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Marketing Plan of T College Smart Manufacturing Training Centre for 2024

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Master in Applied Management

Supervisor:
Professor Doctor Sofia Lopes Portela, Assistant Professor,
ISCTE-IUL

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BUSINESS
SCHOOL

Department of Marketing, Operations and General Management

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Acknowledgments

Beginning in early autumn of 2022 and ending in early winter of 2023. Looking back on this year's time, it is like fireworks, falling into the prosperous eyes, and wherever the eyes go, there are memories in my heart.

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Everything in the past is a prologue, and I look forward to meeting a better self in the future!

Abstract

The Intelligent Manufacturing Training Center of T Academy is a national pilot training unit of school-enterprise cooperation. By now, the T Academy has developed their marketing in an informal way, without a written marketing plan. As the T College has ambitious objectives, it is crucial to develop a formal marketing plan. So, the objective of this project is to design the marketing plan of Intelligent Manufacturing Training Center of T Academy for 2024.

To design this marketing plan, a literature review was conducted and the external situation of the Academy were analyzed, by using the PESTE analysis, sector analysis, competitor analysis and the Five Forces of Porter. Besides, the current internal situation of the Academy was also analyzed. Taking into account both analyses, the SWOT analysis was performed. Then, the marketing plan objectives were defined, and the marketing strategy and marketing-mix were defined. Finally, the implementation schedule and budget, and the control and monitoring measures were presented.

Through this marketing plan, T Academy will not only establish the core competitiveness of the project, improve the quality of service and teaching, increase the barriers to entry for competitors, but also establish our own unique brand and establish a leading position in the industry.

The objectives of this marketing plan are: improve the popularity and recognition of the training center, increase the number of trainees in 2024, increase the loyalty of existing customers, and increase the turnover of T Academy in 2024.

Keywords: Smart manufacturing, training, marketing plan

JEL Classification: M31

Resumo

O Centro de Treinamento de Manufatura Inteligente da T Academy é uma unidade piloto nacional de treinamento de cooperação escola-empresa. Até agora, a T Academy desenvolveu seu marketing de maneira informal, sem um plano de marketing escrito. Como o T College tem objetivos ambiciosos, é crucial desenvolver um plano de marketing formal. Assim, o objetivo deste projeto é desenhar o plano de marketing do Intelligent Manufacturing Training Center da T Academy para 2024.

Para desenhar este plano de marketing, foi realizada uma revisão da literatura e analisada a situação externa da Academia, utilizando a análise PESTE, análise setorial, análise da concorrência e as Cinco Forças de Porter. Além disso, a atual situação interna da Academia também foi analisada. Levando em consideração ambas as análises, foi realizada a análise SWOT. Em seguida, definiram-se os objetivos do plano de marketing e definiram-se a estratégia de marketing e o marketing-mix. Por fim, foi apresentado o cronograma e orçamento de implantação, e as medidas de controle e monitoramento.

Por meio deste plano de marketing, a T Academy não apenas estabelecerá a competitividade central do projeto, melhorará a qualidade do serviço e do ensino, aumentará as barreiras à entrada de concorrentes, mas também estabelecerá nossa própria marca exclusiva e estabelecerá uma posição de liderança no setor.

Os objetivos deste plano de marketing são: melhorar a popularidade e reconhecimento do centro, aumentar o número de formandos em 2024, aumentar a lealdade dos clientes e aumentar a faturação da T Academy em 2024.

Palavras-Chave: Fabricação inteligente, ensino, plano de marketing

JEL Classification: M31

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1. Introduction

Background

In July 2021, under the guidance of the Ministry of Industry and Information Technology and the National Standards Management Committee, the National Intelligent Manufacturing Standardization General Group organized and launched the 2021 edition of the "Guidelines for the Construction of the National Intelligent Manufacturing Standard System". According to the spirit of the document, the Intelligent Manufacturing Training Center of T College became the company's intelligent manufacturing pilot training unit. How to promote this training project is the top priority of the center's work. In the context of the continued low-speed growth of the world economy, developed countries such as Europe and the United States will promote the development of advanced manufacturing as the basis for enhancing the country's core competitiveness, and pay more and more attention to the role of standardization in supporting and guaranteeing technological innovation and industrial transformation. In March 2020, the German Industry 4.0 Standardization Committee (SCI 4.0), together with the German Standardization Institute (DIN) and the German Electrotechnical Commission (DKE), perfected and released the fourth edition of the "Industry 4.0 Standardization Roadmap". In January 2021, the American National Standards Institute (ANSI) officially announced the "American Standardization Strategy 2020 Edition", formulating cross-departmental cooperation strategies in new areas of standardization that face international challenges such as manufacturing, the Internet of Things, and artificial intelligence. In June 2019, the French Association for Standardization (AFNOR) released the "French Standardization Strategy 2019 Edition". The new strategy emphasizes the wide application of artificial intelligence technology and the important role of standardization in promoting the impact of emerging technologies such as artificial intelligence on society.

With the rapid development of new technologies such as 5G, artificial intelligence, and digital twins, the work of intelligent manufacturing continues to advance. New products, new technologies, and new models are gradually popularized and applied in the manufacturing industry, and new standardization requirements continue to emerge. At the same time, the demand for standardization in subdivided fields is further released, and there is an urgent need to develop industry application standards. Based on the above situation, according to the dynamic update mechanism of "rolling revisions every two years" in the "Construction Guidelines", follow the latest development trend of intelligent manufacturing, conduct in-depth research on the integration and application mechanism of new technologies and manufacturing,

tap the development needs of intelligent manufacturing in various industries, clarify the focus of standardization work in the next step, and promote the revision work in due course.

According to the country's overall planning and guidance on intelligent manufacturing, the company complies with the national development strategy, develops the layout of the intelligent manufacturing training center, and carries out work. It is expected that the organic combination of intelligent manufacturing training, personnel training and company development will promote the leapfrog development of the company's business.

Problem

T College Intelligent Manufacturing Training Center is a profit-making training organization that mainly provides vocational training, vocational skills appraisal and other training assessments. The center takes intelligent manufacturing technology as its training goal and aims at young and middle-aged people who are interested in improving intelligent manufacturing technology as its training objects. It is the first time for the company to participate in the on-the-job training project for intelligent manufacturing trainees. Therefore, enterprises and employees generally do not pay much attention to it, and they are not very enthusiastic about participating in training. However, intelligent manufacturing has become a development trend in the production industry, and the intelligent manufacturing training market will be huge.

