump industry.

Societal cognisance of environmental protection has also experienced an upswing. Energy conservation, emissions reduction, and environmental preservation have become the common consensus. Consumer preferences are leaning towards high-energy-efficiency products and those using environmentally friendly refrigerants (McKinsey, 2023). This attests to the deep-rooted influence of the country's energy policies, igniting market drivers through policy-based incentives. With the rise in environmental consciousness, consumers frequently associate environmental protection with a product's intrinsic value, showing a willingness to compensate for this aspect. This sentiment serves as a catalyst for technological innovation in the heat pump market, spurring the adoption of new refrigerants and high-efficiency technology research. It also raises the stakes for market marketing, transforming it from a narrow product-selling approach into an art form focused on refining, disseminating, and transferring value.

Technological Factors

The advent of internet information technology has notably reduced time and space constraints on consumer behaviour, broadening the scope of consumption and offering a wider range of choices. As a home appliance that enhances people's quality of life, heat pumps are poised to experience a period of significant growth, propelled by improvements in living standards and the pursuit of a better life (BCG, 2022).

Advances in technology have also led to the development of more efficient and reliable air-source heat pumps. The ongoing research and development in this field, coupled with the growing digitalisation of the energy sector, are expected to drive the growth of the market in the future (Insights & Info, 2023). However, at the same time, it has also lowered the barrier to enter the ASHP market and resulted in a highly competitive market today.

Key Takeaway:

The macroenvironment presents both opportunities and challenges for the air-source heat pump market in China. Everything has a double-sided effect - the subsidies and incentives can attract more consumers to buy ASHPs while more competitors are entering the market. Understanding these factors is crucial for company X operating in this market to develop effective strategies and make informed decisions.

3.2 Real-Estate market

The real-estate market plays a pivotal role in shaping the demand for Air-Source Heat Pumps (ASHP) and other HVAC products. The author looks into the growth of the real-estate construction in different regions and the types of houses where the ASHP is more applicable.

Market Classification

In China, cities are typically categorized into tiers: first-tier, second-tier, and third-tier (often referred to as the sinking market). These tiers serve as indicators of a city's economic development, population density, and overall prominence both on a national and international scale (Yu, Li, & Zhang, 2019). The tier system is also influenced by the real estate market's pricing structure, with property values generally decreasing from first-tier cities to third-tier ones.

Currently, Company X's primary target market encompasses first- and second-tier cities, as consumers in these areas typically possess greater purchasing power compared to those in the sinking market. As illustrated in Figure 3, housing prices vary significantly across these city tiers. In first-tier cities, over 60% of houses are priced above 2 million, whereas in second- and third-tier cities, the percentages are 40% and 30% respectively. Given the substantial initial cost associated with ASHPs, Company X has chosen to focus its sales efforts on first- and second-tier cities. The rationale is that if a house costs less than 200 million, homeowners might be less inclined to invest in an ASHP due to budget constraints.

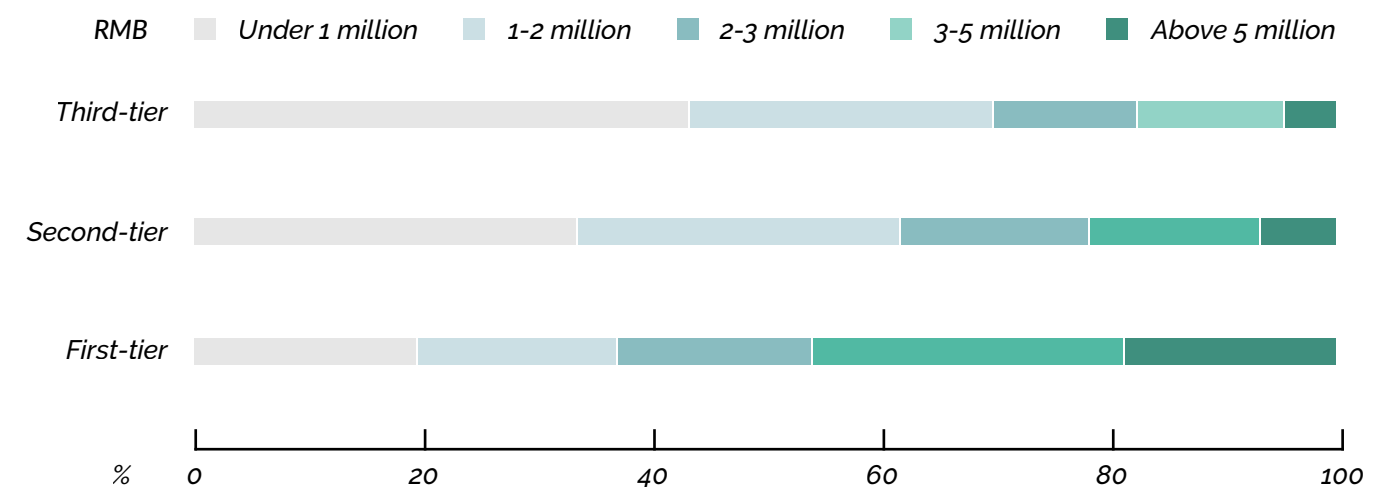


Figure 3 - Housing price in different tier of cities (Shell Research Institute, 2021)

However, during the consumer and competitor research phases of this project, the author identified a burgeoning opportunity in the sinking market. Several competitors have begun to emphasise and invest more in this market, recognising their potential for growth. Given this trend, it would be prudent for Company X to explore the needs and demands of these markets. By doing so, the company could diversify its market presence and tap into a segment that, while currently overlooked, might offer significant returns in the future.

Housing Classification

The Chinese real estate market is multifaceted, with varying property types to suit diverse consumer needs. For the purposes of aligning this with the heat pump market, the author categorizes real estate into four broad types: furnished new apartments, bare-shell new apartments, second-hand apartments, and self-built houses .

In urban areas, properties developed by real estate developers – furnished new apartments and bare-shell new apartments – are commonly seen. The second-hand property market, characterized by previously owned homes, is another significant sector. Moreover, less stringent regulations in suburban areas allow individuals the opportunity to construct their own houses, which introduces the category of self-built houses into this typology (Chen, Wu, Guo, & Wang, 2017).

This classification provides a framework for understanding the potential demand and applications for air-source heat pumps in each of these distinct property types within the Chinese market.

Fully Furnished vs. Bare Shell Properties: Fully furnished (or turnkey) properties are delivered complete with all interior fittings, fixtures, and furnishings. Given the turnkey nature of these properties, retrofit projects would be the main drivers of demand for ASHPs, particularly if current heating and cooling systems are out of date or inefficient. Conversely, bare shell properties, devoid of any interior improvements, present a substantial opportunity for the incorporation of ASHPs. These properties allow prospective owners or tenants the flexibility to customize the interior, including the installation of efficient heating and cooling systems like ASHPs, in line with their preferences and energy efficiency goals. These types of houses are more commonly seen in second-tier or third-tier cities.

Second-Hand Properties: The demand for ASHPs in second-hand properties can vary significantly depending on the age, condition, and existing infrastructure of these homes. Properties with older, less efficient heating and cooling systems present an opportunity for retrofitting with ASHPs. Moreover, owners looking to improve the energy efficiency or market value of their homes might consider upgrading to ASHPs. These types of houses are more commonly seen in first-tier cities like Shanghai and Beijing.

Self-Built Houses in Rural Areas: The demand for ASHPs in self-built houses in rural areas can be quite distinctive. Given these houses are often built by the homeowners themselves and may not adhere to conventional architectural styles or standards, the integration of ASHPs would largely depend on the homeowners' awareness of and willingness to invest in energy-efficient technologies. However, with increasing emphasis on green living and energy conservation, there is potential for growth in the demand for ASHPs in these homes, particularly if government incentives or subsidies are available.

	Furnished	Bare Shell	Self-built	Second hand
Source	Real-estate Deveoper	Real-estate Deveoper	Self-built	Previous owner
Chances of furbishing	Low	High	Extremely High	Depend on the situation
Location	Urban	Urban	Rural	Urban
Market Share	40%	15%	10%	35%
HVAC Buying Channel	Real-estate developer	Retail	Retail	Retail

Table 3 - Different types of housing comparison (Shell Research Institute, 2021)

Table 3 provides a comprehensive comparison of the four types of houses suitable for the installation of ASHP. By comprehending the nuances of the real estate market and the specific characteristics of each housing type, Company X can adopt a more targeted approach in marketing and selling its ASHP products.

Key Takeaway:

Delving into the city and housing classification system of China provides invaluable insights for Company X to pinpoint its target market for the ASHP segment. Each city tier, with its unique economic dynamics and consumer behaviour, presents distinct challenges and opportunities.

By tailoring its product range, marketing campaigns, and installation services to resonate with the unique characteristics of each city tier, Company X can ensure that its offerings align with the local demands. Such a bespoke approach not only optimises the company's resource utilisation but also amplifies the chances of product acceptance and ensures a gratifying customer experience.

3.3 Heat Pump Market

ASHP Market Size

In China, the heat pump industry is highly competitive, with over 500 active companies (Insights & Info, 2023). Among these businesses, many specialise in the manufacture of air-source heat pump products. Additionally, a notable number of firms have transitioned from traditional sectors similar to Company X such as air-conditioning, solar water heaters, electric water heaters, and gas water heaters into the arena of air-source heat pump hot water equipment. Figure 4 below shows the market growth in the past three years. There is a slight declining in 2022 influenced by the pandemic but the overall market share is still positive.

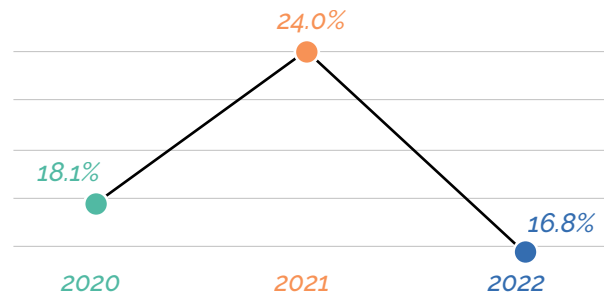


Figure 4 - Growth of ASHP market share from 2020-2022 (ICM Zone, 2022)

ASHP Market Share in Different Regions

The sales growth of ASHP market in China has distributed unevenly (ICM Zone, 2022). The East China region continually produces stable output, while the Southwest market emerges as a bright spot in regional performance. East China maintains its dominance, holding a significant market share. Numerous mature projects have been successfully implemented here, allowing consumers to gain a deeper understanding of the comfort and health benefits associated with heat pump co-generation. Each housing type has a suitable product line available. Meanwhile, the Southwest region, particularly the Sichuan and Chongqing provinces, are noteworthy for their growth. Beyond the regional economic prosperity, this development is also attributed to top-tier brands expanding their outreach. Simultaneously, despite the Northeast region becoming an increasingly sought-after area for heat pump co-generation brands due to its heating focus, logistical limitations due to the pandemic have resulted in a less than expected performance. Figure 5 on the right is a bar chart showing the market share and growth in different regions.

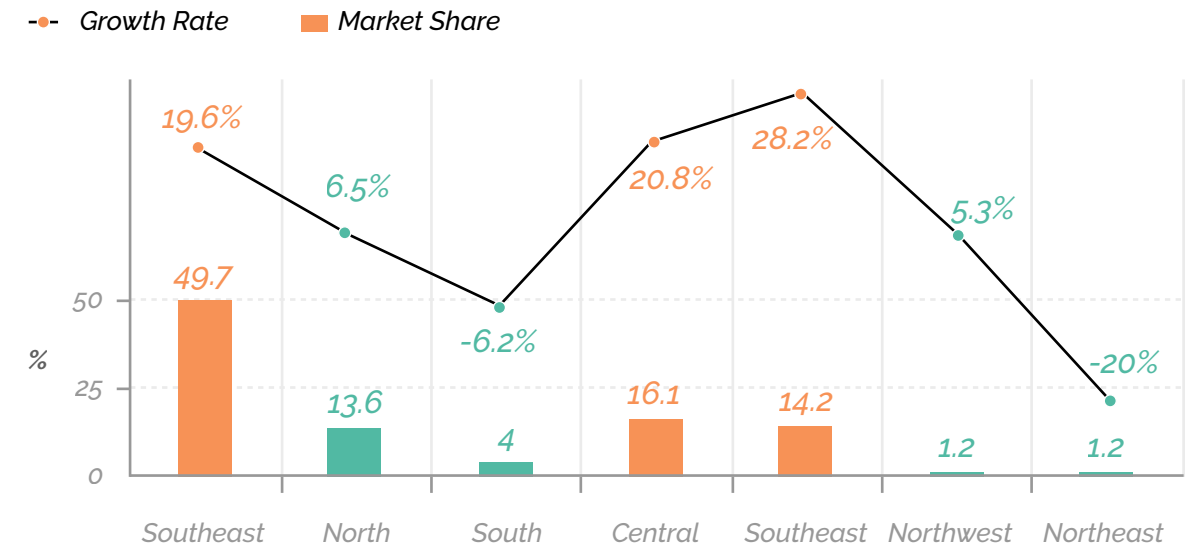


Figure 5 - ASHP market share in different regions (ICM Zone, 2022)

ASHP VS Boiler

Predominantly, the heat pump industry caters to the heating market. Inspecting the domestic heating market landscape, several factors have been observed to cause significant disruption. The COVID-19 pandemic has adversely affected the progress of projects, and national policies limiting power consumption have imposed additional challenges. Furthermore, a scarcity of raw materials has added to the industry's trials (China IOL, 2022). However, some regions have imposed coal-burning restrictions and eliminated coal-to-gas subsidies, significantly boosting the retail market demand for domestic water heating solutions. Consequently, the heat pump market in 2021 managed to overcome the slump experienced in 2020, maintaining robust growth. This upward trend was sustained in 2022, demonstrating the industry's resilience and adaptability. Figure 6 below shows a comparison between boiler and ASHP's market share in the past three years.

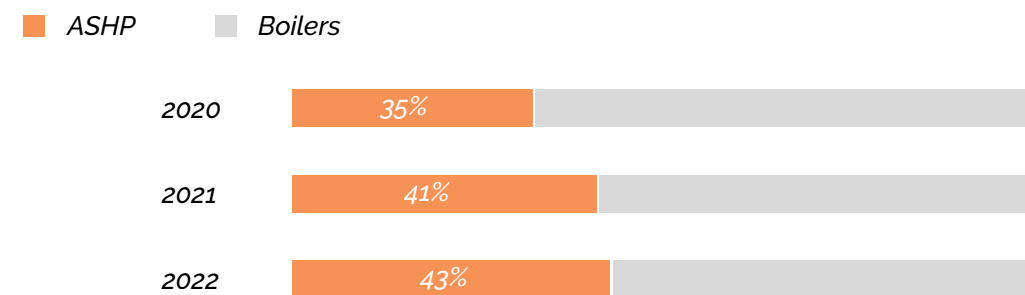


Figure 6 - ASHP vs Boilers market share (China IOL, 2022)

AAHP VS AWHP Market Share

Traditionally, the air conditioning market in China has been dominated by air-to-air heat pumps (AAHP), with water-based heat pumps, specifically air-to-water heat pumps (AWHP), being less recognized and utilized (Yi & Zeng, 2015). However, starting from 2021, a shift in market dynamics has been observed, with more brands introducing AWHP into their product lines. This introduction has led to a burgeoning interest in the AWHP market, and the potential for growth is becoming increasingly apparent.

Figure 7 below provides a comparative analysis between the sales trends of AWHP and AAHP. A salient feature of this comparison is the contrasting trajectories of the two product categories. While the growth of AAHP sales appears to have plateaued, remaining relatively flat, AWHP sales have exhibited a continuous and promising rise.

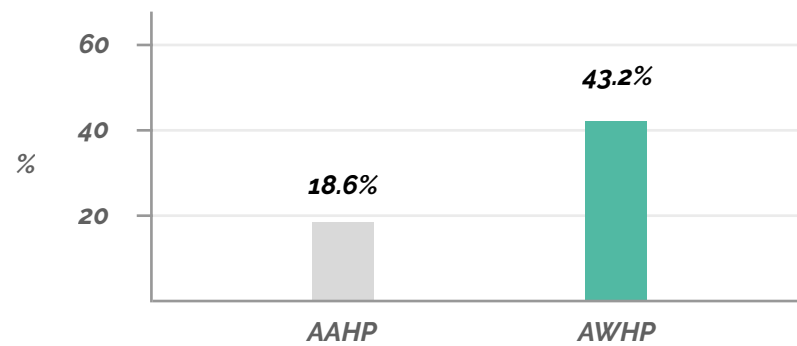


Figure 7 - AAHP vs AWHP market growth comparison in 2021 (China IOL, 2022)

ASHP Sales Channel

In the complex Chinese market, domestic sales for heat pump companies employ a mixed approach, encompassing dealership, direct sales models, and collaborations with real-estate developers. The accompanying Figure 8 illustrates the sales distribution between retail modes and real-estate developers, revealing that a significant 93.1% of the ASHPs were sold through retail channels, including both Business-to-Consumer (B2C) and Direct-to-Consumer (D2C) models.

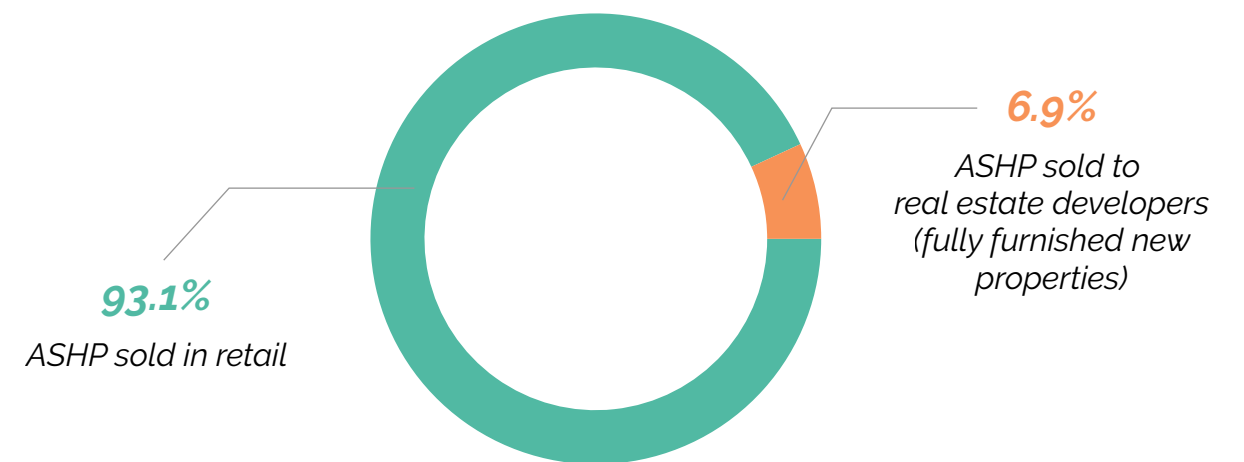


Figure 8 - ASHP sold in retail VS Fully furnished new properties (ICM Zone, 2022)

B2C - Dealership Model: In the B2C model, heat pump companies forge cooperative agreements with prominent dealers, operating under a buyout-style sales framework. Here, production begins upon the prepayment by dealers, and goods are dispatched upon completion of full payment. Responsibility for delivering products to designated locations falls upon the companies, with quality inspections conducted by assigned personnel. Post-inspection, barring any quality-related concerns, the goods become non-returnable and non-exchangeable. It is worth noting that Company X's HVAC department currently operates solely through this channel (Insights & Info, 2023).

D2C - Direct Sales Model: The D2C model allows heat pump companies to engage directly with the end-users. Under this approach, sales contracts cover both product sales and the accompanying services. The channels include offline direct sales managed by the business department and online e-commerce transactions (Kyrychenko & Berezovska, 2021). Offline sales encompass contract negotiations, specification of terms, and production organization in accordance with customer orders. The online platform facilitates digital sales for a selection of products.

It is imperative to recognize that ASHPs are distinct from other consumer goods and even boilers, as they necessitate extensive pre-sale education and after-sale support. These are not merely products to be sold but solutions that require understanding and integration into the consumer's existing infrastructure. The complexity of these products and the accompanying services make the D2C approach particularly appealing for ASHP companies. By maintaining direct relationships with clients, companies can provide the needed education and support, fostering long-term relationships and loyalty. However, the D2C model is not without its challenges, demanding significant investment in customer engagement and education. This necessitates a strategic assessment of Return on Investment (ROI) and alignment of sales tactics with the unique characteristics of ASHPs to ensure that this sales approach is both effective and sustainable within the market context.

3.5 Market Selection

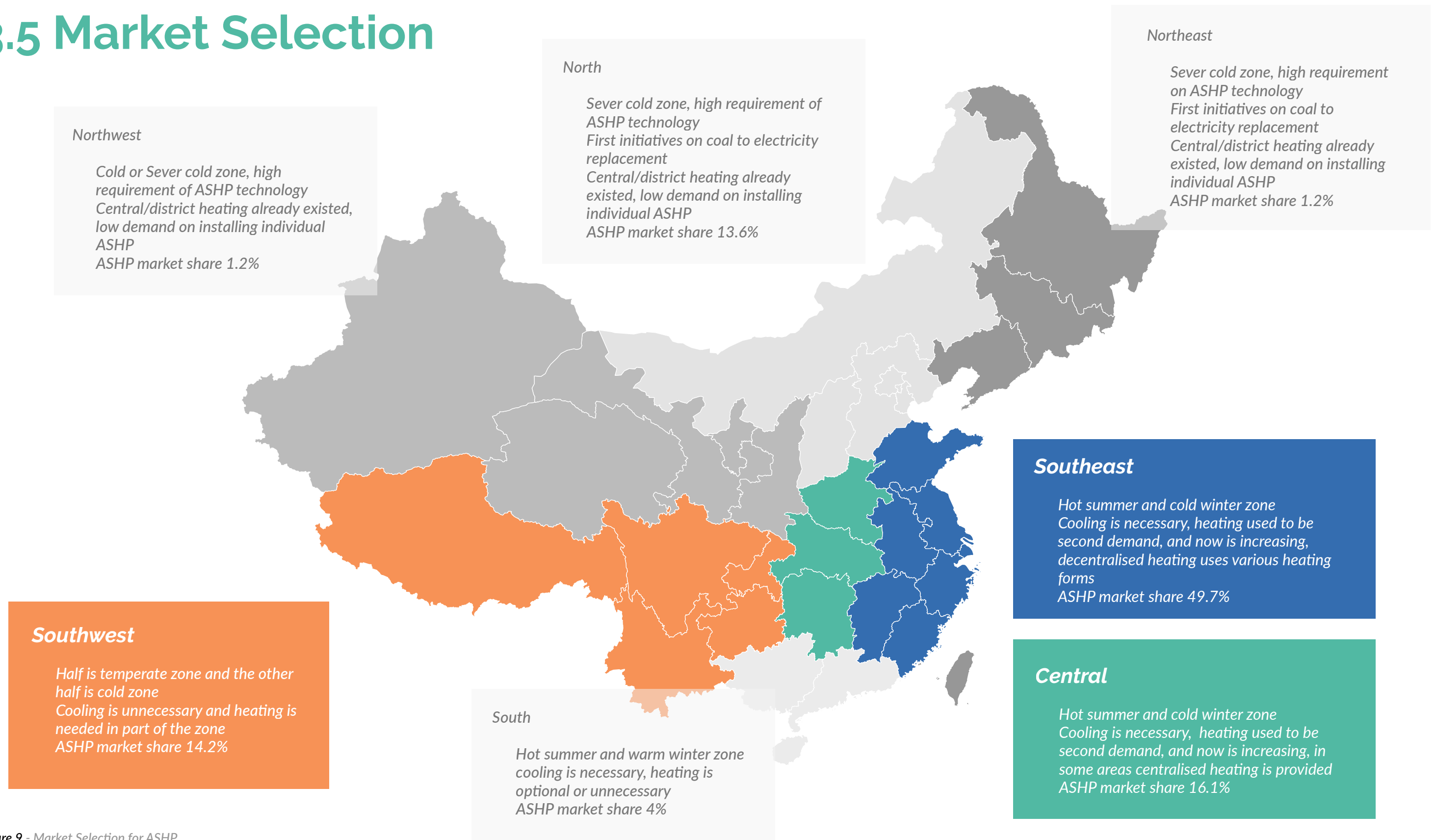


Figure 9 - Market Selection for ASHP

China is a very huge market, from south to north, west to east, the geography and culture are completely different. Thus, company X must be selective about its market segmentation, especially at the initial stage of its product launch. Figure 10 below is an illustration of the selection. There are several factors from previous research that helped to make the decision:

1. Central Heating Availability: In China, central heating is primarily provided in the northern regions, while the central and southern regions, including the southeast and southwest, lack this infrastructure. This creates a demand for alternative heating solutions, such as air-source heat pumps, in these areas.

2. Technology: The pace of technological advancement and the state of infrastructure in these areas are critical determinants. These regions have experienced rapid urbanization and development, resulting in an upsurge of residential and commercial buildings. Newly constructed residential projects frequently incorporate cutting-edge technologies, including energy-efficient heating and cooling systems like air-source heat pumps. It's also important to consider that the reliability of ASHPs significantly diminishes in extreme cold zones, thereby complicating Company X's research and development for ASHPs. Therefore, it may be advisable to disregard the northern areas.

3. Demand for Heating and Cooling: The regional climate necessitates both heating and cooling solutions. The extreme north lacks the need for cooling, whereas the deep south doesn't require heating. The southeast, southwest, and central areas, by contrast, experience hot summers and cool winters, generating demand for comprehensive heating and cooling systems. Air-source heat pumps, capable of providing both functionalities, are an appealing alternative. Current research indicates that these regions have the largest ASHP market share within the Chinese market.

4. Economic Factors: Economic growth in these regions has led to increased consumer purchasing power, enabling them to invest in energy-efficient and cost-effective heating and cooling solutions. Company X aims to produce high-end heat pump products and thus needs to target regions with sufficient buying power to afford its product proposition. First-tier and second-tier cities are optimal choices.

In conclusion, the selection of the southeast, southwest, and central areas of China for the air-source heat pump market can be attributed to factors mentioned above.

3.5 Competitor Analysis

The author opted for field research, visiting heat pump exhibitions and competitors' dealer stores, to conduct a comprehensive competitor analysis. Given the dynamic and complex nature of the Chinese heat pump market, the most current information is often not readily available online. As previously mentioned, Company X aims to launch its ASHP product in the high-end market, targeting primarily other premium HVAC brands that also produce ASHPs. These brands are predominantly international, hailing from the U.S. and Japan.

Figure 10 below illustrates the market share of different brands. Among those with sales exceeding 300 million, the brands specialising in making AWHPs are York, Trane, Carrier, and McQuay—often referred to as the 'U.S. Big Four.' The 'Japanese Big Four'—Hitachi, Daikin, Toshiba, and Mitsubishi—specialise more in AAHPs. The field research revealed that Japanese brands excel in marketing and actively promote their products, both online and offline. In contrast, the U.S. Big Four are less proactive in their promotional activities, relying on their product quality to attract customers. Despite these differences, all of these premium ASHP brands have their own smart home platform that offer easy and smooth control experience for their products.



Figure 10 - ASHP market share among different brands (ICM Zone, 2022)

* international brands

In addition to U.S. Big Four and Japanese Big Four, three other brands with sales under 100 million are also noteworthy: A.O. Smith from the U.S., Vaillant from Germany, and Casarte, a premium line from the domestic brand Haier.

A.O. Smith

A.O. Smith employs a Direct-to-Consumer (D2C) model, a strategy that covers everything from sales and installation to after-sales service. This integrated approach serves as a significant Unique Selling Proposition (USP). By controlling each stage of the consumer experience, A.O. Smith ensures consistent quality and service, which in turn builds strong brand loyalty. Additionally, the D2C model allows for regular training for sales and service staff, instilling a deep understanding and faith in the products they are selling. This comprehensive approach not only simplifies the buying process for consumers but also allows A.O. Smith to quickly adapt to market changes and consumer feedback.

Vaillant

Vaillant, like Company X, originated as a boiler manufacturer and is now eager to enter the ASHP market as part of its green energy initiative. However, Vaillant faces challenges in dealer adoption due to its reliance on Original Equipment Manufacturing (OEM), which limits its pricing flexibility. Furthermore, the brand has yet to identify a compelling USP to differentiate itself in a crowded market. Vaillant's experience serves as a cautionary tale for Company X, emphasizing the importance of developing a strong USP and avoiding pitfalls like OEM reliance that can dilute brand value.

Casarte, a Premium Line from Haier

Casarte is Haier's entry into the high-end market and stands out primarily due to its focus on premium customer service and sleek product design. Unlike many domestic brands that may cut corners on after-sales service, Casarte places a strong emphasis on customer satisfaction, offering services that often exceed industry standards. This focus on customer service, coupled with aesthetically pleasing and functional product design, has allowed Casarte to differentiate itself from other domestic brands and successfully penetrate the high-end market.

Each of these brands offers valuable lessons for Company X as it plans its entry into the Chinese ASHP market. Based on these information, the author then plotted twelve premium brands on a two-dimensional matrix—focusing on "After-Sales Service" and "Technological Innovation"—to help Company X gain valuable insights into market gaps and potential areas for differentiation. See *Figure 11* for demonstration.

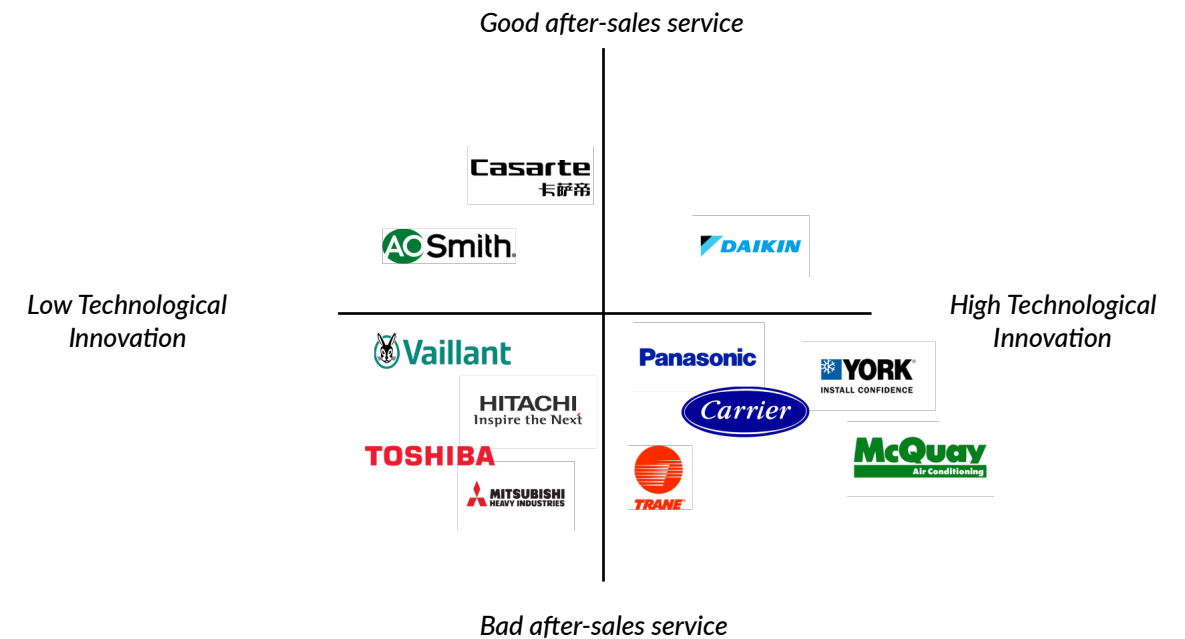


Figure 11 - ASHP brand perceptual map

The map reveals a significant finding: only three out of twelve high-end ASHP brands excel in after-sales service, and all of them have in-house teams dedicated to this function. This suggests a prevalent customer pain point, a conclusion further corroborated by subsequent phases of consumer research.

Interestingly, only Daikin stands out as a brand that performs well in both after-sales service and technological innovation, and Daikin currently only manufactures AAHP. This leaves a considerable gap in the market for a brand that produces AWHP and can excel in both dimensions. Given that consumer research later identifies customer service as one of the most significant pain points in the HVAC sector, this presents a golden opportunity for Company X.

Key Takeaway:

The competitor analysis presents a potential opportunity for Company X. It is crucial for the company to view its ASHP offering not merely as a product but as a comprehensive product-and-service package. Learning from the successes and shortcomings of competitors, Company X should focus on developing effective unique selling propositions while also ensuring robust after-sales service to meet customer needs.

Chapter 4

Consumer Research

4.1 Trend Research

This first part of the customer research is desk research that focuses on finding the recent consumer behaviour trend that's most relevant to HVAC market. The author identifies five trends that can be key guides to the GTM deliverables.

Prioritising Health

In the post-pandemic landscape, Chinese consumers are placing an unprecedented emphasis on health and wellness. Conversations on health-related topics are becoming increasingly prevalent across social platforms, reflecting a growing consciousness and proactive behavior towards health and wellness in the year 2021. A key indicator of this shift is the sharing frequency of articles around healthy food choices, reinforcing the prioritization of health and wellness in consumers' daily routines (BCG, 2021).

The pandemic has acted as a catalyst for growth in demand for household, personal care products, and wellness services. Although this growth rate has experienced a slight decline over time, it continues to outpace pre-pandemic levels, illustrating the enduring influence of COVID-19 on health-focused behavior (Cheng, 2023). Interestingly, the age demographic associated with health-centered expenditure has broadened. Traditionally, consumers aged 50 and above were the principal spenders on health. However, younger and middle-aged individuals are demonstrating increasing interest in their health and wellness. Areas like stress management, insomnia relief, immune system enhancement, and preventative care are gaining traction. Furthermore, health supplements, once a product category mainly marketed towards older consumers, are being increasingly sought after by the younger generation (BCG, 2021).

Within the context of the HVAC industry, the health-centric trend manifests as an increased demand for systems engineered to foster healthier indoor environments. Given the escalating health consciousness among consumers, HVAC units that enhance indoor air quality, ensure optimal temperature regulation, and advocate for energy conservation are gaining preference. Brands that embed these health-focused attributes into their product design stand to gain a competitive edge in the market. In support of this trend, the author's survey further underscores the relevance of health-centric features in HVAC products, with detailed findings to be elaborated on in the subsequent field research section.

Valuing Product Functionality

Contemporary consumers are increasingly savvy and discerning. Their purchasing decisions are anchored on a comprehensive evaluation of the product attributes, encompassing not just durability, but also energy efficiency and aesthetic appeal. Chinese consumers, in particular, are demonstrating enhanced sophistication in their purchasing patterns. In 2022, the functionality of a product has resurfaced as the most critical factor guiding the purchasing decisions of Chinese consumers, especially in the fast-moving consumer goods (FMCG) sector. This renewed emphasis on functionality signifies a shift in the past five years, when emotional factors held sway (McKinsey, 2023).

While economic variables and consumer confidence may fluctuate, the trend of Chinese consumers placing a premium on detailed research and choosing products that meet their precise needs appears to be a consistent pattern. This evolving consumer mindset is redefining norms in the HVAC industry. Consumers are increasingly gravitating towards premium, high-quality products that promise long-term value and superior performance, as opposed to basing their decisions primarily on the brand name. This predilection for quality over branding has been corroborated by the survey and interviews conducted in the field research sections of this study.

Social Media Buying

In the current era of digitization and abundant information availability, consumers are better equipped to make informed and judicious purchasing decisions. Digital platforms, particularly social media, are playing a crucial role in this paradigm shift. For instance, Douyin, which boasted a staggering 671 million monthly active users in 2021, is not just a social media platform but a burgeoning shopping channel. The Gross Merchandise Volume (GMV) on Douyin experienced an 80% surge from 2020 to 2021, reaching RMB 830 billion. Some product categories such as skincare or apparel have even witnessed growth rates exceeding 200%. This reflects Douyin's increasing popularity among Chinese consumers, due in large part to its content-focused approach that enhances product understanding and facilitates smarter decision-making (McKinsey, 2023).

This growing consumer preference for comprehensive research and brand comparison before purchasing HVAC products signifies a pivotal trend for HVAC companies. The trend underscores the need for these companies to establish a strong and positive digital presence, thereby influencing consumer choice in their favor. The field research sections of this study, including the survey and interviews, lend further credence to this evolving trend.

Embracing Smart Homes

As the integration of Internet of Things (IoT) technologies continue to advance, the notion of a 'smart home' is rapidly moving from being a luxury to a standard expectation among consumers. The recent pandemic and resultant lockdowns have led to an increased amount of time spent indoors, leading people to seek ways to enhance their domestic environments. The containment measures, particularly in China, have not stifled the demand for an improved quality of life at home. In fact, as homes are increasingly serving as multifunctional spaces—offices, recreational spaces, classrooms, and more—the desire for more comfortable and convenient living environments has intensified.

This trend prominently extends to the HVAC industry, where consumers are favoring systems that incorporate remote control and monitoring capabilities. The added benefits of energy efficiency, personalized settings, and superior control that smart HVAC systems provide are highly sought after by today's consumers. Field tests probing this trend towards smart homes will be discussed in the subsequent sections.