Project Objectives

The Intelligent Manufacturing Training Center of T College expects to grasp the current important opportunity as the only training provider in the market, and start the first marketing campaign of intelligent manufacturing training projects. With the further issuance of training qualification licenses in the future, more and more competitors from other training institutions will enter. T College Intelligent Manufacturing Centre was established in 2020 and has been committed to on-campus student training. In response to national policies, improving the social service value in smart manufacturing training is a problem that T College needs to think about at present. How to increase the number of social trainees, increase turnover, and increase the profit of the training center in 2024 is a new market challenge.

With the rapid development of intelligent manufacturing technology and the growth of market demand, T Academy decided to formulate a comprehensive marketing plan to ensure that it stands out in the highly competitive training industry. In this case, the marketing strategy is particularly important, mainly reflected in the number of trainees and how to increase profit margins, so this project is mainly to make a marketing plan for the training center in 2024.

Methodology

Based on the above objectives, this project will use various methods such as literature review, external and internal situational analysis, and SWOT analysis. Then, taking into consideration all these analysis, the marketing plan objectives are defined, as well as the marketing strategy and marketing-mix of the T College. Finally, the implementation schedule and budget is presented, as well as the measures to control and monitoring the results.

Structure

There are 5 chapters in this thesis. The first chapter is the Introduction, where is mainly presented the background, the problem, the project objectives and the methodology. The second chapter presents the literature review. The third presents the used methodology and the fourth chapter is the marketing plan of T College. The fifth chapter presents the conclusion.

2. Literature Review

This chapter mainly presents a literature review about relevant marketing theories and management tools useful to design a marketing plan, so that the whole marketing plan has a theoretical basis.

2.1. Marketing

According to Kotler (1967), the customer is placed at the center of marketing. The author emphasizes that the goal of marketing is to create value and satisfy customer needs. This view is widely accepted in the marketing field and has become the cornerstone of much marketing theory and practice.

Kotler e Armstrong (2018) define marketing as a process that companies use to create value to their customers, as well as to create and build strong relationships with them.

2.2. Marketing Plan

According to Westwood (2002), the marketing planning process provides detailed guidance covering key steps such as market analysis, target market identification, strategy selection, and implementation planning. It provides marketers and managers with a systematic framework to help them plan and implement marketing activities to improve the competitiveness of companies.

According to Sarkar (2018), the effectiveness of a marketing plan is influenced by several factors, including the level of detail of the plan, internal and external environmental factors, and the resources and capabilities within the organization. A more detailed and comprehensive marketing plan, clear goals and strategies, the ability to adapt to changes in the environment, and adequate resource support are key factors that may improve the effectiveness and performance of the marketing plan. At the same time, changes in internal and external environmental factors will also affect the effectiveness of marketing plans; so, organizations need to have the ability to adapt to environmental changes. In addition, the support of resources and capabilities within the organization are also important factors in improving the effectiveness and performance of marketing plans.

2.3. Structure of a marketing plan

According to Torres (2011), regardless of the size of the market and organization, the marketing structure is mainly composed by four important components: definition, strategy, implementation, and evaluation.

According to Westwood (2007), the marketing plan mainly embodies the executive summary, analysis of the company's current situation, marketing objectives, marketing strategies, segmentation, targeting and budget.

According to Kotler (1998), the marketing plan mainly consists on a content summary, company status analysis, opportunity analysis, marketing objectives, marketing strategy, action plan and result control.

2.4. External Situational Analysis

An in-depth analysis of the external situation of a company is crucial to design its marketing plan. The different external aspects that may affect the company should be analysed. To do so, different management tools are available.

According to Kotler and Armstrong (2018), the PESTEL model is often mentioned in marketing textbooks and has become an important tool for evaluating macro-environmental factors. The PESTEL model is a framework for analyzing macro-environmental factors to assess and understand key factors that have an impact on an organization, industry or market. PESTEL represents six factors, namely Political, Economic, Social, Technological, Environmental, and Legal.

Porter's Five Forces Model is a framework developed by Porter (1979) for analyzing industry competitiveness and helping companies assess the attractiveness and competition of their industries. Simply put, the "five forces" refer to rivalry among existing competitors, threats of new entrants, bargaining power of customers, bargaining power of suppliers, and threat of substitute products. The determinants of bargaining power of suppliers include switching costs between suppliers and companies, the emergence of alternative inputs, and the degree of concentration of suppliers, etc.. The determinants of bargaining power of customers include bargaining methods, price sensitivity, etc.. The determinants of threat of substitute products include relative price performance of substitutes, switching costs, etc.. On the whole, the five forces model is useful to conduct a comprehensive analysis of the industry in which a company is located, clarify competitive relationships, identify threats, and seize opportunities.

2.5. Internal Situational Analysis

Grant (2019) mentioned the elements of the internal environment, such as resources, capabilities, and core competitiveness.

Thompson et al. (2020) propose how firms develop and execute strategies to achieve competitive advantage. It includes an analysis of the internal environment, such as organizational structure, culture, and resource allocation.

2.6. SWOT Analysis

It is believed that Humphrey created the SWOT analysis in 1960s. SWOT analysis is a useful strategic planning tool. SWOT stands for Strengths, Weaknesses, Opportunities, and Threats.

Sadler (2003) argues that SWOT analysis is helpful for the positioning and development of an organization in the market competition, by evaluating internal strengths and weaknesses, as well as opportunities and threats in the external environment, it helps organizations determine strategic goals and formulate adaptive strategies. according to the author, SWOT analysis can not only help organizations understand their own core capabilities and resource advantages, but also help discover potential opportunities and threats. Through this systematic analysis, organizations can make better strategic decisions and maintain a competitive advantage in the ever-changing market environment.

Overall, the literature argues that SWOT analysis is a powerful tool that helps organizations identify and exploit their strengths, address weaknesses, and respond to opportunities and threats in the external environment. It provides important information and guidance for an organization's strategic planning and decision-making.

2.7. Marketing Mix

According to McCarthy (1960), the “4 P” of marketing-mix are Product, Price, Place, and Promotion. They are key elements that are interrelated and affect each other. This concept is widely used in marketing education and practice and helps marketers consider and manage all aspects of marketing decision-making. According to the above literature, it can be considered that 4P is the response of the marketing mix at the macro level, and more consideration is given to the macro factors in the marketing process, while the 7P marketing mix theory adds micro factors which is an important improvement of the marketing mix theory.

According to Constantinides (2006), there are new elements of marketing mix, such as people, process, and physical environment. The author also explored the influence of digital

age on marketing mix. He presented a broad perspective on marketing mix, covering the classic theory of 4P marketing mix, the transformation of relationship marketing, emerging marketing mix elements and the impact of the digital age.