Rise for Domestic Brands

Chinese consumers' perception and buying behaviour towards brands, particularly in the HVAC industry, have seen a noticeable shift over the past decade. Today, local brands are gaining traction, not merely for their competitive pricing or nationalistic appeal, but for their enhanced quality and innovative features. According to a McKinsey survey, 49% of Chinese consumers regard domestic brands as "better quality" than foreign counterparts, contrasting with 23% who believe the opposite.

Figure 12, displayed on the right, illustrates the shift in value share between foreign and local brands from 2013 to 2021. Notably, the mobile phone sector serves as the most analogous comparison to HVAC products, given that both are durable goods as opposed to fast-moving consumer goods or services. In this sector, the market share of local brands has risen from 46% to 64%. This trend is consistent across various product attributes and is indicative of a broader market shift favoring local brands.

A decade ago, the scenario was significantly different. International HVAC brands, particularly from Japan, Germany, and the USA, dominated the Chinese market, and each brought its distinct perception. Japanese brands like Daikin and Mitsubishi Electric were considered frontrunners in HVAC technology and energy efficiency (Yi & Zeng, 2015).

Value share of top 20 brands, by brand type (%)

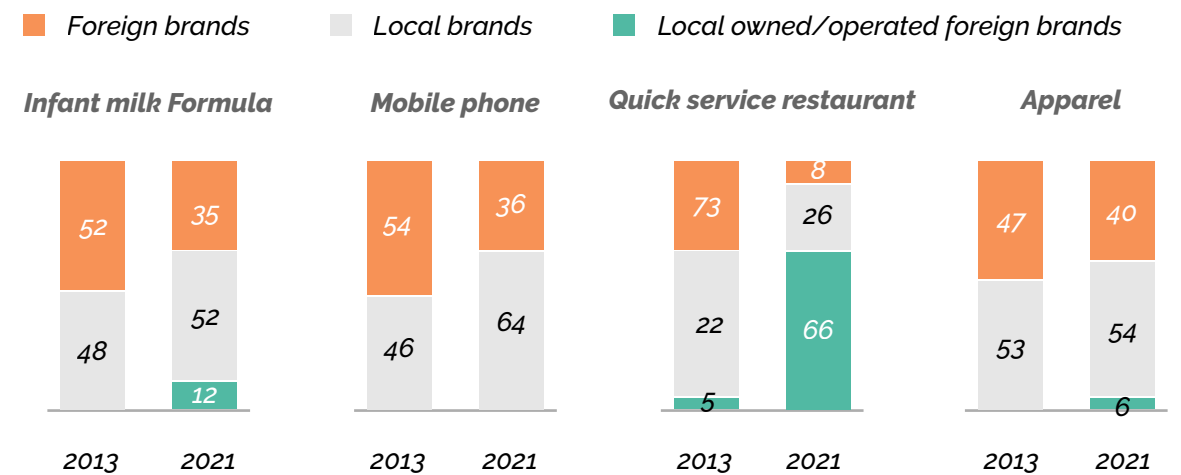


Figure 12 - Value share between foreign brands and local brands across various sector (McKinsey, 2022)

They were primarily appreciated for their silent operation and precise climate control features, aligning with the interests of technology and efficiency-focused consumers. German brands, such as Viessmann and Vaillant, were synonymous with superior quality and durability, largely credited to the high esteem of German engineering. Yet, their premium pricing made them attractive to a smaller, high-budget consumer segment.

American brands like Trane and York had a reputation for consistent performance and offered a wide product range catering to a diverse market segment. Although not seen as technological leaders, their reliability and affordable pricing made them a popular choice among many Chinese consumers.

Over time, Chinese brands like Gree, Midea, and Haier have carved out a significant place in the domestic HVAC industry. They're increasingly seen as providing excellent value for money, courtesy of their affordable pricing and improving technology. As mentioned in the competitor analysis, these local brands have extensive local sales and service networks, providing quick and accessible after-sales service, also resonate well with Chinese consumers.

In conclusion, Understanding this shift is crucial for Company X as it navigates its entry and expansion in the Chinese HVAC market, particularly for its ASHP product line. The rising prominence of local brands suggests that Company X may need to adapt its strategies to compete effectively, whether by emphasizing its unique selling propositions, forming local partnerships, or tailoring its products to meet specific local needs and preferences.

4.2 Field Research

This section discusses the result of field research, which consists of both qualitative and quantitative research methods from various sources, and will be explained in the following section. The analysis will be an aggregated version considering all the sources.

Research methods

The customer research project, given its large scale and vast market coverage, has been divided into four distinct parts. Recognizing the magnitude of the project, Company X chose to outsource a portion of the research. The table below provides an overview of the research plan.

	QL 1	QL 2	QL 3	QNT
Type	Interview	Interview	Interview	Survey
QNT	8	30	30	1,000
Subject	Designer	Installers	Existing ASHP Users	Potential User
Source	the Author	3rd Party	3rd Party	the Author

Table 4 - Research method

The first qualitative research phase (QL1) consists of eight interviews personally conducted by the author. Given budgetary and time constraints, the author conducted 45-minute interviews primarily with designers from interior design companies, contractors, and real estate firms. These interviews were predominantly in-person and focused on participants based in the eastern region. The objective was to glean insights into their specific needs and preferences.

The second and third qualitative research phases (QL2 and QL3) feature in-depth interviews with 20 installers and 30 existing Air Source Heat Pump (ASHP) users. These sections of the research were outsourced to third-party firms. The intent of these interviews is to uncover the needs and challenges faced by these stakeholders. The outcomes of these interviews will be incorporated into the overall analysis.

Lastly, a comprehensive survey was conducted across 27 Tier 1 and Tier 2 cities within the target regions (southwest, southeast and central China). The data was collected through an online survey platform, aiming to assess people's awareness of ASHP products and their preferences when purchasing HVAC products.

The subsequent analysis will present an aggregated view, synthesizing results from all four components of the research. This comprehensive approach ensures a holistic understanding of the market and customer perspectives.

Brand & Market

Brand awareness

The research findings indicate that Company X lacks sufficient brand recognition within the HVAC market. Many consumers remain unaware that the company's product lineup includes boilers and generally associate Company X with its dishwasher and refrigerator products, which are often merchandised separately from its boiler dealers (QL2). This situation arises from the internal organisational structure of Company X. Boilers are produced under the HVAC department, while other home appliances fall under the consumer goods department. These two divisions operate independently of each other. Notably, consumer opinions are mixed regarding the quality of Company X's products. Some individuals express concerns about the products' durability compared to other German brands, and particular emphasis is placed on the after-sale experience (QL1).

However, in the survey, overall consumer sentiment toward German products remains positive due to their perceived durability and high quality. The chart below provides a comparative overview of consumer preferences for HVAC brands from different regions.

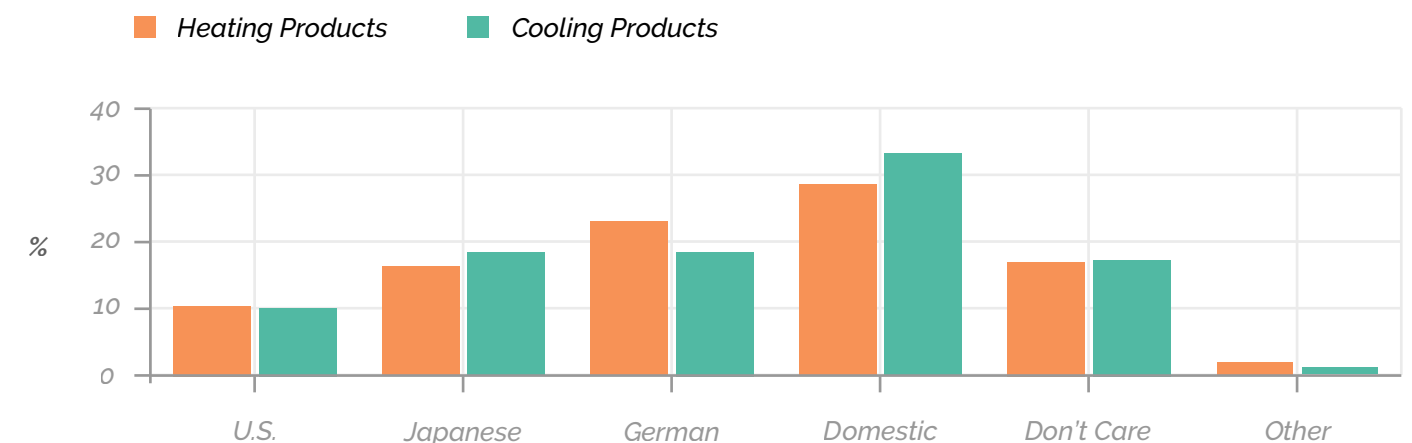


Figure 13 - Consumer preference over different brands for HVAC products (QNT)

Figure 13 reveals that while German brands, including Company X, maintain a degree of preference among Chinese consumers compared to U.S. and Japanese brands among heating products while Japanese brands still maintains a strong market preference in the heating products. Another evident shift in consumer is that Chinese consumers are increasingly favouring domestic brands over international ones when purchasing HVAC products. This trend dovetails with the shift in consumer behaviour discussed in the preceding chapter and manifests in several ways.

However, the shift in brand preference is influenced by various demographic factors, most notably age and income level, as shown in Figure 14. For example, age has a significant impact on consumer choices, particularly for heating products. Individuals aged between 36-45 show a stronger preference for German heating products compared to other age groups. This inclination may be attributed to cultural factors, as people in this age bracket grew up during a time when German brands were often equated with quality and premium craftsmanship. Interestingly, a preference for domestic brands in cooling products is consistent across all age groups, suggesting that local brands have successfully captured this segment of the market.

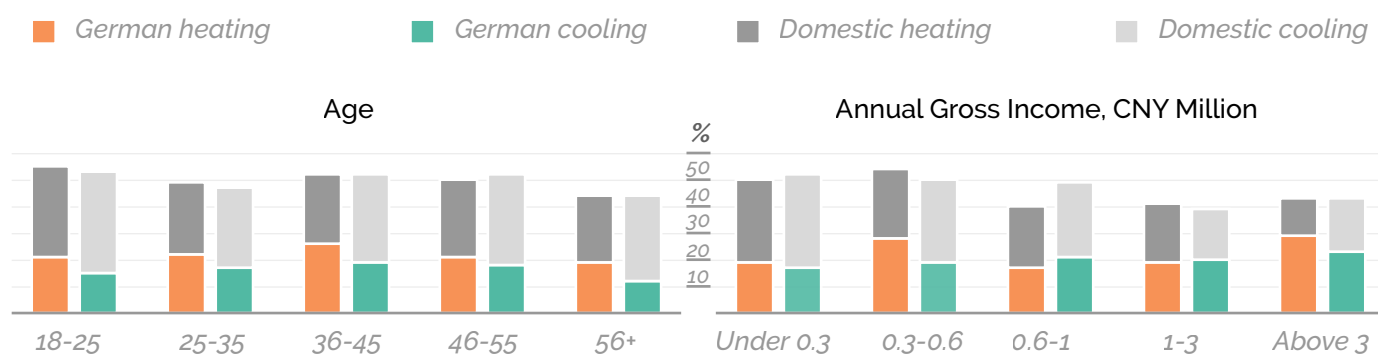


Figure 14 - Consumer preference over different brands for HVAC products on different demographic (QNT)

Income level also plays a pivotal role in shaping consumer preferences. As annual gross income increases, especially in the range of 0.3 - 0.6 million CNY, there is a noticeable shift towards German heating products. This could be because higher-income consumers associate German brands with a sense of prestige or superior quality.

In addition to the factor shown above, employment type also appears to influence brand preference. Employees of government-owned or foreign enterprises, for example, tend to favour German brands more than other demographics for heating products.

This evolving consumer preference landscape demands a recalibration of Company X's competitive strategy. Recognising only international brands as competition is no longer a sufficient approach. Domestic brands, supported by their high levels of innovation and competitive pricing, are emerging as formidable contenders in the HVAC market.

It's also important to note that high-end consumers, defined here as those with an annual gross income level exceeding 1 million, tend to favour brands that offer a sense of exclusivity and unique, less-accessible products. A finding from the interview shows that the competitive landscape of the ASHP market is particularly challenging, with numerous installers offering an array of ASHP brands concurrently (QL1 & QL2).

All of the findings above highlight the necessity for Company X's ASHP products to carve out a unique selling proposition that sets them apart from other brands. It's not just about emphasizing unique features - it's about gaining a deep understanding of the distinct needs and preferences across different demographic and income groups, and tailoring strategies to address those needs. Given the ongoing shift in market trends, Company X must reassess its approach and adapt to remain competitive in the ever-evolving landscape.

Product positioning

In this context, it becomes crucial for Company X to differentiate its offerings effectively. In an effort to uncover the defining factors that may sway people's brand preferences when selecting ASHPs, the author delves into a multitude of considerations that potential customers might take into account in the survey. Figure 15 on the next page provides a visual breakdown of these determining factors. Product attributes emerge as the most influential factor, reflecting consumers' desire for products that offer superior quality, performance, and innovative features. This highlights the importance for Company X to ensure its ASHPs stand out in these areas.

After-sale service are the second most significant influencer. Consumers appreciate brands that don't abandon them once the sale is made but continue to provide support and assistance when needed. This is a key area where Company X can create a unique selling point by offering exceptional after-sale service.

Thirdly, customer reviews holds substantial weight in the decision-making process. In the digital age, consumers increasingly rely on the experiences of others to inform their purchasing decisions. Positive reviews can greatly enhance a product's reputation, while negative reviews can deter potential customers. For Company X, this emphasizes the necessity of ensuring customer satisfaction, which can lead to favorable reviews and word-of-mouth promotion.

Further factors include sustainability and pricing. With growing awareness around environmental issues, consumers show increasing interest in eco-friendly products. Additionally, while pricing is indeed a consideration, it seems to be less of a deal-breaker compared to other factors, suggesting consumers are willing to pay more for quality products with good reviews and reliable after-sale services.

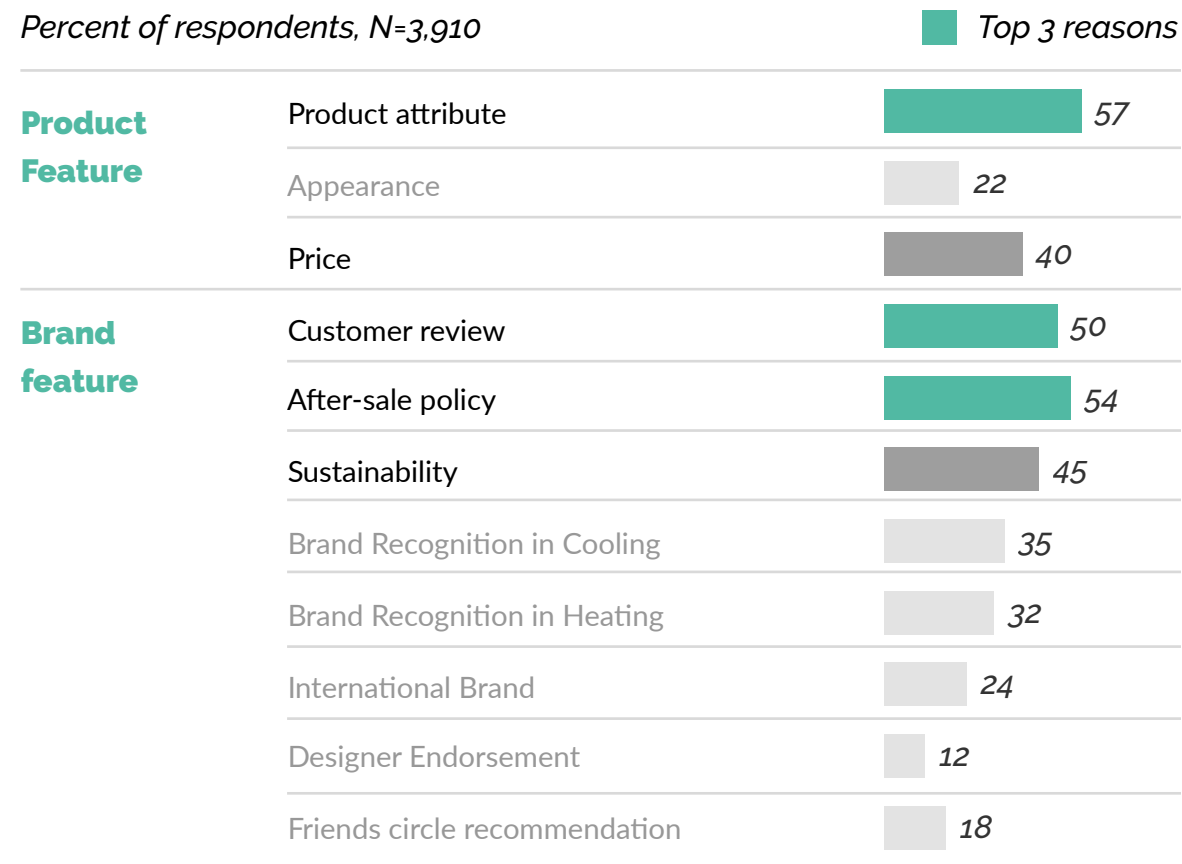


Figure 15 - Key buying factors for ASHP brand (QNT)

In essence, to make a significant impact in the market, Company X needs to address all these areas effectively. Each factor presents an opportunity to create a distinct brand identity and gain a competitive edge in the ASHP market.

Sinking market

Markets in what are termed as third-tier cities and below in China, often referred to as "sinking markets," comprise two-thirds of the nation's total population. Interestingly, these markets are currently experiencing a surge in consumer spending behavior (Accenture, 2022). This is in stark contrast to first and second-tier cities, which have recently witnessed a decline in the consumption of non-essential goods (QL1).

Despite access to fewer purchasing channels, residents in these sinking markets are witnessing an increase in their income levels and are showing greater interest in experimenting with new products. As mentioned in the competitor analysis, numerous international high-end brands are beginning to venture into these emerging markets, enticed by the growing purchasing power of third-tier cities. As it currently stands, Company X has not yet contemplated entry into these rising markets. However, given the intensified competition in the first and second-tier cities, it would be prudent for them to consider this burgeoning market segment (QL1&2).

Product preference

Product Awareness

The survey results indicate that, despite air-source heat pumps (ASHPs) having been available in the Chinese market for over three decades (Fan & Long, 1994), a significant 60.3% of consumers remain unfamiliar with this product, as illustrated in Figure 16 below. Given that the majority of survey participants have neither heard of nor had the opportunity to explore ASHPs, this lack of familiarity could skew the survey results. For example, if the majority of respondents were well-acquainted with the product, the survey might reveal more nuanced pain points and expectations. Instead, the result of subsequent question suggest that many of the identified issues stem from consumers' lack of knowledge about the product itself.

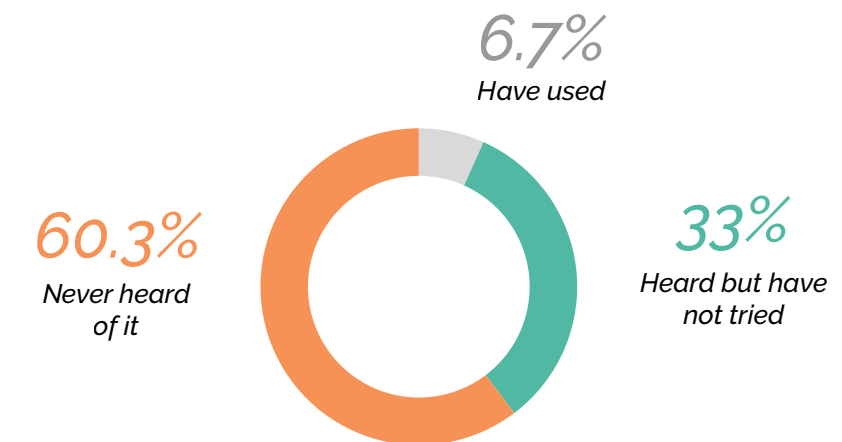


Figure 16 - Chinese consumer experience with ASHP (QNT)

However, this considerable lack of awareness offers a substantial opportunity for Company X. It signifies an untapped market segment for ASHPs, with the potential to vastly extend the reach of the company's customer base. The fact that a significant proportion of consumers are yet to become acquainted with this product category, let alone try it, offers vast untrodden terrain for customer acquisition and growth.

It is therefore essential for Company X to craft a strategic plan aimed at raising awareness about ASHPs and their advantages. Comprehensive educational marketing campaigns could be pivotal in achieving this. Additionally, collaboration with dealers and installers, as well as training for sales staff, will be necessary to ensure they can effectively communicate the benefits of ASHP technology to prospective customers.

Thus, the success in capturing this market opportunity will hinge on the effective implementation of awareness-building and educational initiatives.

Current HVAC Products

The survey conducted by the author also probed into existing challenges associated with HVAC products currently available in the market (QNT). *Figure 17* below visually represents these findings.

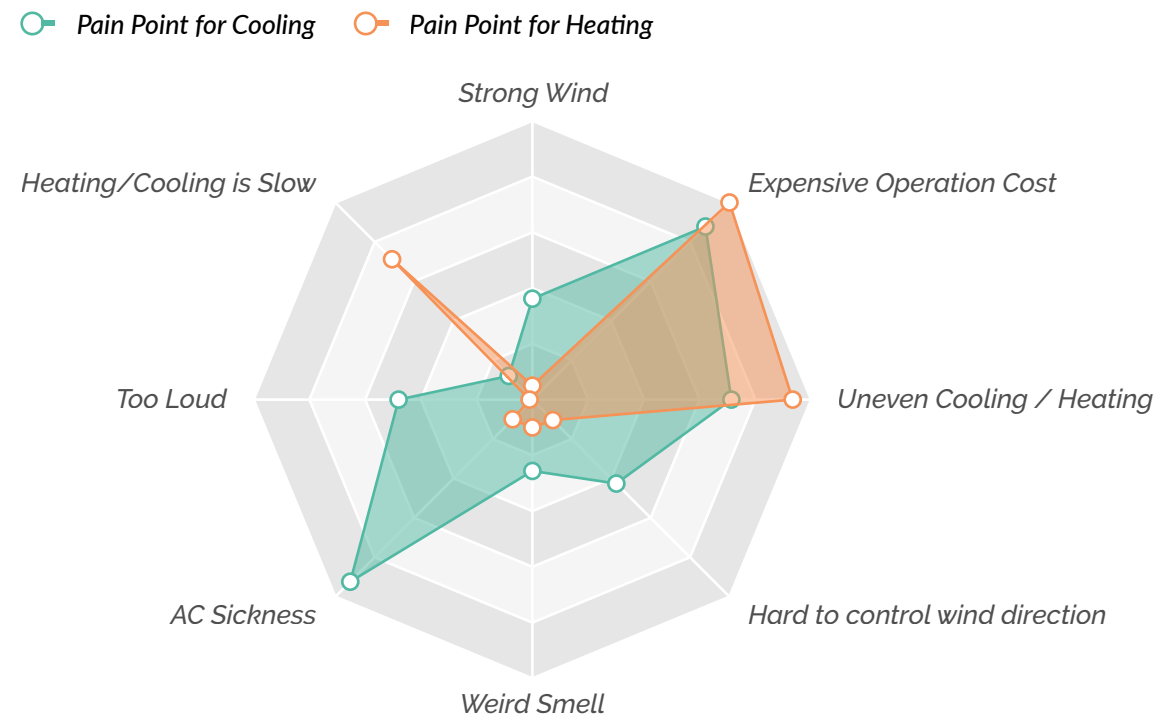


Figure 17 - HVAC products pain points (QNT)

Both for cooling and heating, it is apparent that the most significant concern among consumers is the high operational cost. This presents a substantial opportunity for ASHPs, given their ability to substantially reduce operating costs due to their high efficiency. The next predominant issue is the inconsistency in heating and cooling. Many consumers report experiencing uneven temperatures across a room, with one area being particularly hot or cold compared to the rest.

The majority of cooling products utilise wind to regulate room temperature, which leads to two primary pain points. Firstly, the wind can sometimes be overly strong, leading to a displeasing user experience. Secondly, controlling wind direction poses a significant challenge. In addition to wind-related issues, cooling products are often associated with "air conditioning sickness," a term common in China, known as "空调病". This term describes various health complications that can arise from extended exposure to air-conditioned environments, including headaches, sore throats, cold-like symptoms, dry skin, and joint pain (Yi & Zeng, 2015). This term's prevalence demonstrates a widespread concern about potential health implications from prolonged indoor air conditioning use.

However, Company X's decision to manufacture air-to-water heat pumps (AWHPs), a water-based type of ASHP, stands as a considerable advantage. This system generates a comparatively softer breeze than traditional ACs, thereby alleviating some of these prevalent discomforts.

In contrast to the strong winds produced by cooling units, heating products often exhibit the opposite issue: they can heat the space relatively slowly. This slow response time is another significant pain point for users seeking efficient heating solutions.

Understanding these consumer challenges provides an essential context for product development and marketing efforts. By addressing these concerns, Company X can create a more user-friendly and efficient product. ASHPs, especially AWHPs, can be positioned as solutions that not only provide cost-effective and uniform temperature control but also minimise health-related issues typically associated with HVAC systems. The emphasis should be on communicating these advantages effectively to potential consumers, thereby promoting the adoption of these systems for more comfortable and healthier living environments.

ASHP Key Buying Factors

The author additionally delved into the key purchasing factors that might sway a consumer's decision to purchase an HVAC product. Notably, the majority of respondents indicated that they were unfamiliar with air-sourced heat pumps (ASHPs) and had never heard of this product category before. The questions posed were based on whether respondents would be willing to try this new type of product if it were available. *Figure 18* on the next page illustrates the responses.

Significantly, more than 60% of respondents expressed a willingness to purchase ASHPs, given their efficiency and multi-functionality. Among potential additional features, air purification was particularly favoured. This preference is likely a result of growing consciousness about indoor air quality in China, mirrored by the interest in sterilisation and formaldehyde removal features. However, the ventilation system option received a lukewarm response, which could be attributed to the prevailing preference among Chinese consumers to ventilate spaces physically by opening windows (QL1). Another sought-after feature is smart control, which will be explored further in the subsequent section.

These insights into consumer preferences and decision-making factors are vital in informing product design and marketing strategy for ASHPs. By focusing on efficiency, multi-functionality, and features that enhance indoor air quality, Company X can potentially attract a larger market segment and encourage the adoption of this lesser-known, yet advantageous technology.

Percent of respondents, N=3218

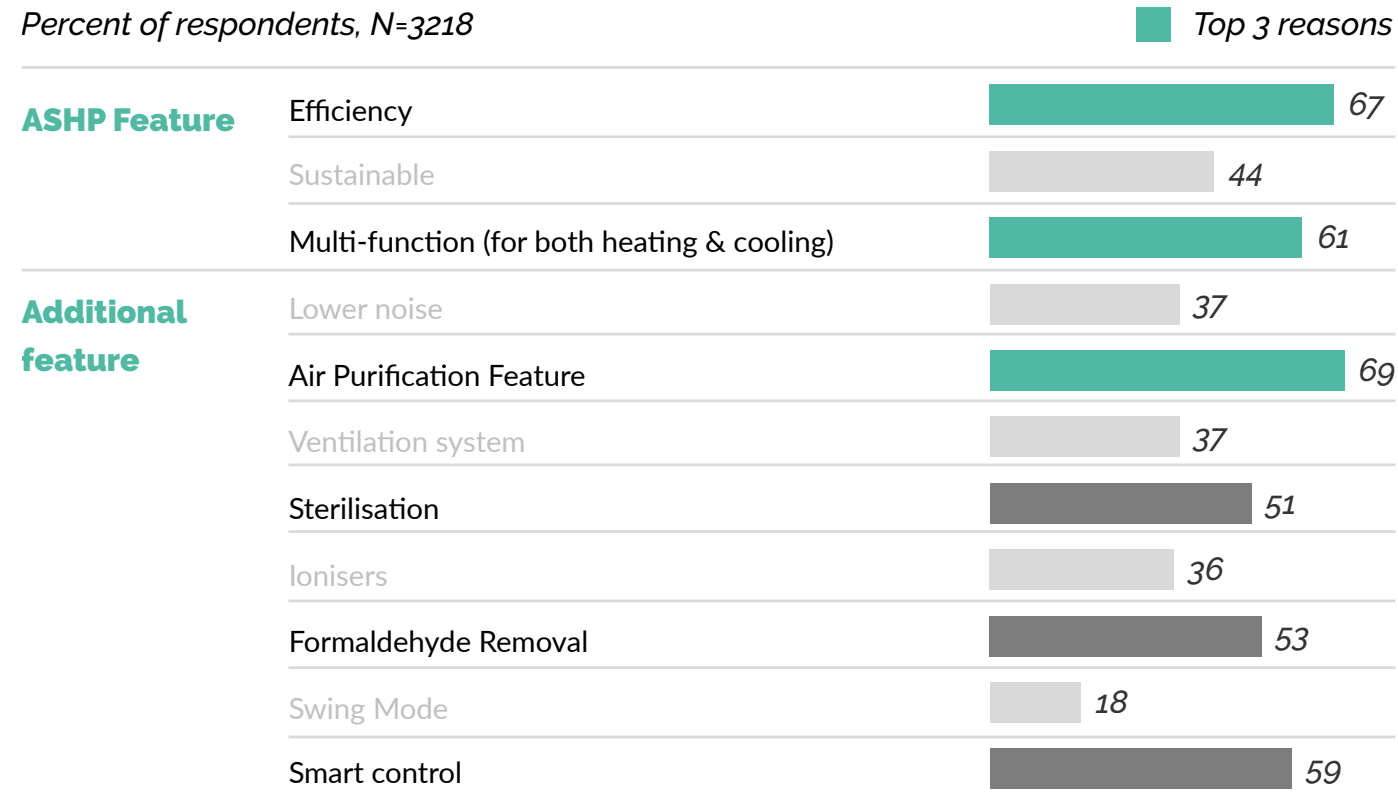


Figure 18 - Key buying factors for ASHPs (QNT)

Worries for ASHP

In addition to understanding the factors that would encourage consumers to ASHPs, the study also delves into the concerns that could discourage their purchasing decision.

Two primary concerns emerged from the survey: durability and high maintenance of the product. Durability issues predominantly stem from consumers' lack of knowledge about ASHPs, suggesting a widespread misunderstanding about the product's lifespan and reliability. This concern can be mitigated through comprehensive educational and promotional campaigns, explaining the technological aspects of ASHPs and providing evidence of their long-term performance and durability.

However, addressing the concern over high maintenance might prove more challenging. This worry not only implicates potential technical complications but also raises the question of aftersale service quality. In the qualitative interviews (QL2), designers express reservations about water-based ASHPs (AWHPs) in the Chinese market due to their complex installation process and consequent high installation cost. Many AWHPs, they noted, are installed by inadequately trained technicians, leading to a high volume of aftersale complaints. Consequently, these designers are more likely to recommend air-to-air heat pumps (AAHPs) to their clients, particularly for apartments rather than villas.

The other two prominent concerns relate to expensive operation costs and a lack of knowledge about ASHPs. Addressing these concerns also calls for more comprehensive education about ASHPs, emphasising their energy efficiency and consequent lower operating costs. See Figure 19 below as an illustration of the result.

Percent of respondents, N=993

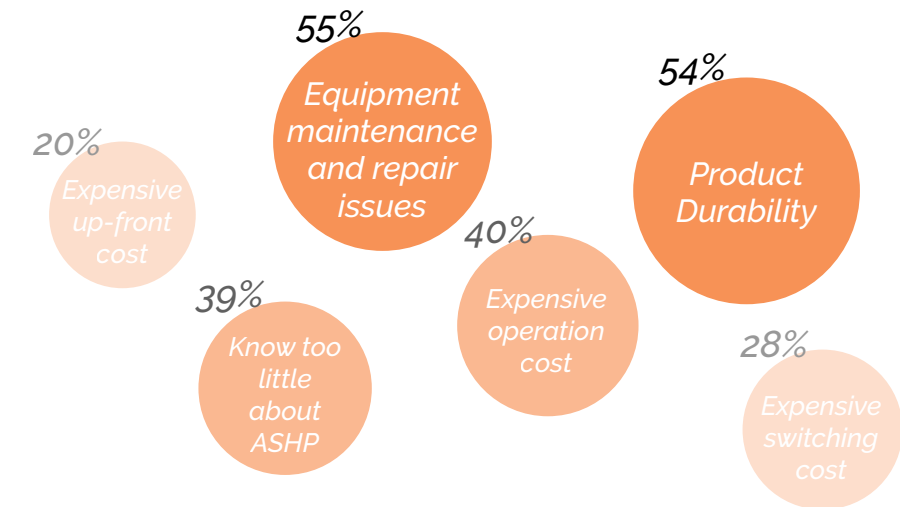


Figure 19 - Customer concerns for ASHPs (QNT)

In conclusion, the challenge for Company X is not only to market the unique features of its ASHPs but also to address these concerns effectively. A holistic strategy that combines strong product education with the guarantee of quality after-sales service will be vital. This approach can help alleviate consumer concerns, increase the appeal of ASHPs, and ultimately enhance Company X's competitive position in the market.

After sales service

As highlighted in the previous section, after-sales service is one of the primary concerns for customers considering the purchase of air-source heat pumps (ASHPs). This apprehension likely stems from their prior experiences with other HVAC products and the industry's reputation for subpar post-purchase support.

Given the long lifespan of HVAC products – often spanning several years, if not more than a decade – after-sales service becomes an integral aspect of the product experience. As products that are intended for long-term use, HVAC systems require regular maintenance and occasional repairs, underscoring the importance of robust after-sales support.

In the interviews, many installers and designers cited poor after-sales service as a significant factor contributing to the failure of many HVAC brands. This highlights the critical role of effective after-sales service in ensuring a brand's longevity and success in the HVAC market (QL1&2).

Figure 20 below presents the respondents' expectations concerning the product's lifespan. Interestingly, over 50% of respondents believe a 5-year warranty, which most competitors offer, for after-sales service is insufficient. This underscores the expectation that their HVAC system should last significantly longer than 5 years.

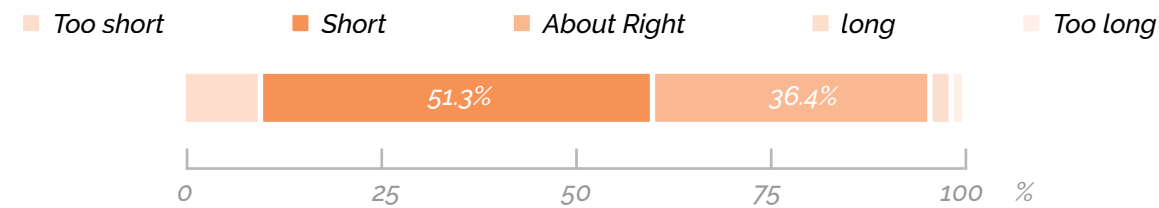


Figure 20 - Customer view on five-year warranty of an ASHP product (QNT)

This expectation reflects not only the anticipated durability of the product but also the consumers' desire for extended coverage for after-sales service and support. Given the long-term nature of such an investment, customers expect their HVAC system to remain functional for many years, with a warranty period that aligns with this expectation.

To better understand the other after-sales issues troubling customers in addition to warranty, the author delved into the survey data concerning some specific service complaints. The results indicated that the top three areas of concern are: prolonged resolution times, lack of cost transparency, and exorbitant maintenance costs. Results are demonstrated in Figure 21 below.

Percent of respondents, N=3,000

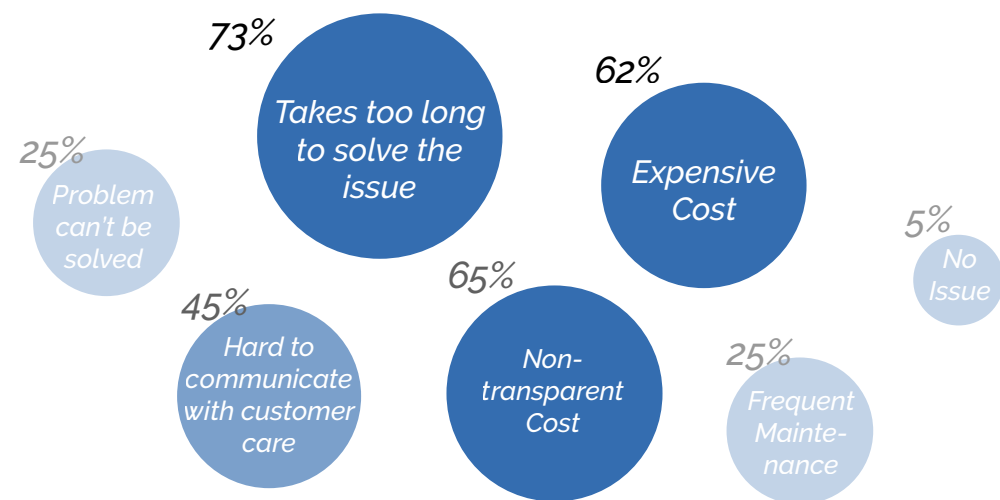


Figure 21 - Customer concerns for ASHPs (QNT)

Prolonged resolution times imply delays in addressing and rectifying customer issues, resulting in extended periods of inconvenience for the customer. Lack of cost

transparency pertains to unclear or hidden charges related to the service, while expensive maintenance costs relate to the perceived high cost of regular servicing or repairs.