According to Grönroos (1994), it is needed a transformation of the marketing mix to relationship marketing. The author emphasized the importance of establishing and maintaining customer relationships, pay more attention to the interaction and long-term relationship with customers, rather than just a single transaction.

3. Methodology

The goal of this project is to formulate the 2024 marketing plan of the Intelligent Manufacturing Training Center of T Academy. The objectives of this marketing plan are: improve the popularity and recognition of the training center, increase the number of trainees in 2024, increase the loyalty of existing customers, and increase the turnover of T Academy in 2024.

In this project, the external situation analysis will be done using the analysis of PESTEL, sector analysis, the competitor analysis, and the Porter's Five Forces. Then, an internal analysis of the T College is presented. Taking into consideration the external and internal analysis, the SWOT analysis will be presented.

In order to analyze students' satisfaction and gather useful information to design T College's marketing plan, a survey was conducted. The data collection time is from June 8 to July 8, 2023. A questionnaire survey was conducted on 500 students who had participated in the training through emails from veteran students, questionnaire survey platform, offline distribution, and telephone. The survey is on Appendix A.

Taking into consideration all this information, a proposal of marketing-mix is presented.

4. Marketing Plan

4.1. Executive Summary

The Intelligent Manufacturing Training Center of T Academy is a national pilot training unit of school-enterprise cooperation. By now, the T Academy has developed their marketing in an informal way, without a written marketing plan. As the T College has ambitious objectives, it is crucial to develop a formal marketing plan.

To design this marketing plan, a literature review was conducted and the external situation of the Academy were analyzed, by using the PESTE analysis, sector analysis, competitor analysis and the Five Forces of Porter. Besides, the current internal situation of the Academy was also analyzed. Taking into account both analyses, the SWOT analysis was performed. It can be concluded as disadvantages of T College, the low market acceptance of the project and insufficient publicity; on the other hand, a great external opportunity is the strong national policy support; the challenge is the low loyalty of enterprises and practitioners.

The objectives of this marketing plan are: Increase the number of trainees in 2024 and increase the turnover of T Academy in 2024.

The implementation of this marketing plan intends to allow the T College to get an income of 3,600,000 yuan, with a cost of 1,476,000 yuan; so, the estimated profit is 2,062,000 yuan, which has reached the expected goal. Through this marketing plan, the core competitiveness of the project has been established, the diversity of courses and online publicity have been increased, the turnover in 2024 has been increased, and the marketing goal of the Intelligent Manufacturing Training Center in 2024 has been achieved.

4.2. External Situational Analysis

4.2.1. PESTE Analysis

4.2.1.1. Political and Legal Context

In recent years, the in-depth promotion of the "Made in China 2025" strategy, the continuous integration of information technology and manufacturing technology, especially the emergence of new technologies and new formats, have led to a rapid growth in the demand for high-level compound technical skills. The General Office of the Central Committee of the Communist Party of China and the General Office of the State Council issued the "Opinions on Strengthening the Construction of Highly Skilled Talent Teams in the New Era" on October 7, 2022, requiring the in-depth implementation of the strategy of strengthening the country through talents in the new era, and building a team of high-skilled talents who love the party

and serve the country, are dedicated to their work, have superb skills, high quality, large scale, and reasonable structure. The target task is that at the end of the "14th Five-Year Plan" period, skilled personnel account for 30% of the employed personnel, and high-skilled personnel account for 1/3 of the skilled personnel. By 2035, the scale of skilled personnel will continue to grow and their quality will be greatly improved. In order to deal with the insufficient reserve of high-end skilled talents in intelligent manufacturing, vocational colleges, as an important supply source of skilled talents, actively combine talent training with actual production, carry out research and exploration on talent training for the integration of production and education, deepen and expand "self-improvement, integrity, and gratitude" education, innovate the vocational education model, deepen the cooperation between eastern and western vocational education, promote the integration of vocational education, production and education, and cultivate practical skilled talents.

The Third Plenary Session of the 16th Central Committee of the Communist Party of China raised the scientific concept of development to the strategic position of "rejuvenating the country through science and education" and "strengthening the country through talents", and attached great importance to the all-round development of people and the development of human resources. "Made in China 2025" is a strategic planning document issued by the Chinese government in 2015, which aims to promote the transformation and upgrading of China's manufacturing industry to intelligent manufacturing. The document clearly puts forward the goals and measures for cultivating technical talents in the field of intelligent manufacturing, including strengthening relevant professional education and training, building a demonstration college for intelligent manufacturing, and formulating various systems, laws and regulations. These factors will directly affect the development of the industry and corporate behavior, and have great influence.

The Chinese government attaches great importance to the development of intelligent manufacturing and has proposed a series of policy measures to support training and personnel training. For example, the "Made in China 2025" and the "Three-Year Action Plan for Artificial Intelligence" were released, which clarified support policies for smart manufacturing and training in the field of artificial intelligence.

4.2.1.2. Economic Context

The COVID-19 epidemic for several consecutive years had a huge impact on the global economy, including the Chinese economy, and most countries have experienced a slowdown in economic development. Under such a severe situation, the Chinese economy has benefited

from various measures taken by the central government, and the overall economic development has been stable and rising.

In 2021, the Chinese total GDP exceeded 110 trillion, with a growth rate of 8%（Chinese Bureau of Statistics). From a global perspective Chinese economy still ranks second in the world. It is foreseeable that in the next 10 years, although the international situation will remain complicated, the continued upward development of the Chinese economy will still be a major trend（Chinese Bureau of Statistics). During the "14th Five-Year Plan" period, intelligent manufacturing will play an important role in Chinese economic development. The country will accelerate the high-quality development of the intelligent manufacturing industry, and China will also seize the development opportunities of intelligent manufacturing, because this is the future of manufacturing, which is of great benefit to China's economic development. It is certain that the next five years will be a period of rapid development of Chinese intelligent manufacturing industry. Through the above analysis of the economic environment, the domestic market economy on which the Intelligent Manufacturing Training Center relies is in good condition, which is very suitable for the development of the project.

Along with industrial upgrading, the development of industry has greatly changed people's lives and is an important driving force for social development. Intelligent manufacturing is the core of industry. Vigorous development of intelligent manufacturing industry in China is also to maintain and expand the advantages that have been formed in manufacturing.

Today, the development of traditional manufacturing based on hiring cheap labor is becoming more and more difficult, but the intelligent manufacturing industry can help traditional enterprises improve production efficiency, reduce production costs, improve the intrinsic safety of industrial production, and then drive the entire industry to upgrade again.