These findings underscore the need for HVAC companies, like Company X, to prioritize improving after-sales service. Focusing on extended warranty, reducing resolution times, enhancing cost transparency, and providing value-for-money maintenance could significantly enhance customer satisfaction and foster long-term loyalty.

Smart Home

Given the increasing trend towards smart homes identified in previous research, the author also want to explore the relevance of this trend for HVAC brands. Designers and installers interviewed for this study opined that having a dedicated smart home platform, like apps or mini-programs, is not necessary for HVAC companies (QL1 & QL2). However, a competitor analysis in the preceding chapter revealed that most high-end ASHP manufacturers do possess their own smart home platforms. This discrepancy prompted the author to further investigate consumers' perspectives on this matter.

As depicted in the Figure 22 below, consumer preferences regarding AI platforms are diverse, with no single option dominating the field. Interestingly, 27.5% of respondents still prefer to use the dedicated smart home platforms provided by their ASHP brands. This data suggests that while there isn't a consensus on the need for HVAC brands to develop their own smart home platforms, a considerable portion of consumers do find value in them. The reasons could range from compatibility with the product, trust in the brand, or specific features these platforms provide.

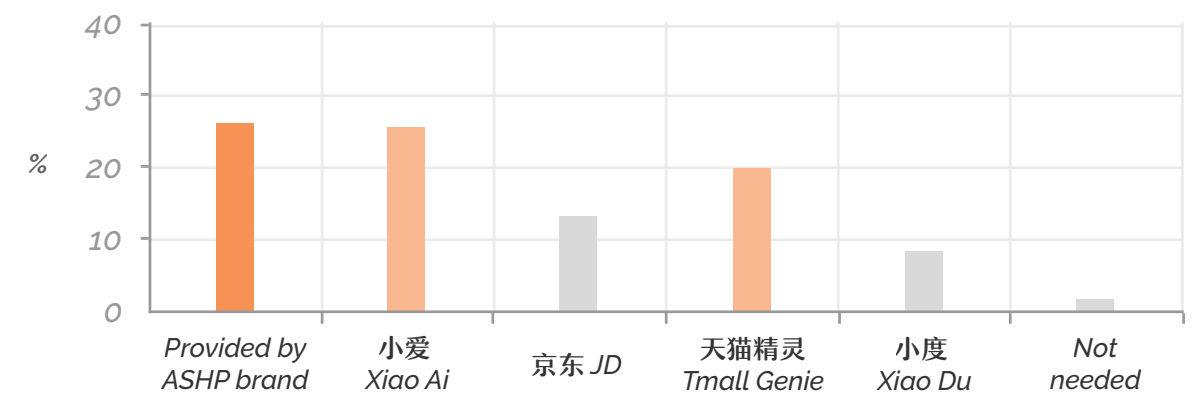


Figure 22 - Customer preference on smart home device that can control ASHP (QNT)

Therefore, Company X might consider investing in their smart home platform in the future, balancing the cost against potential user preference and the competitive advantage it might provide. They could also explore collaborations with popular existing smart home platforms to offer their consumers a wider choice, thereby ensuring that their products fit seamlessly into the consumers' preferred smart home ecosystem.

Sales Channel

As mentioned earlier section Company X primarily relies on dealerships (B to C) and developers (B to B) as sales channels for its boiler products. However, due to the nature of ASHP installation, which necessitates comprehensive ductwork, its target market is more specific. ASHPs are more suited for homes undergoing substantial renovation or new builds, whereas boilers can be sold to any household requiring a heating solution, given their simpler installation and lower switching costs. As a result, the author decides to look into other possible way of selling ASHPs.

Designer Channel

A growing trend among homeowners, as suggested by earlier research, is the increasing reliance on professional designers for house renovation (Cheah, Chew, & Huang, 2006). These designers have been identified as potential influential actors in the sales channel. For a comprehensive understanding, they have been categorised into three distinct segments: independent designers, designers from contractors, and designers from design institutes. The table below provides a summary of these designer segments.

	Independant	Contractor	Design Institute
Client Type	Villa	Small Villa & Aptment	Real-estate Developers
Value	Product quality & boot their reputation	Product quality & Profitability	Product Fit & Profitability
Pain	Limited knowledge towards AWHPs and thus have misconception Company X is not widely recognised in the HVAC fields		

Table 5 - Designer Type (QL1)

Independent Designers: This group predominantly caters to high-income clients. They place significant importance on product quality, believing that endorsing superior products bolsters their professional reputation. Hence, Company X could potentially appeal to this group by emphasizing the high quality and efficiency of their HVAC products, thus aligning with the designers' objectives.

Contractor Designers: These designers mainly serve middle-to-high-income clients. Unlike their independent counterparts, contractor designers are less concerned with product quality and more focused on profitability. Their performance metrics are often linked to the quantity of products they sell in addition to their design services.

Company X, therefore, needs to ensure competitive pricing and profitable collaboration terms to engage this group effectively.

Designers from Design Institutes: This segment primarily works with real estate developers, offering design solutions for new projects. Their HVAC brand choices are typically neutral, aiming to find the best products that suit the project. However, there's an occasional tendency to recommend brands from which they receive benefits. For Company X to appeal to this group, the emphasis must be on the overall product value, fitting within project parameters, and establishing beneficial partnerships.

While designers represent a promising sales channel, they harbor skepticism about AWHPs due to their complex installation processes and potential after-sale issues. For Company X, this poses a challenge. The task then becomes about breaking these misconceptions and gaining their trust. It's crucial to bear in mind that Company X is launching a new product line, and its recognition within the HVAC sector is still relatively limited. Consequently, strong strategies addressing these concerns and robust communication about product advantages will be essential for a successful market entry.

Dealers

The research also delves into traditional channels, specifically focusing on dealer, who are often referred to as installers or retailers. According to interview-based research (QL2), these dealers are primarily motivated by profitability. They tend to favour selling and installing AWHPs over AAHPs because the former typically offer higher profit margins. This insight is crucial for Company X as it strategizes its market entry and positioning. The company needs to consider how to incentivise these key stakeholders to prioritise their products, particularly when these dealers often work with multiple brands. Table 6 below summarises the different types of installers and their capabilities in serving consumers. Given that selling an ASHP involves more than just the product—service is also a critical component—the table evaluates installers on four dimensions: sales, design, installation, and after-sales service.

	Sales	Design	Installation	After-Sale
10% ASHP Pioneer	●	●	●	●
20% System Pro	●	●	●	●
30% Traditionalist	●	●	●	●
40% Tradesman	●	●	●	●

Table 6 - Dealer Type, adapted from third party (QL2)

The data collected by the third-party survey (QL2) offers valuable insights into the capabilities of dealers, dividing them into four distinct segments:

ASHP Pioneers: Making up 10% of dealers, this group has comprehensive capabilities, including sales, design, installation, and after-sales service.

System Pros: This segment, constituting 20% of dealers, exhibits similar abilities, although the specific competencies weren't specified in the text.

Traditionalists: 30% of dealers fall into this category. They can handle sales and installation but require assistance with design and after-sales service.

Tradesmen: The largest group, at 40%, can only handle sales, and they rely on Company X for support in all other areas, including design, installation, and after-sales service.

The data underscores a significant issue: 70% of the dealers lack the ability to provide after-sales service, a critical element for HVAC products. Additionally, the research is design specifically for AWHP, which further prove that its installations is much more complex than AASHP, and require specific training.

Given these challenges, Company X may want to consider a direct-to-consumer (D2C) sales channel. This approach would allow the company to maintain control over the entire customer journey, from product awareness to purchase and after-sales service. Implementing a D2C strategy could enhance customer experience, ensure proper installation and service, and potentially increase customer loyalty and satisfaction. However, this strategy would require a substantial investment in infrastructure and personnel, so the benefits and costs should be carefully evaluated.

Real-estate developers

In the previous market research conducted on the distribution channels for ASHPs in China, a distinct pattern emerged regarding the sales through real-estate developers. A marginal 6.9% of ASHPs were sold through this channel (ICM Zone, 2022). After talking to designers from various design institutes—entities that regularly interact with real-estate developers as their primary clients—the author finds out that the high up-front cost of ASHPs was identified as a deterrent for developers to consider this as a viable option. The investment required for integrating ASHPs into new construction is substantial, and this financial hurdle has been a significant barrier to adoption within the real-estate development sector.

Given these findings, it is advisable for Company X to strategically shift its focus away from real-estate developers and instead concentrate on direct-to-customer channels for the present. This approach aligns with the current market dynamics and positions the company to leverage more responsive and potentially lucrative sales channels, catering specifically to end-users rather than intermediary developers.

Marketing Channel

Information channel vs Purchasing Channel

The author also look into the marketing to reach end users in the survey, which indicates an interesting disparity between information channels and actual purchasing channels for their HAVC products, as illustrated in *Figure 23* below. While there is some overlap, many consumers seem to discover and learn about products through one channel but ultimately make their purchases through another.

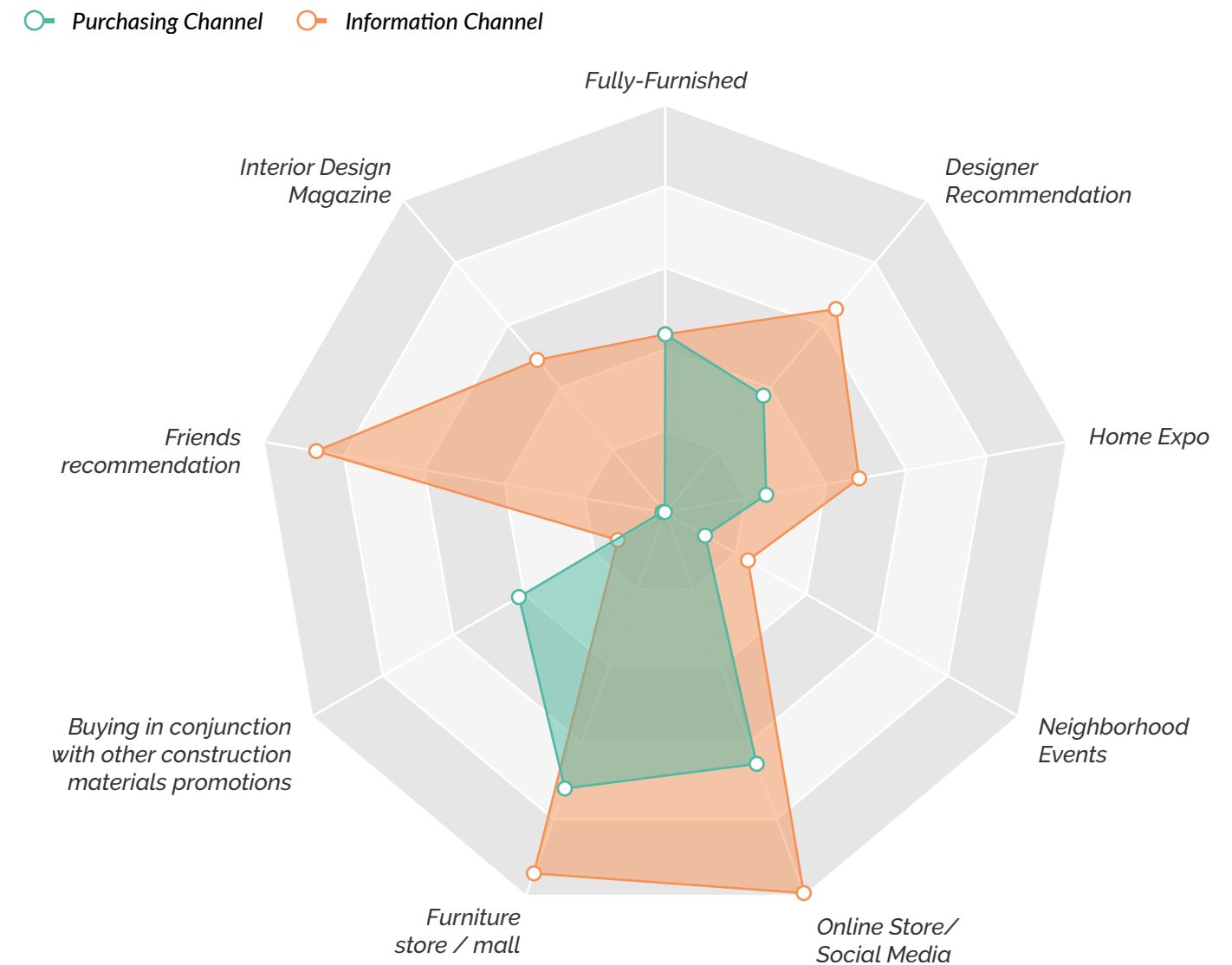


Figure 23 - Retailer Type (QL2)

According to the interviews conducted (refer to QL1), the disparity between information and buying channels is often driven by price considerations. Consumers may initially hear about a product through a designer's recommendation but might end up making the actual purchase through a different channel that offers a better price, such as in combination with other construction materials.

Another interesting finding is that word-of-mouth and friend recommendations constitute a significant source of information for many consumers. This factor underscores the power and influence of personal recommendations and customer satisfaction in shaping purchasing decisions. Still, outside of that, furniture stores and online retailers emerge as the leading avenues for both information and purchase.

This insight emphasizes the importance of a multi-channel strategy for Company X. It may need to establish a strong presence across various platforms to reach potential customers effectively. Simultaneously, considering the influence of price, offering competitive pricing or value-added bundles could attract a broader customer base. Furthermore, given the importance of friend recommendations, maintaining high product and service quality to ensure customer satisfaction and encourage positive word-of-mouth should also be a crucial part of the strategy.

Online Marketing Channel

The research findings above indicate that online channels play a significant role in consumers' information gathering for HVAC products. As shown in Figure 24 on the right, the most popular online platforms include large e-commerce stores such as TMall, Taobao, and JD, where many brands, including Company X, operate flagship online stores. It is noteworthy, however, that the use of online channels is less common among older consumers.

Apart from these e-commerce platforms, consumers also heavily rely on online search engines like Baidu and various social media platforms to inform their purchasing decisions. A preliminary search for "Boilers" on Baidu by the author revealed that Company X's presence is notably low on the search result pages, lagging significantly behind many of its competitors. Thus, Company X must prioritize enhancing its Search Engine Optimization (SEO) strategies for its ASHP products once they are launched.

Digging deeper into the role of social media platforms in influencing consumer decisions, the research found that TikTok CN, Little Red Book, and Zhihu (the Chinese equivalent of Quora) are the most popular channels. Interestingly, TikTok CN is more popular among the age group of 36-45 than other age groups.

Given these findings, Company X needs to craft a robust online marketing strategy that takes advantage of these popular platforms. This could involve bolstering its online presence on e-commerce sites, optimizing search engine rankings, and leveraging popular social media channels to increase product visibility and attract potential customers. A targeted approach, considering the demographic differences in platform preferences, would further enhance the effectiveness of such a strategy.

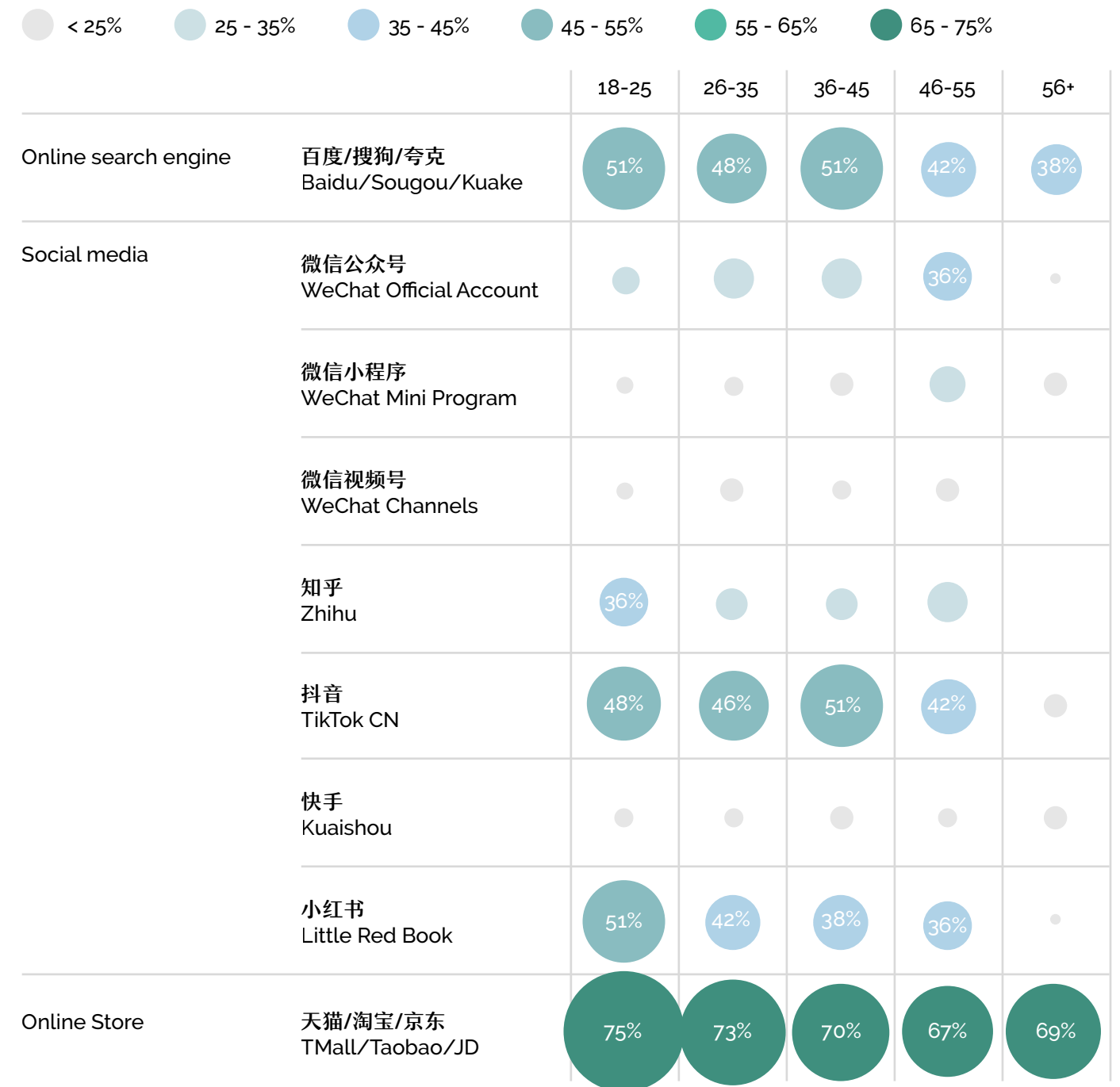


Figure 24 - Consumer preference for online channel for HVAC product (QNT)

Chapter 5

Go-to-market strategies

5.1 Consumer Persona

Based on the market and consumer research in the previous chapters, the author summarised three persons to represent the targeted consumers. These personas will serve as the foundation for the GTM strategies discussed in this chapter, helping to ensure that the strategies are closely aligned with the needs, preferences, and pain points of the target consumer segments.

Efficient Explorer

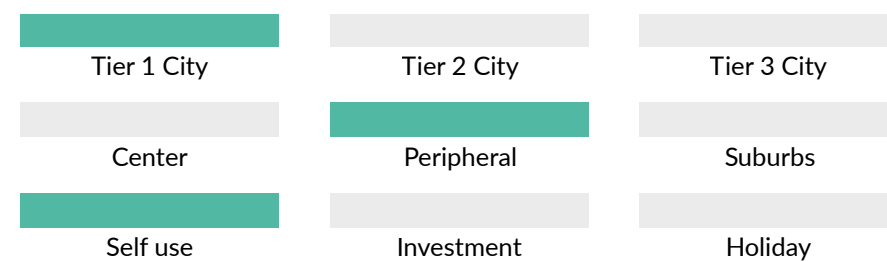
Chen, a cosmopolitan young professional, just acquired a 120 sqm apartment in the heart of Suzhou with her cat, Dolly. She completed her master's degree in the U.S. three years ago and currently works for an international company. Rui likes modern interior and prefers to gather information online. She's considering hiring an interior designer for her new apartment.



Age



Geography

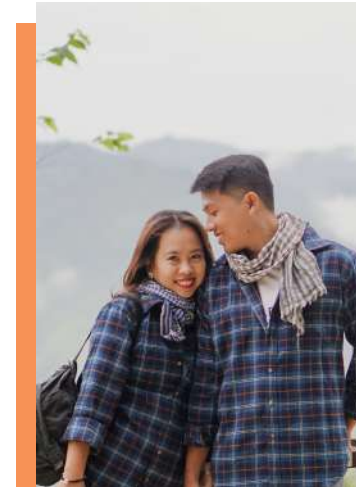


Needs & Pain

Rui is preoccupied with her demanding work schedule and thus is concerned that if something were to go wrong, the process of resolving it through after-sales service could be complex and time-consuming.

BreathEasy Builders

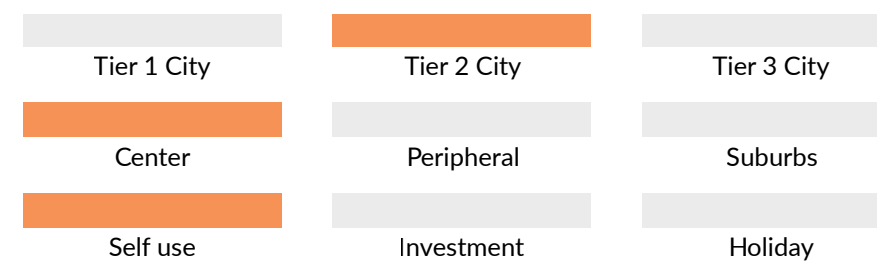
Hu and Lee are a married couple expecting their second child. Both work for state-owned companies and have just purchased a new 180 sqm house. They've invited Hu's parents to live with them to help care for the baby. The couple likes to research both online and in-store to find the best promotions before making a purchase.



Age



Geography



Needs & Pain

They are concerned about indoor air quality, especially with a newborn on the way. Lee is also worried about the strong air breeze from HVAC systems, which she believes could be harmful post-childbirth, a concern rooted in unique Chinese cultural beliefs.

Luxury Luminary

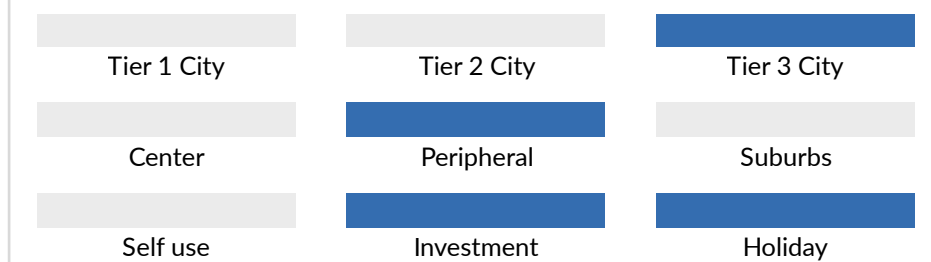
Min is the CEO of a unicorn start-up and has recently self-constructed a holiday villa in his hometown. He is a tech-savvy person and always like to use the most innovative technologies. He is looking for a luxurious experience for himself and his family. Min delegates the details to his designer and secretary, leaving them to liaise with the construction team.



Age



Geography



Needs & Pain

Min desires something unique that reflects his business success. He's less involved in the day-to-day decisions, so his construction team and secretary often make choices on his behalf.

A successful Go-To-Market (GTM) strategy for Company X involves more than merely launching a product; it entails delivering a comprehensive product experience that resonates with customers, thereby driving growth and solidifying the company's position in the high-end air-source heat pump (ASHP) market in China. The three distinct personas identified in the previous page are designed to represent unique needs, preferences, and challenges within this market.

Firstly, "The Efficient Explorer, Rui," symbolises young, tech-savvy professionals who are becoming key influencers in urban consumer behaviour. Research shows that individuals working for foreign-owned companies have a preference for German HVAC products, aligning with Rui's employment in an international firm. She epitomises a consumer segment that values brand reputation and quality, leaning towards international brands known for reliability and technological innovation. Given her busy lifestyle, Rui also represents those who prioritise efficient after-sales service and conduct online research before purchasing.

Secondly, "The BreathEasy Builders, Hu & Lee," embody middle-class families increasingly concerned about health and well-being, particularly in multi-generational households. This persona reflects the growing trend among families employed in state-owned enterprises who are concerned about indoor air quality for their children. Hu and Lee's dual approach to shopping—both online and in-store—captures a demographic that seeks value without compromising on the tactile experience of physical shopping.

Lastly, "The Luxury Luminary, Min," encapsulates the aspirations of high-net-worth individuals seeking bespoke, premium solutions. Research indicates that such individuals, often CEOs or entrepreneurs, delegate day-to-day decisions to trusted teams. Min's persona, therefore, represents a segment willing to invest in premium products but requiring a seamless, hassle-free experience.

These personas serve dual purposes: they not only represent key consumer segments but also highlight specific challenges and opportunities in areas like customer service, technological innovation, and product customisation. By tailoring the GTM strategy around these personas, this study aims to offer a nuanced yet comprehensive market understanding, thereby enabling more effective GTM strategies.

In the following sections, the GTM strategy will be further elaborated using the 4P model—Product, Place, Promotion, and Positioning—as proposed by van Waterschoot and Van den Bulte. To address the unique challenges of marketing a service, three additional elements—People (customer journey), Place (sales channel), and Process (launch strategies)—will also be discussed. Ultimately, it is imperative for Company X to align its strategies with these targeted consumer personas to ensure the successful launch of its ASHP product line.

5.2 The Marketing Mix

Positioning

As illustrated in Figure 25, Company X's positioning strategy is plotted along two axes. The first axis emphasises a focus on after-sales service, while the second axis targets markets that prioritise heating needs over cooling. This strategic positioning is informed by both competitor analysis and consumer research.

According to the competitor analysis, only three out of the twelve premium ASHP brands have in-house after-sales service teams. Consumer research further corroborates that unreliable after-sales service is a significant pain point in the HVAC industry. Given these findings, prioritising after-sales service could offer Company X a distinct competitive advantage.

Launching an ASHP product line represents a new venture for Company X, requiring substantial investment not only in research and development but also in after-sales service infrastructure. Given the intense competition among premium brands, particularly those excelling in technological innovation, Company X faces a challenging landscape. Notably, nine out of the twelve premium ASHP brands originated as air-conditioning companies, indicating a strong focus on cooling solutions.

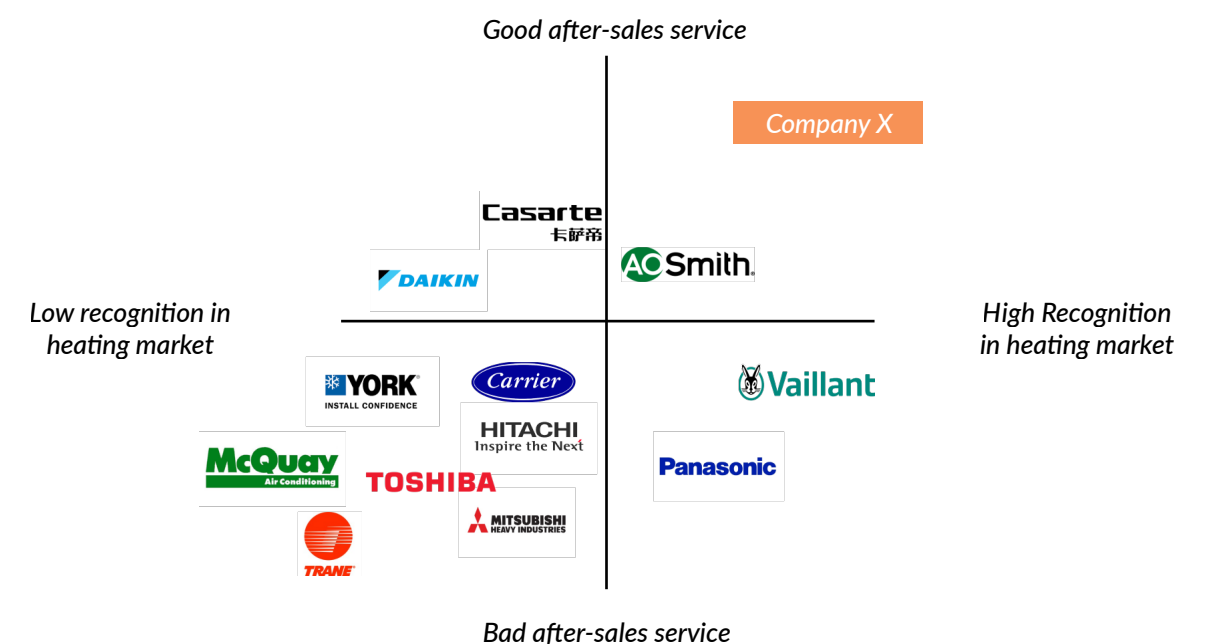


Figure 25 - Company X positioning on brand perceptual map

Due to the dual-supply nature of ASHP, offers both heating and cooling solutions, the author decided to shift the second axis in *Figure 11* from "Technological Innovation" to "Markets Prioritising Heating Needs." This reorientation serves Company X well for two reasons. First, it allows the company to leverage its existing brand recognition in the heating sector, built through its boiler products. Second, it enables Company X to focus on a market niche that is less saturated but still aligned with consumer needs.

Product & Service

The success of a product in the marketplace hinges significantly on its unique selling propositions (USPs). These are the characteristics that set it apart from its competitors and make it especially attractive to targeted consumers. For Company X's HVAC product, there are four key unique selling propositions that can help to attract their target consumers: cost effective, impeccable after-sale service, and smart control.

Cost-effective

Indeed, in the consumer research, it became evident that the operational costs associated with many existing HVAC systems are a major concern for consumers. High energy bills often accompany the use of these systems, particularly during periods of extreme weather when the systems are running continuously. This concern is amplified in regions where energy costs are high, placing a substantial financial burden on homeowners and businesses alike.

In response to this significant pain point, Company X's ASHP has been designed to be highly cost-effective. This efficiency is achieved through innovative technology and design that enable the system to operate optimally using less energy.

The ASHP essentially works by transferring heat, rather than creating it through combustion. This process is significantly more energy-efficient, resulting in lower operational costs for the user. Additionally, since Company X is targeting on the market that priorities heating, they can pair its ASHP with its boiler during extreme weather conditions, the efficiency of the ASHP is further amplified. This is because the boiler can step in during periods of intense cold when the efficiency of the ASHP might be reduced, ensuring a constant, efficient supply of heat.

Ultimately, the operational cost savings offered by Company X's ASHP provides a compelling selling point to cost-conscious consumers. By making this advantage clear in marketing efforts, Company X can effectively appeal to consumers seeking not just initial product affordability, but also long-term cost savings.

After-sale

Another key differentiator for Company X lies in its approach to warranties and after-sales service. Consumer research indicates that a five-year warranty for ASHPs falls short of customer expectations. To address this gap, Company X proposes a unique subscription-based warranty plan that extends beyond the standard six-year warranty, which is already above industry norms. This extended warranty not only underscores the company's confidence in the product's durability and performance but also serves as a revenue stream to support its investment in an in-house after-sales service team.

The importance of an in-house after-sales team is further highlighted by competitor research, which reveals that only three out of the twelve premium ASHP brands maintain such teams. Moreover, current data shows that a mere 10% of dealers possess the good capability to provide after-sales service for water-based ASHPs. Given this landscape, it becomes imperative for Company X to invest in its own in-house after-sales service infrastructure.

This investment is not just a cost but a strategic move. It demonstrates Company X's commitment to delivering exceptional after-sales service, encompassing effective communication and prompt repair responses. Such a commitment is likely to engender customer trust and loyalty, thereby providing Company X with a competitive edge in a crowded market.

Air-purifying feature

In the post-pandemic era. Consumers have become more conscious about the air they breathe indoors and the impact it has on their overall health. The survey done by the author also confirmed that the top features consumer expect to have in their ASHP products are all related with air-purifying feature, such as sterilisation and formaldehyde removal. This is where the air-purifying feature of Company X's product comes into play, establishing yet another unique selling proposition.

With the integration of advanced filters and other technologies in the ASHP system, Company X can significantly improve indoor air quality, effectively filtering out pollutants and allergens. This feature not only makes the product more appealing to health-conscious consumers, but it also responds to the growing demand for HVAC systems that offer more than just heating and cooling capabilities.

In essence, the inclusion of the air purifying feature reaffirms Company X's commitment to delivering innovative and health-centric solutions, further distinguishing it in the HVAC market. The emphasis on maintaining a healthy indoor environment thereby aligns with Company X's broader strategy of responding effectively to changing consumer behaviour trends.

Smart home

In an era where smart home technology is rapidly becoming the norm, consumers increasingly prefer appliances that can be seamlessly integrated with their existing smart home ecosystems. In response to this trend, all of the other premium ASHP brands have designed their own smart control platform. In this regard, Company X is demonstrating foresight and adaptability by developing an open API for its air-source heat pump (ASHP) systems.

The open API facilitates seamless integration of the system with multiple artificial intelligence platforms, thereby increasing its interoperability. This approach essentially ensures that Company X's product can be easily incorporated into a variety of smart home configurations without any compatibility issues, thereby increasing its appeal to a tech-savvy customer base such as the "luxury luminary" persona.

At the same time, Company X can start the development of its own AI platform, which will serve to further enhance the functionality and user-friendliness of its ASHP systems. With its own AI platform, Company X will be able to offer customers unique, proprietary features that distinguish it from competitors and augment the overall user experience.

AC Sickness

One of the most compelling advantages of water-based Air-Source Heat Pumps (AWHPs) is their ability to produce a softer, more gentle breeze compared to air-to-air heat pumps (AAHPs). This feature is particularly important in the context of the Chinese market, where concerns about "A.C. sickness" are prevalent. According to consumer research, the softer breeze generated by AWHPs significantly reduces the likelihood of experiencing discomfort or health issues commonly associated with air conditioning, such as dry skin, irritated eyes, or respiratory problems.

This unique benefit aligns well with the specific needs and preferences of Chinese consumers, who often express concerns about indoor air quality and its impact on health. By emphasising this feature in its marketing and promotional efforts, Company X can differentiate its AWHP products from competitors and address a unique pain point in the market. This could be particularly appealing to the second persona, the "breathEasy Builders," Hu and Lee, who are concerned about indoor air quality for the well-being of their family, especially their newborn child.

In summary, the softer breeze feature of AWHPs offers Company X a unique selling proposition that not only enhances comfort but also addresses health concerns, making it a strong differentiator in the Chinese HVAC market.

Price

Pricing strategy is a cornerstone in defining a product's market position and its ultimate success. For Company X, which aims to target the high-end market, aligning the pricing of its air-source heat pump (ASHP) with this brand positioning is essential. The objective is to set the price commensurate with other premium ASHP brands, thereby reinforcing its premium status in the HVAC market.

As illustrated in *Figure 26*, a premium pricing strategy is designed to sustain a high market price point while simultaneously upholding the perception of superior quality and service. This approach can yield substantial profit margins and foster a positive brand image. However, it's worth noting that introducing a new product into a competitive market comes with its own set of challenges, especially with premium pricing. For instance, maintaining a premium price can be difficult, and sales may falter during economic downturns, a particularly relevant concern in the current economic climate.

To mitigate these challenges, an initial discounting strategy could be employed while keeping the list price unchanged. This tactic would incentivise early adopters, thereby facilitating quicker market penetration.

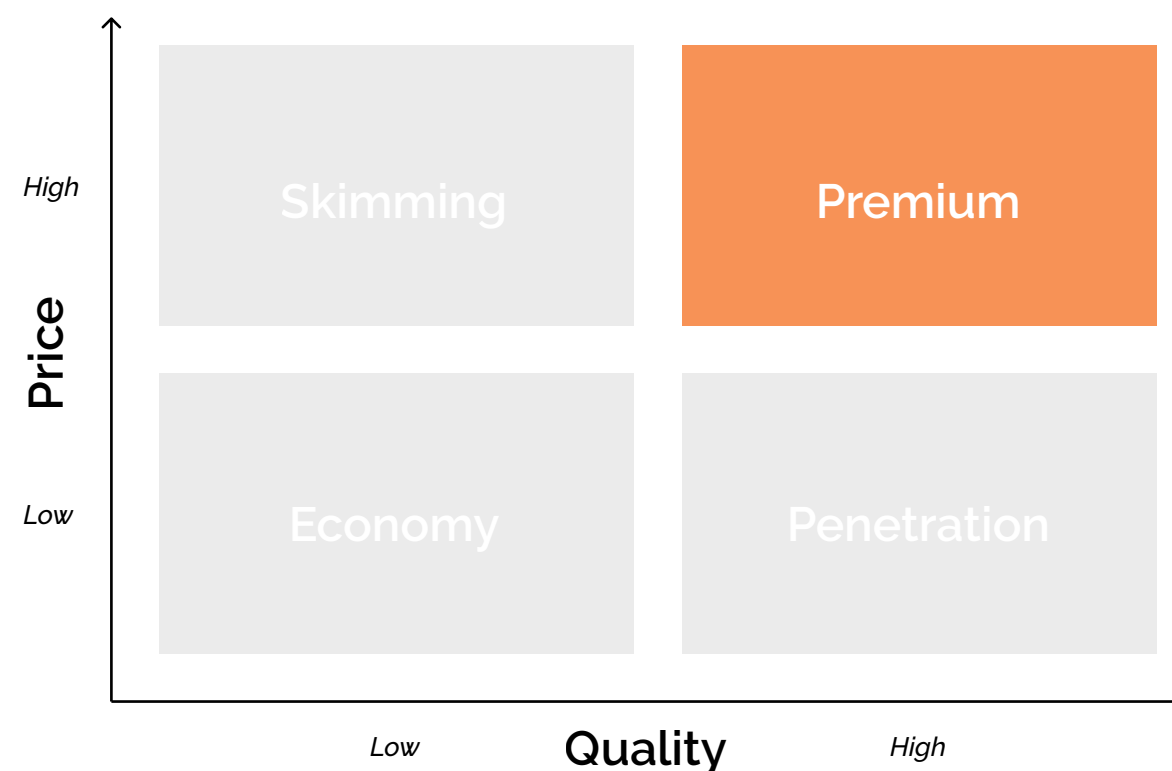


Figure 26 - Company X's ASHP Pricing Strategy Matrix, adapted from Lucidity

Additionally, bundle sales strategies present another opportunity to enhance the product's appeal. By offering the ASHP in conjunction with other Company X products, such as boilers, at a discounted rate, the overall perceived value of the package can be elevated. This not only boosts the sales of the ASHP but also promotes other products within the company's portfolio.