With the reduction of the proportion of the working population, the intelligent transformation and upgrading of manufacturing enterprises has become the only way out. Only in this way can we break the predicament, improve efficiency, reduce costs, and then solve the practical problems faced by enterprises. Through the above analysis, it can be affirmed that the decline in the proportion of China's labor force will inevitably increase the demand for intelligence in the production process, which will help the development of the intelligent manufacturing industry, thereby promoting the development of intelligent manufacturing technical personnel training.

4.2.1.3. Socio-cultural Context

Chinese enterprises attach great importance to intelligent manufacturing technicians, and local governments give priority to intelligent manufacturing and artificial intelligence technology. Most technicians hope to understand the latest technical knowledge and grasp industry opportunities. They hope to obtain more certificates and create more employment opportunities for themselves.

The social status of skilled workers is increasing day by day. In order to increase the value of vocational education and alleviate the tension of skilled workers, local governments continue to introduce new policies that are conducive to vocational education and training, so as to further smooth channels for on-the-job workers to continue their studies. As the industrial society continues to mature and the progress of industrial technology continues to accelerate, skilled personnel in short-sufficient jobs have become the object of competition for major companies. All parts of the country pay more and more attention to skilled personnel and encourage the protection of skilled personnel. In order to attract skilled talents to settle in Xiangyang City, this city revised and re-promulgated the management measures for the introduction of talents and points for household registration in 2022. Those who have reached the level of senior worker or above can directly settle in Xiangyang City through the introduction of talents by the unit. Individuals who apply for points to settle in Xiangyang City can get an additional 20 points.

4.2.1.4. Technological Context

Technological innovation provides an important impetus for the high-quality development of intelligent manufacturing. The ultimate goal of intelligent manufacturing is to realize the intelligentization of industrial production through advanced technology.

With continuous breakthroughs in technologies such as computers, human-computer interaction, and sensors, the intelligent manufacturing industry is also accelerating the revolution in product design and manufacturing, and continuously promoting the integration of information, intelligent technology, and equipment manufacturing. At the beginning of 2021, the National Development and Reform Commission and other departments jointly issued the "Opinions on Accelerating the High-quality Development of the Manufacturing Service Industry", proposing that new technologies such as 5G, big data, and cloud computing will be used to develop the smart manufacturing industry. This means that the technological integration of the smart manufacturing industry will be further strengthened in the future. Smart

manufacturing-related technologies such as big data, cloud computing, robotics, and the Internet of Things are developing rapidly in China. In many aspects, China has independent intellectual property rights and core technologies.

Therefore, under the current background, most of the technical needs of the intelligent manufacturing industry can be met. At present, China's smart manufacturing is catching up with or even surpassing developed countries in many technical fields. With the continuous upgrading of technology, the application level of related technologies in the smart manufacturing industry needs to be further improved. In this case, it can greatly promote the development of smart manufacturing training centers.

4.2.2. Sector Analysis

With the rapid development of the intelligent manufacturing industry, more and more training institutions have emerged to provide various intelligent manufacturing technology and application training. These institutions can be universities, vocational training colleges, corporate training institutions, etc. The training courses they provide include intelligent manufacturing technology, industrial robots, automation control systems, big data analysis, etc.

Intelligent manufacturing industry training focuses on the combination of production, study and research, and promotes the combination of training and practice by establishing school-enterprise cooperation and carrying out scientific research projects. Some universities and enterprises cooperate to set up intelligent manufacturing training bases, providing practical opportunities and job training, so that students can gain practical operation and project experience.

Intelligent manufacturing industry training not only focuses on imparting basic knowledge and skills, but also focuses on cultivating trainees' innovative ability and problem-solving ability. Some training institutions and enterprises provide innovative project training and encourage trainees to participate in the research and development of practical projects and the innovation of solutions.

The intelligent manufacturing industry has a large demand for high-quality and high-skilled talents. Training institutions adjust the training content according to the needs of the industry and provide training courses that meet the needs of the market. At the same time, the intelligent manufacturing industry has broad employment prospects. After training, trainees are expected to find employment opportunities in robotics, automated production, and Internet of Things applications.

It should be noted that there are still some challenges in the development of training in the smart manufacturing industry. For example, due to rapid technology updates, training institutions need to keep up with the latest technological developments; the uniformity of training quality and standards still needs to be improved; the imbalance of training resources and teachers and other issues. However, as the government and enterprises pay more attention to smart manufacturing, these challenges are expected to be gradually resolved.

4.2.3. Competitor Analysis

Large state-owned intelligent manufacturing enterprises have set up internal training centers. They not only train their own technical personnel, but may also recruit external students to seize the market. However, according to different divisions, they will purchase education and employee skill improvement training separately (such as human resource training and technical personnel training), which can reduce business operating costs.

The original education and training institutions in the society will be transformed into the intelligent manufacturing training industry, but their disadvantage is that they do not have large investment, good teachers and abundant funds. Therefore, there will not be too many original educational training institutions that can enter the smart manufacturing training industry, and the Chinese market is large enough to accommodate many of such training institutions, which will not pose a major threat to the company.

Furthermore, vocational colleges will upgrade and establish their own intelligent manufacturing training centers, but all vocational colleges are now inclined to school-enterprise cooperation, invested by social capital, and jointly operated. However, the current school-enterprise cooperation model in the field of intelligent manufacturing is very good, but there are very few school-enterprise cooperation for practical training, so it has not yet reached the point of threat.

4.2.4. Porter's Five Forces Analysis

Bargaining power of buyers

Enterprise employees are relatively constrained by their units. Generally, enterprises do not train technicians in batches, which will affect the production of enterprises.

As regards to the individual customers, in order to obtain relevant certificates, they do not care about training fees and have no bargaining power.

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Bargaining power suppliers

According to the relevant laws and regulations of our country, the intelligent manufacturing training lecturers must have the national senior engineer qualification certification, and at the same time have the engineering professional technical qualification certificate or the national professional qualification of the technician or above for the construction of the teaching staff. At present, the level of vocational training teachers is different. In order to save the cost of the lecturers, some training institutions employ teachers who have not obtained the corresponding teacher qualifications. If they do not have the corresponding technical knowledge or the teacher qualifications recognized by relevant departments, it is difficult to guarantee the quality of teaching.

Threat of substitute products /services

When there are many similar substitutes for intelligent manufacturing training courses and services, enterprises will choose to withdraw from the industry because they are easy to be replaced. According to the setting of Chinese education system, vocational technical education training and formal school education have no room for intersection, and the probability of future changes is not high. Thus, there is no threat to each other, and there is no threat of substitution.

Threat of potential entrants

As the country strengthens the management of the intelligent manufacturing training industry and gradually improves the industry requirements, it is more difficult to obtain the conditions for running a training institution. In addition to the large investment in venues and hardware equipment, it needs to be equipped with complete training equipment, which is difficult for many institutions. The government is strengthening the supervision of training quality and process. It is difficult for newly entered training institutions to obtain the qualification documents provided by the government, so there are fewer potential entrants and no significant threat.

Rivalry among existing competitors

There are relatively few in the same industry, and the competition is relatively small, mainly in terms of price and service. The price is mainly reflected in the lecturers without professional qualifications. The quality of teaching has declined, which reduces the cost of lecturers and loses the interests of students. The service is mainly reflected in the fact that after the training, the graduation certificate issued by the intelligent manufacturing institution cannot be provided,

but the completion certificate. From this, it can be seen that the competitive pressure of the intelligent manufacturing training center of T College is not great.

4.3. Internal Situational Analysis

4.3.1. Characterization of the company

T College is located in Xiangyang City, Hubei Province. Relying on local university resources and related resources of intelligent manufacturing enterprises, T College trains top technical talents for local intelligent manufacturing enterprises in Xiangyang City. Currently, there are an average of 180 students per quarter, with a total of 6 classes.

T College provides the most advanced skill training for technical personnel of China's intelligent manufacturing enterprises. It established its own unique brand and became the first choice for enterprises and practitioners to participate in vocational training. The company continues to develop other new training courses, keep abreast of technological development and the introduction of government policies, strengthen innovative courses, and establish the center as a leader in the intelligent manufacturing training industry.

At present, the center's publicity relies on traditional methods such as word of mouth, cooperative enterprises, and brochures. Modern publicity tools are seldom used, such as instant messaging tools such as WeChat and Weibo.

4.3.2. Mission, vision and values

Mission – To provide the most advanced technical training base for technicians of Chinese intelligent manufacturing enterprises.

Vision – Develop into the most advanced intelligent manufacturing training base in China.

Values – Innovation, integrity, development, pragmatism.

4.3.3. Portfolio analysis

The company's main products include:

- Practical foundation of 3D printing

- Industrial robot application
- Five-axis machine tool maintenance and repair
- Applications of the Industrial Internet of Things
- Commercial vehicle assembly process
- Industrial big data processing

The training center regulates the enrolment management, organizes the registration work, and clarifies the registration requirements, training objects, training content, charging standards, class time, examination and certificate issuance, etc., so that units and individuals can make preparations before participating in the training.

In order to achieve a balance between training and production, various forms of schooling are adopted according to the specific situation, combining part-time and full-time. For the students who are uniformly transported by the enterprise, intensive teaching can be given according to the needs of the enterprise, and off-the-job teaching can be adopted. For individuals participating in training, weekend teaching is arranged, and the teaching time is arranged as flexibly as possible according to the needs of the students. This will not only be welcomed by the enterprise and the trainees, but also ensure the attendance rate of the trainees.

All the teaching materials adopted by the center are the teaching materials designated by the top management of relevant departments. To ensure the implementation of teaching content and class hours, all teachers must adopt the teaching content and teaching hours stipulated in the syllabus, and do not arbitrarily delete content and class hours. There are practical and suitable textbooks and lesson plans which are according to the needs of enterprises, so that the textbooks and lesson plans can also become work manuals for special operations personnel and engineering technicians after the training is over.

Multi-modal teaching is used in training. Teachers make full use of audio-visual equipment in teaching, and present the key points, difficulties, and cases of teaching in the form of power point, combining pictures and texts, using teaching wall charts, visual teaching of objects, case analysis, classroom discussions, etc.

It has been adopted standardize practical operation exercises, and students have been provided with sufficient time and equipment for practical operation. It has been used fixed people and fixed equipment for practical operations. In the process of practical teaching, the practical teacher will first demonstrate, and then the students will operate according to the operating procedures. Ensuring the safety of the operation site is not only an important

guarantee for the smooth development of training, but also one of the important means to cultivate trainees' safety vigilance. During the teaching process, teachers also intends to improve the safety awareness of the students, strictly follow the safety operation rules, and correct the problems found in the operation in time, especially for the students who violate the operation rules to immediately stop their operation, educate them, develop the working habits of correct operation, and lay a solid foundation for future work and production.

When the examination is held at the end of each training class, the discipline of the examination will be strictly enforced. On the day of the examination, the academic staff will be arranged to check the valid certificates of the candidates one by one in the examination room, and the candidates will be required to enter the venue with their own ID cards. Before each exam, the academic staff will announce the discipline of the examination room, emphasizing that candidates must strictly abide by it and obey the arrangements of the examination staff.

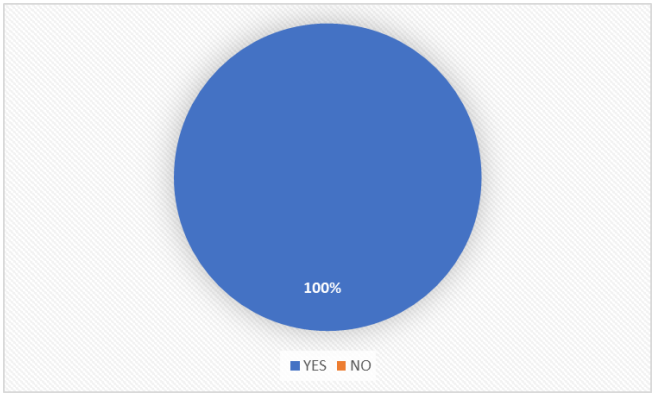
4.3.4. Customer analysis

Currently, the customers of the Intelligent Manufacturing Center of T Academy are mainly technicians from large state-owned manufacturing enterprises (automotive industry, machine tool manufacturing, logistics industry, etc.). The main customers include: Dongfeng Motor Group Co., Ltd.; China Aerospace Science and Technology Group Co., Ltd., Lens Technology Co., Ltd., Dongfeng Special Vehicle Co., Ltd., Dongfeng Lishen Power Battery System Co., Ltd., and Hubei Sanhuan Automobile Co., Ltd. Their technicians need to upgrade the latest advanced technical knowledge and related technology applications in intelligent manufacturing so that they can better play themselves in their positions in their companies. At the same time, the companies also hopes that its employees can contribute more to the development of the company.

The other type of customers of the T College is college graduates or students who are studying at school. This group is that with the best learning ability. They hope to have more skills and more certificates to lay the foundation for their future.