In summary, a nuanced pricing strategy that melds premium pricing with initial discounting and bundle sales could serve as an effective approach for Company X's entry into the premium HVAC market with its ASHP. This multifaceted strategy not only underscores the product's high-quality positioning but also encourages initial adoption and cross-selling opportunities within the company's broader product range.

Promotion

Product Launch Campaign

It is advisable for Company X to launch its Air-Source Heat Pump (ASHP) products in a flagship store located in a strategically important city like Shanghai or Hangzhou. These cities are not only densely populated but also have a consumer base that appreciates niche, high-quality products. To make the launch event particularly impactful, Company X could collaborate with a renowned architect to unveil the product. This endorsement would add an extra layer of prestige and credibility to the ASHP line.

Once the store is open, inviting consumers to experience the ASHP products in a well-designed, aesthetically pleasing environment could be a powerful engagement strategy. To encourage social media sharing and amplify online visibility, Company X could offer incentives such as vouchers or small gifts to customers who post about their in-store experience. This approach serves a dual purpose: it provides free online promotion for the brand while also fostering a seamless integration between the company's offline and online customer engagement efforts.

By implementing this strategy, Company X can not only elevate its brand image but also create a buzz around its new ASHP product line, effectively bridging the gap between online and offline consumer interactions.

Improve SEO

In addition to the product unveil campaign, increasing online visibility is not just an option but a necessity, particularly during a product's initial launch. For Company X, optimising its presence on key online marketplaces like Tmall and JD, search engines like Baidu, as well as on influential social media platforms such as Xiaohongshu and Douyin, is imperative.

These platforms are proven in the previous research to be the most popular online platforms for the target consumers to search for relevant information. The research has also highlighted a noticeable gap: Company X currently lacks a strong presence on these platforms, a significant oversight given that consumers frequently turn to online marketplaces and social media to gather information before making a purchase. This strategy holds particular relevance for the first persona, the "Efficient Explorer," who is likely to seek out product information online.

A well-curated and consistent online profile across these platforms can not only enhance the brand's visibility but also deepen its engagement with potential customers. Furthermore, search engine optimization (SEO) strategies tailored for these platforms can significantly improve the brand's discoverability. This could involve the strategic use of popular and relevant keywords in product descriptions, regular content updates, and a commitment to responsive customer service. By implementing these measures, Company X can increase the likelihood of its ASHP product being considered by prospective buyers, thereby boosting both initial adoption rates and long-term customer loyalty.

Collaborate with KOL

Another potent avenue for increasing brand visibility and consumer engagement online is through collaborations with Key Opinion Leaders (KOLs) on social platforms like Douyin, Xiaohongshu, and Zhihu. The previous research shows the majority of the crowd still lack an awareness of the benefits of ASHPs and these KOLs are important for helping to promote and educate the potential uses. Each platform offers unique advantages for educating and engaging potential customers.

Zhihu, primarily a text and image-based platform, serves as an ideal space for in-depth, educational content about ASHPs. Here, KOLs can provide detailed explanations, answer queries, and offer expert insights such as the USP of company X's ASHPs, thereby educating consumers and building trust in the brand.

On the other hand, Douyin and Xiaohongshu are video-centric platforms that offer a more dynamic and visually engaging user experience. Collaborations with KOLs on these platforms can bring the ASHP's features to life by telling a story, allowing consumers to be more engaged emotionally and see firsthand the product's efficiency and air-purifying capabilities. Through well-crafted video content, KOLs can effectively communicate the tangible benefits of the ASHP, making it easier for potential customers to understand the product's value proposition.

By leveraging the unique strengths of each platform and collaborating with KOLs who resonate with the target audience, Company X can create a multi-faceted promotional strategy that not only increases brand awareness but also educates and engages potential customers across different age groups.

Designer Campaign

On top of online promotion, a creative method of promoting Company X's air-source heat pump (ASHP) could be the implementation of a design competition. Such a competition would invite interior designers to incorporate the ASHP into their project designs.

This not only help Company X to establish an image of ASHP expert but also enhances its HVAC department's visibility among designers, since the previous research showed that Company X lack a recognition among designers, which is an important channel for its ASHP products. The involvement of designers in such a competition also provides an opportunity for them to understand the product's functionality and value proposition better, which they can communicate to their clientele, thus further expanding the product's reach.

This initiative would generate user-generated content, which is viewed as more authentic by consumers and can be shared across various digital platforms, further increasing the product's visibility. The competition could be promoted on social media platforms and relevant online communities, driving engagement and awareness about the product.

Winning entries could be showcased on Company X's website and social media platforms, serving as a testament to the product's adaptability in diverse interior designs. This could attract a segment of consumers who value aesthetics as much as functionality in their purchase decisions, such as the first and third persona types - the efficient explorer and luxury luminary.

Elevator Campaign

Elevator advertising could indeed be an effective strategy to target Company X's potential customers who are employees of state-owned and foreign-owned enterprises, which are the first and second type of the personas. It is a form of captive marketing that can capture the attention of consumers during the typically idle moments they spend in elevators.

In many commercial buildings where these enterprises are located, employees use elevators multiple times a day, providing repeated exposure to the advertisement. This strategy offers the potential for high impact given the confined space and undivided attention of the audience.

Moreover, QR codes can be included in the elevator ads, directing interested consumers to more detailed information on the Company X's website or digital platforms. This can further engage potential customers and provide them with an easy avenue to learn more about the product.

5.3 Sales Channel

The sales strategy for Company X's Air-Source Heat Pumps (ASHP) products is multifaceted and tailored to the specific needs and behaviors of the Chinese market. Recognizing the limited market share for ASHP sold to real-estate developers, the company is advised to concentrate on three primary sales channels, each with its unique approach:

Direct-to-Consumer (D2C) Sales Channel

The Direct-to-Consumer (D2C) channel can provide Company X with control over the entire brand experience, allowing for effective communication of product benefits and brand messages. Due to the high initial cost and limited geographical reach of physical stores, Company X's may consider only apply D2C channel in its flagship stores, intended to be established in key market regions of East China, particularly in provincial capitals like Nanjing, Hangzhou, and Shanghai. These areas have the biggest ASHP markets. This direct interaction can foster rapid feedback from consumers, offering valuable insights into product adjustments or marketing strategies. In addition, these stores can also provide training support to its other channels, designers and dealers.

Figure 27 below reveals a meticulously crafted conceptual design for the store, generated through an AI drawing tool, is guided by a series of keyword prompts aimed at encapsulating the brand's desired image and the specific needs of the consumer personas identified earlier in this study.



Figure 27 - Flagship concept design, generated by AI drawing tool mid-journey by the author

The store's design goes beyond mere aesthetics; it aims to offer a comprehensive experience that aligns with Company X's new corporate brand image—comfortable home, sustainability, and innovation. In addition, every key words are associated with the personas describes in the beginning of the chapter. For instance, the sleek interior design and digital interactions are appealing to the first and third types of persona, who pursue tech-savvy and innovation. For the second type of persona, who value health and home comfort, live plants are strategically placed to enhance the ambiance, contributing to a sense of homey comfort and sustainability, which is particularly appealing to health-conscious families.

One of the store's standout features is an interactive installation that allows visitors to experience firsthand the noise levels and airflow generated by the ASHPs. This feature serves a dual purpose: it educates potential customers about the product's features while also addressing common concerns about noise and air quality. Additionally, this interactive installation offers a promotional advantage as an "Instagrammable" point in the store, encouraging customers to share their experiences online and thereby increasing brand visibility, which is what Company X need for its product launch.

To further educate potential customers, the store will offer in-store demonstrations and consultations. These sessions aim to showcase the ASHP's cost-effectiveness, its bundled efficiency when used with boilers, air-purifying features, and smart control functionalities. They also provide an opportunity to highlight the brand's commitment to impeccable after-sale services, thereby building customer trust and loyalty.

In summary, the D2C flagship store is envisioned as more than just a retail space; it's an experiential hub designed to engage customers on multiple levels. From its strategic location to its modern aesthetics and interactive installations, each element has been carefully curated to offer a holistic brand experience that resonates with the targeted consumer personas. This multi-faceted approach aims to not only attract but also retain customers, contributing to Company X's long-term success in the competitive ASHP market.

Designer Channel

In addition to the Direct-to-Consumer (D2C) channel, establishing a robust designer channel is crucial for the successful launch of Company X's ASHP products. The importance of this channel is underscored by the research findings that indicate a significant portion of the target market for ASHPs consists of individuals who have recently purchased new homes and are in the process of undertaking comprehensive interior renovations. Given the complexity and scale of such projects, many homeowners opt to collaborate with professional designers to realize their vision. Notably, personas 1 and 3 from the research also expressed that their purchasing decisions would be strongly influenced by recommendations from their designers.

Recognising the pivotal role that designers can play in influencing consumer choices, Company X can offer specialised sales support and educational resources tailored for this demographic. The aim is to equip designers with the knowledge and tools they need to confidently recommend Company X's ASHP products to their clients. This could include detailed product guides, virtual or in-person training sessions, and even exclusive previews of upcoming products to keep them ahead of industry trends.

Dealership Channel

The traditional dealership channel remains a cornerstone for Company X's market expansion strategy, particularly for regions that are geographically distant from its Shanghai headquarters. The collaboration with dealers can be categorized into four distinct types, each tailored to the dealer's capabilities and market focus, as identified in previous research.

ASHP Pioneers: These are dealers who are already well-versed in the ASHP market and require minimal support beyond the product itself. For these partners, Company X can focus on supplying the product and offering specialised training to ensure that the dealer's team is fully equipped to market, sell, and service the ASHP range.

System Pros: These dealers have a strong understanding of HVAC systems but may lack specific expertise in ASHPs. Company X can offer not only the product and training but also extend its after-sales support services. This added layer of support can be a significant value-add, ensuring that end-users receive the highest level of service, thereby enhancing customer satisfaction and loyalty.

Traditionalists: These are dealers who have been in the HVAC industry for a long time but may not be up-to-date with the latest technologies like ASHPs. For these dealers, Company X will need to provide a comprehensive package that includes product, training, and design and installation teams. The aim is to fully equip these dealers to market and install ASHPs effectively.

Tradesmen: These are smaller dealers or contractors who may lack the resources for design and installation. Company X can support them by providing not just the product and training but also design and installation teams, as well as after-sales support.

By tailoring the level of support to the specific allows the company to leverage the strengths of its dealer network while providing the necessary resources to address any gaps, thereby ensuring a successful product launch and sustained market growth. Moreover, Company X's strategic focus on the combination of three channels presents a comprehensive approach to market penetration. By capitalising on direct interactions with consumers, leveraging the influence of interior designers, and supporting a network of dealers, Company X can successfully position its ASHP products within the broader HVAC landscape. The integration of these channels, coupled with a strong emphasis on education, support, and brand exposure, will contribute to building brand loyalty and achieving a sustainable market presence in the competitive ASHP market in China.

5.4 Customer Journey

The author has opted to employ the AISAS model, an acronym for Attention, Interest, Search, Action, and Share (GMO Research, 2022), serves as a comprehensive framework for understanding and mapping the customer's decision-making process from initial awareness to post-purchase behaviour. Within this framework, the author will pinpoint specific moments where Company X's promotional strategies, sales channels, and Unique Selling Propositions (USPs) can most effectively engage each persona. By aligning these elements with the AISAS model, the aim is to create a tailored customer journey that not only resonates with each persona but also maximises opportunities for conversion and brand loyalty.



Efficient Explorer



Journey

- On her way to work, saw advertising about ASHP product on the elevator
- Also though designer recommend

- Heard that Company X's ASHPs is very efficient and provide good after-sale service
- Do research on social media

- Visit the store to experience the product and want to learn more
- Get intrigues by the innovative interior design and post online

- After careful consideration, made the purchase online

- Feel nice about the installation service and share online
- Expect the after-sale service is also very smooth

Opportunity

- Place advertising where potential consumers might go on daily basis, such as **elevator at their office building**

- **KOL collaboration** in educating the benefits of ASHP, such as **high efficiency and good after-sale policy**

- **Innovative in store design and interactive installation**
- Training in store sales to promote the USPs

- Improve online store purchase experience and connect with the local dealer or D2C stores, send MEP designers and construction workers within 24h

- Well trained installation team both in house and for dealers
- Design a **hassle free after-sale policy** by having an in house team

BreathEasy Builders



Journey

- Know about ASHP though friends recommendation
- Learn about the air-purifying function

- Search ASHPs brands on search engine like Baidu or TMall stores

- Visit the several nearest ASHP stores, but can't experience the benefits of wind breeze

- **Leverage pricing and functionality** between brands before making decision

- Get intrigued by the the air-purifying feature and the soft wind breeze

Opportunity

- Promotion on **friends referral by rewarding** every purchase through consumer's recommendation

- **Improve SEO** on all online platforms, like search engines, TMall stores, and social media

- **Establish local experience store experience so that consumers can experience wind breeze and noise, and other benefitis**

- Offer generous **discounts** at the initial stage, then the price go back up once the recognition is established

- **Encourage users to post positive review online** and get discount for Company X's other products

Luxury Luminary



Journey

- Designer recommend using ASHP for his new place and list several ASHP brands

- Did not have time to look into each brand but may get intrigued if one brand can stand out from other brands

- Tell his secretary to search online reviews about Company X's ASHP product on social media

- Decide to purchase Company X's ASHP though his designers for his new villa

- Invite friends to his new place once and make sure nothing goes wrong in this house

Opportunity

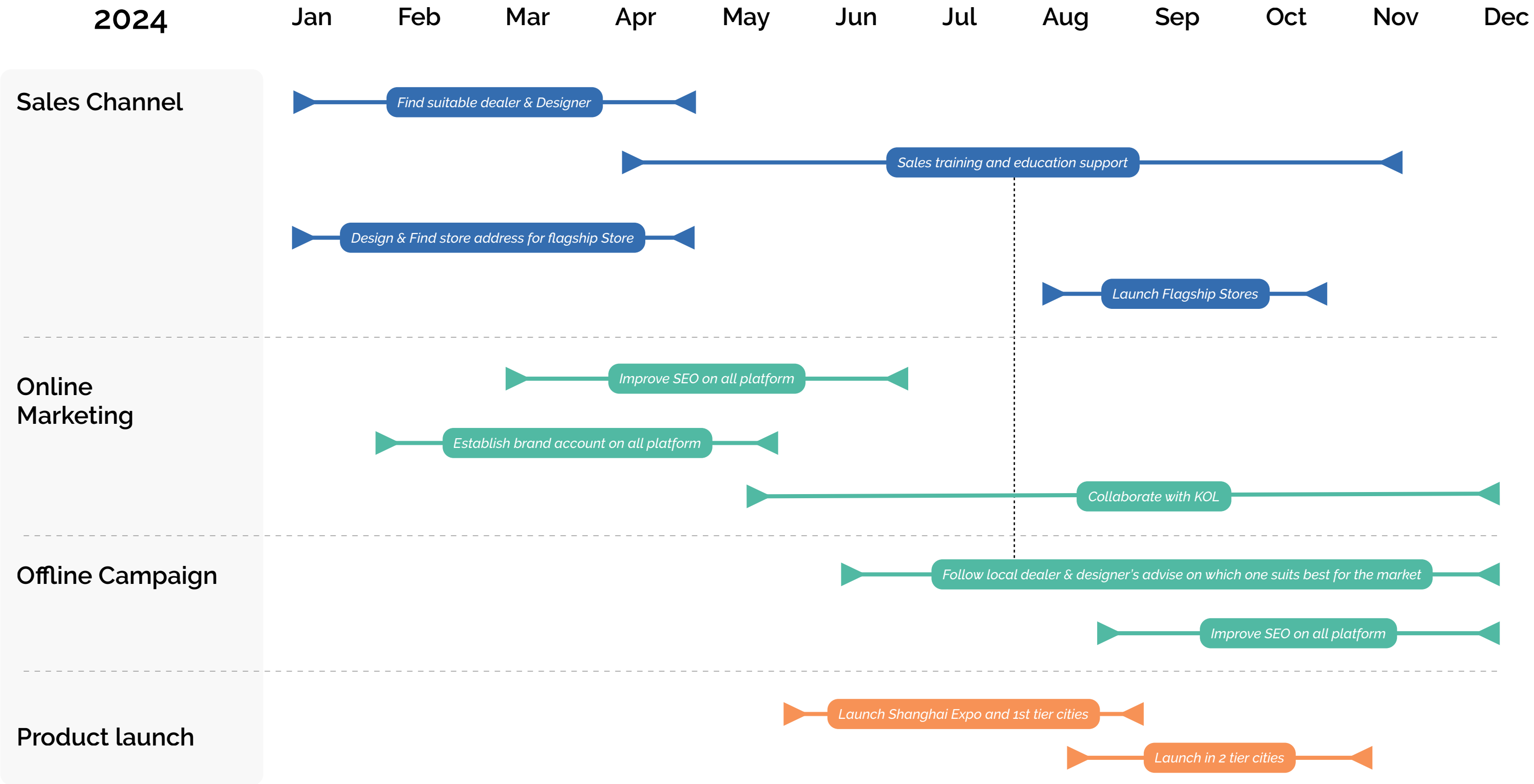
- **Collaborate with independent designers** and do regular training with them about the benefits and lasted ASHP product feature

- **Sleek design and cutting edge technology** for a **luxury experience store**

- Collaborate with known designers or KOLs to endorse for Company X's ASHP products to add more **credibility**

- Subscription based premium after-sale service, **check on the product condition on regular basis**

5.5 Launch Strategy Roadmap



Reflection, Reference & Appendix

Recommendation & Reflection

The research journey undertaken to explore the ASHP market in China has been a multifaceted and enlightening endeavor. The complexities of the Chinese market, with its unique cultural needs and consumer behaviors, have provided a rich tapestry of insights that differ significantly from European and U.S. markets. This has necessitated a nuanced approach to strategy development, particularly for a multinational corporation like Company X, which has its roots in a different cultural and market context.