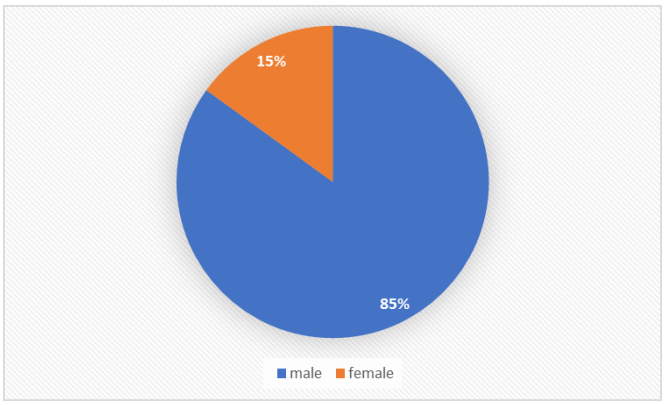
The results of the survey conducted on students who have participated in T Academy is as follows.

Figure 1 - Respondent Training Records



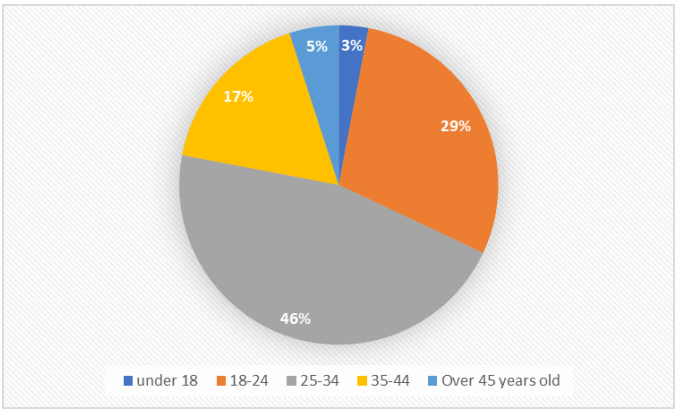
The object of the investigation is 500 trainees who participated in the practical training in Xiangyang City.

Figure 2- Gender of the respondents



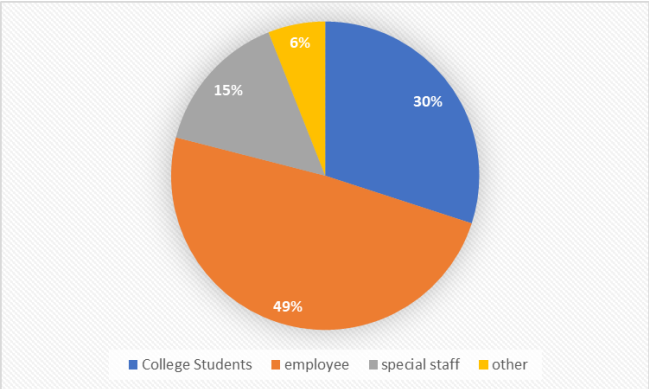
Respondents were 425 males (85%) and 75 females (15%).

Figure 3 - Age of Respondents



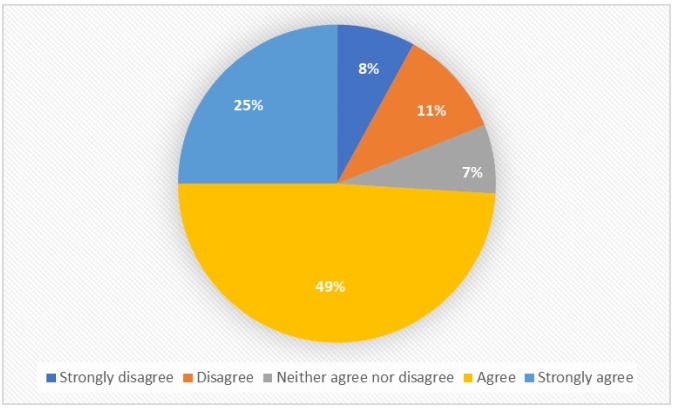
The ages of the respondents were as follows: 3% were under 18 years old, 29% were 18-24 years old, 46% were 25-34 years old, 17% were 35-44 years old, and 5% were over 45 years old.

Figure 4- Type of students



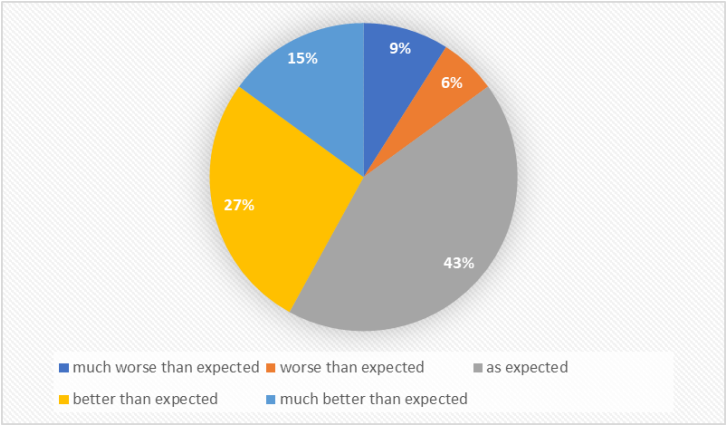
Among the respondents, 30% are students, 49% are employees, 15% are special personnel, and 6% are other personnel. The distribution of respondents is diverse, and the survey aims to obtain the opinions and opinions of different types of respondents. When analyzing and interpreting the survey results, the characteristics and possible influence of different groups of respondents need to be considered to ensure accurate and comprehensive conclusions.

Figure 5 - Average Satisfaction of Respondents



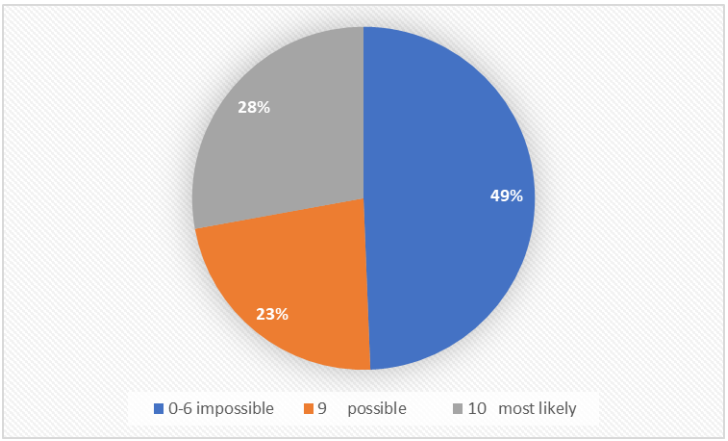
Through the survey of the training center trainees' satisfaction with training time, difficulty, teacher ability, attitude, latest information provided, training equipment, training environment, etc., it was found that 8% of the people strongly disagreed, 11% disagreed, and 7% disagreed. % neither agree nor agree. Disagree, 49% agree, 25% strongly agree. Taken together, it can be concluded from these average satisfaction figures that there is room for improvement in the performance of the training center in several areas, especially in terms of courses, attitude, up-to-date information provided, etc. These survey results may require the training center to take measures to improve the professional level of the teaching staff, improve the interaction between teachers and students, add more course choices, ensure timely updates of information, and optimize the training environment and equipment to improve the overall satisfaction of trainees.

Figure 6 – Service and Expectation Analysis



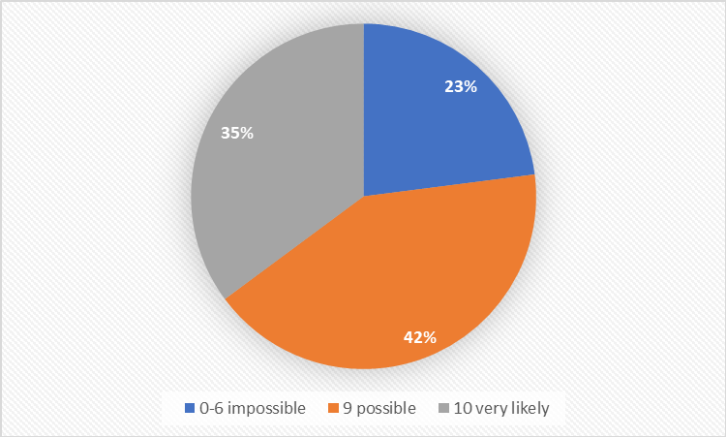
Respondents' expectations for the training center's service and future were 9% worse than expected, 6% worse than expected, 43% as expected, and 27% better than expected. 15% is much better. Survey data indicate that there is some discrepancy between the actual performance of training centers and respondents' expectations. While some respondents were satisfied with the actual experience, others were dissatisfied. These results may indicate that the training center is achieving positive results in some areas, but may need improvement in other areas to increase overall satisfaction and compliance.

Figure 7 – possibility of retraining



A survey of 500 students who have participated in practical training found that 49% are basically unlikely to participate again, 23% are likely to participate, and 28% are very likely to participate. Judging from this data, the number of people who are unwilling to participate again is relatively high. It can be inferred that there may be room for improvement in this practical training program to a certain extent to increase trainee satisfaction and active participation. It may be necessary to adjust and optimize the training content and teaching methods to better meet the needs and expectations of the trainees, thereby increasing their willingness to participate.

Figure 8 –Possibility of referral



As can be seen from these referral likelihood data, a certain percentage of trainees are willing to recommend the training to others, but not all trainees are willing to do so. This may be related to their satisfaction with the training, their views on the content and quality of the training, and their own experience. The possibility of a trainee's referral can also indirectly reflect the quality of the training and the influence of word-of-mouth, so the training center may need to pay attention to this indicator to improve the trainee's satisfaction and willingness to refer.

4.4. SWOT Analysis

Strenghts

- Good school-running background in cooperation with vocational colleges
- It has the most advanced intelligent manufacturing technology experts and professors in the industry
- It has strong educational reputation in the industry
- It has 40 sets of advanced intelligent manufacturing equipment

Weaknesses

- The current training courses are not comprehensive enough and there are not enough choices
- Insufficient publicity

Opportunities

- In order to increase the enthusiasm for training, the state has introduced a number of relevant policies to encourage enterprises and practitioners to participate in training by subsidizing training fees and other means
- Increase of the financial subsidies for training and education institutions and individual trainees to apply for skills promotion training, and reduce the burden of training costs for enterprises and practitioners, creating a win-win situation

Threats

- Some employers are unwilling to allow employees to continue having training, mainly due to lack of awareness, and because the training of employees will delay production.

4.5. Marketing Plan Objectives

The main goal of T College's 2024 marketing plan is to increase the number of students to 300 in 2023, improve customer satisfaction, and need to achieve a growth rate of 400%, and the number of students will reach 1,200 in 2024.

January to March is the traditional Chinese festival of the Spring Festival. Generally, production enterprises will take a longer Spring Festival holiday, so that the operators of the front-line production line will return to their hometowns to spend the festival. It is difficult for enterprises to organize personnel training, so there are few production training plans. The nrolment task for the first quarter is 160 people. April-June is the season when the production tasks of the enterprise are relatively small. The enterprise can deploy production employees conveniently and flexibly, and is willing to send them for training in time. The basic renewal training will also be carried out during this time period. Therefore, the center will increase the number of recruits and set it at 440 people. July-September is a period of stable production, and the production orders of enterprises begin to increase. The operators often need to be fully involved in production, and personnel arrangements are difficult. Therefore, the number of students enrolled during this period is 360, which is slightly lower than the number in the second quarter. October-December is the peak production season for enterprises, which impacts production plans, and even employees need to work overtime, making it more difficult for workers to deploy. Enterprises are often unwilling to allow employees to train during this period, so the number of students enrolled is set at 240.

4.6. Segmentation, Targeting and Positioning

Market segmentation and Targeting

Market Segmentation Based on Geographical Factors: The target market segment is Xiangyang City.

Market segmentation based on customer industry factors: According to the intelligent manufacturing enterprises in Xiangyang City, there are mainly automobile manufacturing, machinery manufacturing, electronics manufacturing, metallurgical manufacturing, agricultural manufacturing, petrochemical manufacturing and other industries. Besides, the market is segmented into the following two important areas, corporate customers and individual customers.

Target market selection: After analyzing the overall market and training needs, combined with the specific situation of the intelligent manufacturing training center of T College, the target of the intelligent manufacturing training project is: automobile, logistics, auto parts enterprises and individual customers in Xiangyang City.

Figure9- Target Market Industry

Positioning

Become the first choice for enterprises and practitioners to participate in vocational training.

4.7. Marketing-Mix

4.7.1. Product

In terms of product portfolio, it is proposed that T College develops a variety of practical training courses and projects, covering various fields and application scenarios of intelligent manufacturing, to meet the needs of different students. On the whole, the offer should provide a complete intelligent manufacturing training solution from basic theory to advanced practice,

covering all aspects of intelligent manufacturing. More specifically, the following products should be added to the current portfolio:

1. Application of digital twin technology
2. Personalized customization service

In terms of technological advancement, T College should continue to pay attention to the latest technologies and development trends in the field of intelligent manufacturing, constantly update and upgrade training equipment and content, and ensure the technological advancement of products.