The Go-To-Market (GTM) plan proposed in this research is intended to be transformative for both the ASHP product line and Company X's overall brand experience in China. This transformation would require a concerted effort across multiple departments within the organization, including but not limited to R&D, purchasing, sales, and marketing. While the scope of this research did not allow for an in-depth exploration of the internal dynamics that could influence such a broad initiative, it is recommended that Company X undertake further internal assessments. This could involve enhancing inter-departmental communication protocols and perhaps even revisiting organizational structures to ensure greater agility and decision-making independence.

Another area that warrants further exploration is Company X's competitive positioning. The research indicates that while the company's German heritage is a strong asset, there is a need for vigilance given the rapidly evolving competitive landscape. Domestic brands are increasingly making inroads into the high-end market, and this trend cannot be ignored. A comprehensive competitive analysis, possibly involving scenario planning, could provide actionable insights for Company X to maintain its competitive edge.

The research also touched upon the potential in 'sinking markets'—emerging markets in lower-tier cities—but did not delve deeply due to scope limitations. Preliminary findings suggest that these markets could offer unique opportunities for growth, with less competition and a growing, increasingly affluent consumer base. These markets also present unique cultural and consumer needs, which could be met with tailored product offerings and marketing strategies.

In summary, the research journey has been a valuable learning experience, revealing the complexities and opportunities within the Chinese ASHP market. For future steps, it would be beneficial for Company X to engage in a more detailed internal review, reassess its competitive positioning in light of evolving market dynamics, and consider expanding its market research to include emerging markets in lower-tier cities. These proactive measures could provide Company X not only with a robust strategy for its new ASHP product line but also with a more nuanced understanding of the Chinese market, thereby informing its broader strategic initiatives.

Reference

A

Accenture Chinese Consumer Insights 2022 | Accenture. (2022). Retrieved from <https://www.accenture.com/cn-en/insights/consulting/2022-china-consumer-insight-overarching>

B

BCG Global (2023) "The Next Chapter in China's Consumer Story." , www.bcg.com/publications/2023/next-chapter-in-chinese-consumer-market.

BCG Global (2022) "Chinese Consumer Trends in the New Reality Series 2: The Rise of New Lifestyles." www.bcg.com/publications/2022/chinese-residents-consumption-trends.

Bertsch, S. S., & Groll, E. A. (2008, November). Two-stage air-source heat pump for residential heating and cooling applications in northern U.S. climates. *International Journal of Refrigeration*, 31(7), 1282–1292. <https://doi.org/10.1016/j.ijrefrig.2008.01.006>

C

Carroll, P., Chesser, M., & Lyons, P. (2020, December). Air Source Heat Pumps field studies: A systematic literature review. *Renewable and Sustainable Energy Reviews*, 134, 110275. <https://doi.org/10.1016/j.rser.2020.110275>

Cheah, C. Y. J., Chew, D. A. S., & Huang, J. (2006). Marketing foreign interior design services in China. *Building Research & Information*, 34(6), 584–595. <https://doi.org/10.1080/09613210600723477>

Cheng, Evelyn. "China's Covid Wave Drives up Consumer Interest in Insurance After Health System Shortfalls." *CNBC*, 26 Jan. 2023, www.cnbc.com/2023/01/26/chinese-to-buy-insurance-after-covid-reveals-health-system-shortfalls.html.

Chen, J., Wu, Y., Guo, F., & Wang, H. (2017). Domestic property and housing class in contemporary urban China. *Journal of Housing and the Built Environment*, 33(1), 91–109. <https://doi.org/10.1007/s10901-017-9545-6>

China's National Development and Reform Commission. (2022) 14th Five-year plan for renewable energy development.

Chua, K., Chou, S., & Yang, W. (2010, December). Advances in heat pump systems: A review. *Applied Energy*, 87(12), 3611–3624. <https://doi.org/10.1016/j.apenergy.2010.06.014>

China IOL (2021) China air-sourced heat pump in retail report, 2021

Cunyang Fan, Weiding Long. Application and the Prospect of the ASHP. *HV&AC*, 1994, vol. 24, No.6.

G

GMO Research (2022) What is AISAS? Five Things You Should Know About This Customer Journey Framework. Retrieved from <https://gmo-research.com/news-events/articles/what-aisas-five-things-you-should-know-about-customer-journey-framework>

Guoyuan, M., Qinhu, C., & Yi, J. (2003, January). Experimental investigation of air-source heat pump for cold regions. *International Journal of Refrigeration*, 26(1), 12–18. [https://doi.org/10.1016/s0140-7007\(02\)00083-x](https://doi.org/10.1016/s0140-7007(02)00083-x)

I

ICM Zone (2022) China HVAC industry report, 2022

Insights & Info Consulting Ltd (2023) China heat pump industry insights report, 2023-2030

Insights & Info Consulting Ltd (2022) China HVAC industry insights report, 2022-2029

Investopedia (2023) What Is PEST Analysis? Its Applications and Uses in Business. <https://www.investopedia.com/terms/p/pest-analysis.asp>

K

Kyrychenko, A., & Berezovska, L. (2021). Development of China's electronic commerce and trade logistics. *Chinese Studies*, (3), 97–108. <https://doi.org/10.51198/chinesest2021.03.097>

L

Lucidiy (n.d.) Pricing Strategy Matrix Guide Retrieved from <https://getlucidity.com/strategy-resources/pricing-strategy-matrix-guide/>

M

McKinsey & Company (2022) "Five Trends Are Reshaping China's Consumer Market. | Greater China." www.mckinsey.com/cn/our-insights/our-insights/2023-mckinsey-china-consumer-report.

P

Price waterhouse Coopers. "China Economic Quarterly Q4 2022." PwC, www.pwccn.com/en/research-and-insights/china-economic-quarterly-q4-2022.html.

S

Saad, Ezzat, et al. "Double Diamond Strategy Saves Time of the Design Process." *International Design Journal*, vol. 10, no. 3, 2020, pp. 211–222, <https://doi.org/10.21608/idj.2020.96345>.

Shell Research Institute (2021) China new real estate market insights report 2021

U

Urchueguía, J., Zacarés, M., Corberán, J., Montero, Martos, J., & Witte, H. (2008, October). Comparison between the energy performance of a ground coupled water to water heat pump system and an air to water heat pump system for heating and cooling in typical conditions of the European Mediterranean coast. *Energy Conversion and Management*, 49(10), 2917–2923. <https://doi.org/10.1016/j.enconman.2008.03.001>

Up, Build. "Directive 2009/28/EC on the promotion of the use of energy from renewable sources." *Journal of the European Communities* (2009)

V

Vorushylo, I., Keatley, P., Shah, N., Green, R., & Hewitt, N. (2018, August). How heat pumps and thermal energy storage can be used to manage wind power: A study of Ireland. *Energy*, 157, 539–549. <https://doi.org/10.1016/j.energy.2018.03.001>

W

Waterschoot, Walter van, and Christophe Van den Bulte. "The 4P Classification of the Marketing Mix Revisited." *Journal of Marketing*, vol. 56, no. 4, SAGE Publications, Oct. 1992, pp. 83–93. Crossref, <https://doi.org/10.1177/002224299205600407>.

Y

Yi, Qi Guo, and Xiang Jin Zeng. "Complex Dynamics and Chaos Control of Duopoly Bertrand Model in Chinese Air-conditioning Market." *Chaos, Solitons & Fractals*, vol. 76, Elsevier BV, July 2015, pp. 231–37. Crossref, <https://doi.org/10.1016/j.chaos.2015.04.008>.

Yu, J., Li, J., & Zhang, W. (2019). Identification and classification of resource-based cities in China. *Journal of Geographical Sciences*, 29(8), 1300–1314. <https://doi.org/10.1007/s11442-019-1660-8>

Z

Zhang, R., Wang, H., Wu, X., Li, X., & Duanmu, L. (2019). The application of the TES technology in CHP heating system with Chinese demand profiles—A techno-economic feasibility case study. *E3S Web of Conferences*, 111, 06010. <https://doi.org/10.1051/e3sconf/201911106010>

Zhang, Q., Li, Y., Hua, J., Niu, X., Hou, L., Chen, Z., & Ge, W. (2021). Assessment of Energy Potential and Benefit under the Ground Source Heat Pump Air Conditioning System in Anqing Area of Eastern China. *Geofluids*, 2021, 1-12. doi:10.1155/2021/3271884

Appendix A

Survey Question (QNT)

This survey has been designed by the author and is disseminated through a third-party survey platform to ensure impartiality and objectivity. The survey is anonymous, and participants are not informed that it is issued by Company X.

[Q1] What's your gender?

Male
Female

[Q2] How old are you?

Under 18
18-25
26-35
36-45
46-55
56 and above

[Q3] What's your household's annual income?

Less than ¥300,000
¥300,000-¥600,000
¥600,000-¥1,000,000
¥1,000,000-¥2,000,000
¥2,000,000-¥5,000,000
Over ¥5,000,000

[Q4] What's your highest level of education?

Elementary school or below
Middle school
High school/Vocational school
Bachelor's degree
Master's degree
Doctorate
Other

[Q5] Have you ever lived or studied abroad for at least six months? (Multiple choice)

Yes, in Europe and the UK
Yes, in Japan
Yes, in the United States
Yes, in other countries
No

[Q6] What type of organisation do you currently work for?

State-owned enterprise
Government department/Public institution
Foreign-owned enterprise
Private enterprise
Freelancer/Self-employed
Other (please specify)

[Q7] What industry are you in?

IT/Telecommunications
Finance/Banking/Insurance
Manufacturing/Industrial
Education/Academia
Healthcare
Construction/Real Estate
Retail/Consumer Goods
Media/Entertainment
Other (please specify)

[Q8] What city is your residence located in?

Shanghai
Hangzhou
Suzhou
Ningbo
Wuxi
Wenzhou
Jiaxing
Shaoxing
Taizhou
Nanjing
Xuzhou

Changzhou
Nantong
Hefei
Zhengzhou
Fuzhou
Xiamen
Quanzhou
Nanchang
Wuhan
Changsha
Chongqing
Chengdu
Kunming
Nanning
Other (please specify)

[Q9] Where is your residence located?

City centre
Near city centre
Suburbs
Rural area

[Q10] What's the current state of your home's interior?

Just finished renovating
Planning to renovate
No plans to renovate

[Q11] Have you had any previous renovation experience?

Yes, I've renovated my own or someone else's home
Yes, but I wasn't deeply involved
No, this will be (or was) my first time

[Q12] What type of residence are you about to or have just finished renovating?

High-rise
Western-style house
Duplex
Townhouse
Detached villa
Other (please specify)

[Q13] Who will be living in the residence you're about to or have just finished renovating?
(Multiple choice)

Just me
With spouse
With elderly
With children
With pets

[Q14] What's the purpose of the residence you're about to or have just finished renovating?

For me or my family to live in
Investment property
Vacation home
Other (please specify)

[Q15] What's the size of your residence?

Less than 90m²
90 - 120m²
120 - 150m²
150 - 200m²
200 - 400m²
Over 400m²

[Q16] What's your total budget for HVAC products (e.g., air conditioning, floor heating, water heaters, etc.)?

Less than ¥50,000
¥50,000 - ¥100,000
¥100,000 - ¥200,000
¥200,000 - ¥500,000
No limit
Don't know

[Q17] What's the primary heating method in your current residence? (Multiple choice)

Central heating
Electric heaters (e.g., portable heaters, baseboard heaters, etc.)
Wall-mounted boilers/radiators/floor heating
Air source heat pump
Air conditioning

Other (please specify)
Don't need
Don't know/Not sure

[Q18] What are the pain points of your current heating method? (Multiple choice)

Safety concerns
High operating costs
Slow to heat up
Uneven heating
Other (please specify)

[Q19] What's your brand preference when buying heating equipment? (Multiple choice)

American imports
Japanese imports
German imports
Domestic
Don't care
Other

[Q20] What's the primary cooling method in your current residence? (Multiple choice)

Split air conditioning
Central air conditioning
Fan
Don't need
Other (please specify)

[Q21] What are the pain points of your current cooling method? (Multiple choice)

Too strong airflow
High operating costs
Uneven cooling
High noise level
Difficult to control airflow direction
Odor issues
Health issues from long-term use
Other (please specify)

[Q22] What's your brand preference when buying cooling equipment? (Multiple choice)

American imports

Japanese imports
German imports
Domestic
Don't care
Other

[Q23] What do you think are the top three pain points in after-sales service for current HVAC equipment? (Rank the top three)

Slow response time for on-site service
High communication costs with customer service
Expensive repair fees
Lack of transparency in repair costs
Frequent need for repairs
Inability of after-sales to resolve issues
Other (please specify)

[Q24] How much do you care about the brand when choosing HVAC products?

Very much, I prefer high-end international brands. I find them more trustworthy than cheaper options.
Somewhat, I consider a mix of brand, performance, and value for money.
Not at all, I focus on functionality and value for money. I don't see the point in paying extra for a brand name.

[Q25] What online channels have you used to gather information when buying building materials? (Multiple choice)

Online search (e.g., Baidu, Sogou, Quark, etc.)
Social media (e.g., WeChat, Zhihu, Douyin, Kuaishou, Xiaohongshu, etc.)
Online stores (e.g., Tmall, Taobao, JD, etc.)
Don't consider online

[Q26] Which social media platforms? (Multiple choice)

WeChat Official Account
WeChat Mini Program
WeChat Video Account
Zhihu
Douyin
Kuaishou
Xiaohongshu
Other (please specify)

[Q27] What offline channels have you used to gather information when buying building materials? (Multiple choice)

- Recommendations from friends and family
- Designer's advice
- Community events
- Home expos, group buying events
- Professional building/renovation magazines
- Building material stores or offline stores
- Other (please specify)
- Don't consider offline

[Q28] Where do you buy your HVAC equipment (e.g., heating, air conditioning, etc.)? (Multiple choice)

- As part of a fully furnished home
- Designer's recommendation
- Home expos, group buying events
- Community events
- Online stores
- Building material stores or offline stores
- Bought along with other building materials
- Other (please specify)

[Q29] Have you heard of air source heat pumps that can replace traditional gas and electricity for both heating and cooling? Although the initial cost is about twice as high, it can significantly reduce energy consumption and future energy expenses. (Single choice)

- Heard of it and have used it
- Heard of it, know a bit but haven't used it
- Heard of it, but not much
- Never heard of it

[Q30] What advantages of this air source heat pump would make you consider buying it? (Multiple choice, select up to 3)

- Energy-efficient with lower operating costs
- Environmentally friendly
- Multi-functionality (e.g., heating, cooling, hot water, etc.)
- Smart control
- Quiet operation
- Other (please specify)

[Q31] What are your concerns about installing an air source heat pump? (Multiple choice, select up to 3)

- High purchase cost
- High operating cost
- Maintenance and repair issues
- Concerns about lifespan and durability
- Already have other heating and cooling equipment that meets my needs
- Lack of understanding of heat pump technology and effectiveness
- Other (please specify)

[Q32] What features would attract you the most if an air source heat pump has the following characteristics compared to other air conditioning products? (Multiple choice)

- Air purification
- Fresh air
- Sterilization
- Negative ions
- Formaldehyde removal
- Oscillating airflow
- Smart control
- Other (please specify)

[Q33] If it can be smartly controlled, what's your preferred smart home platform?

- HVAC brand's own app
- Xiao Ai (Xiaomi)
- JD
- Tmall Genie
- Xiao Du (Baidu)
- Other (please specify)
- Don't need

[Q34] What factors would you consider when choosing an air source heat pump brand and product? (Multiple choice)

- Product performance and quality
- Appearance
- Price
- Customer reviews and reputation
- After-sales service and warranty policy
- Energy efficiency

Brand's reputation in air conditioning
Brand's reputation in boilers and floor heating
International brand
Designer's endorsement
Recommendations from acquaintances
Other (please specify)

[Q35] If you choose an air source heat pump, what would you do?

Buy a complete set
Buy the external and internal units from different brands
Don't know, will listen to the designer/dealer
Other (please specify)

[Q36] If the warranty period for an air source heat pump is 5 years, what's your take?

Too short
Somewhat short
Reasonable
Somewhat long
Very long

Appendix B

Interview Questions (QL1)

Some information in the interview scripts and informed consent are not included due to the confidentiality nature of this research.

Informed Consent

Hi we are from Company X. Before we begin, I'd like to inform you that this interview is intended for research purposes to better understand the market needs and preferences for our new HVAC product, an Air Source Heat Pump (ASHP). All information you provide will be kept confidential and will only be used for internal analysis. If at any point you feel that answering a question may breach your company's confidentiality or any other obligations, please feel free to decline to answer. Your participation is voluntary, and you can withdraw from this interview at any time. Do you agree to proceed under these conditions?

Interview Questions

Introduction and Company Awareness

Are you familiar with our company and the boiler products we offer?

(If not) Let me briefly introduce some basic information about our company.

Customer Profile

What does your customer profile look like?

Service Areas

What regions do you serve?

Experience with ASHP

Have you ever worked on projects related to residential Air Source Heat Pumps?

If yes:

What brands of ASHP have you used?

What are your views on water-based vs. refrigerant-based ASHPs?

What pain points have you experienced with the ASHPs you've used?

If no:

(Briefly introduce ASHP) How have you managed HVAC in your previous projects?

Project Workflow and Criteria

What is your workflow for HVAC-related projects? What are your criteria for selecting brands/products?

Views on Constant/Five Constant

Have you ever worked with Constant/Five Constant? What are your views on it?

Do you think it's a must-have for HVAC products?

Smart Home Integration

What are your views on smart home technology? How many of your customers opt for HVAC products with built-in smart home features as opposed to third-party solutions like Xiaomi or Xiaodu?

Potential Collaboration

If our company plans to launch an ASHP, would you be interested in collaborating with us? Why or why not? What would be your conditions for collaboration?

Appendix C - Project Brief

_____ project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date _____ end date _____

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

space available for images / figures on next page

introduction (continued): space for images

image / figure 1: _____

image / figure 2: _____

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date _____ - _____ - _____ end date

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

.....

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

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