The focus should be continuing developing products practice-oriented, that is focused on practical teaching, providing a rich training environment and practical cases, so that students can learn and apply intelligent manufacturing technology in real scenarios.

According to the needs and background of students, T College should provide customized learning plans and course arrangements to ensure that each student can obtain the most suitable learning experience.

T College should also give special attention to real-time interaction between trainees and lecturers through the virtual training platform and online teaching tools. Besides, immediate feedback and support should be provided.

In addition to the course itself, high-quality after-sales service should be provided, such as teaching guidance, student exchange platform, employment guidance, etc., to increase students' overall value perception of the product.

4.7.2. Price

According to the different difficulty and depth of training courses, different levels of prices should be defined to meet the needs and budgets of different students.

It is planned to package and sell multiple related training courses to provide a comprehensive training solution. For example: if you sign up for a package of more than 3 courses at the same time, the package will have a 10% discount relative to the sum of the prices of each course, in order to increase students' purchasing interest and satisfaction.

We plan to launch a membership system. Enterprises will pay 5,000 yuan for 3 years and individuals will pay 2,000 yuan to join the VIP membership of T Academy. We will provide VIP members with 4 free lectures and seminars related to intelligent manufacturing every year,

and provide long-term cooperative students with preferential prices and value-added services. This membership system is designed to build stable student relationships.

T College must have a price transparency policy. Clear product prices and preferential policies should be indicated in publicity and promotional activities, so that potential customers can clearly understand the fee structure and payment methods.

According to market demand and competition, T College should have a flexible pricing policy, which includes temporary promotions, limited-time offers, etc., to attract more students and increase sales. For example, during the National Day holiday or summer vacation, we will provide regular promotions, offering the products 10% cheaper than usual.

Finally, it is proposed to regularly evaluate the effectiveness of pricing strategies and market feedback, and make adjustments and improvements based on student feedback and market changes.

Table 1 – Price of each course in 2024

No.	Course Name	Class hours	Course Price (RMB)
1	3D printing practical basics	10	3000
2	Industrial Robot Application	10	3000
3	Maintenance and overhaul of five-axis machine tools	10	3000
4	Applications of the Industrial Internet of Things	10	3000
5	Commercial vehicle assembly process	10	3000
6	Industrial Big Data Processing	10	5000
7	Application of digital twin technology	10	5000
8	Personalized customization service	10	5000

4.7.3. Place

A Direct sales channel should continue being adopted, using both online sales and in the training center.

Online sales platform: Establish a dedicated online sales platform to provide students with the convenience and flexibility of online purchase of courses through websites or e-commerce platforms.

Direct sales in the training center: set up a sales window or reception area in the training center, which allows to provide students with detailed product information and price policies through face-to-face consultation and sales, and conduct purchase transactions.

Besides, T College should establish cooperative relations with enterprises related to intelligent manufacturing, provide customized practical training solutions, and promote and sell to employees through internal training channels.

4.7.4. Promotion

Network promotion: Use online advertisements, website optimization, etc. to promote the courses and advantages of the intelligent manufacturing training center, attract students' attention, and gain more potential customers. New media should be used to promotion, such as vibrato, WeChat official account, social media and other promotion methods.

Exhibition activities: Participate in relevant industry exhibitions and educational exchange activities, display the products and solutions of the training center, establish contacts with trainees and industry professionals, and conduct on-site sales and promotion.

Carry out free lectures and discussions for VIP students to increase popularity and enhance customer value-added services.

Personalized Marketing: Implement personalized marketing strategies by collecting and analyzing potential customer data. According to their interests, academic background and career needs, provide customized practical training courses, and communicate relevant information through email, social media and other channels.

Partnerships: Establish close partnerships with universities, industry associations, and enterprises. Through cooperation with colleges and universities, the training center is incorporated into the curriculum system to attract more students. Cooperate with industry associations and enterprises to provide targeted professional training to meet actual work needs.

Digital Marketing: Enhance digital marketing, optimize websites and social media platforms, and increase online visibility. Spread the training center brand to a wider audience through search engine optimization (SEO), social media advertising, and content marketing.

New media advertising

Through new media such as Douyin and BILIBILI, video advertisements are released and online expert live broadcasts are widely used to publicize the courses of the training center, so that customers can easily and quickly understand the college and related courses.

Figure 10- New Media Introduction

Micro-channel public platform

Push soft articles, course introductions, expert introductions, and contact information of the intelligent manufacturing training industry through the WeChat applet, so that more customers can visit the company website through the applet.

Figure 11- Mini Program Introduction

Figure 12- Mini Program Course Introduction

Create official website

Customers can view the information they want to know through the website, and at the same time, they can search the website through search engines.front page.

Figure 13- Mini Program Course Introduction

The website mainly includes the following content:

Training Courses

News

Online training7

Free class

Online Registration

Technical Information

Contact us

Course sorts

VIP member

Virtual course

Practice session

Free Lecture Promotion

The highlights of the course are taught by experts: understand the basic concepts of intelligent manufacturing, development history, industrial Internet, Internet of Things in the field of manufacturing and experience the ingenious application of industrial robots in production. In-depth understanding of the key role of data analysis in intelligent manufacturing, trainees personally operate intelligent equipment, experience the future production process, in order to increase the number of registrations.

Figure 14 - Lecture scene

4.8. Schedule

Table 2 - Event Schedule

execution date	Activities
January- February	1、Well-known experts are invited to push video advertisements to Douyin and BILIBILI twice a week, and at the same time carry out online live broadcasts to promote projects. 2、Push soft text advertisements to the official account, 2 articles per week, to increase attention.
March-April	1. Create a new billboard for the training center. 2. Guide online students to attend free lectures offline, once a week.
May-June	Offline consulting activities are carried out on the university campus during the summer vacation.
July-August	1. Electronic screen production. 2. Website production and optimization.
September-October	Strengthen new media promotion, optimize expert video promotion content and official account content
November-December	Organize large-scale promotional activities and college annual meetings

4.9. Budget

Table 3 - Activity Cost Budget

execution date	fee name	price/year（RMB）
January 2024	Micro-channel public platform	10000/year
January 2024	training center billboard	10000/year
January 2024	Advertising electronic screen	10000/year
March 2024	website production fee	18000/year
June 2024	TikTok Media Ads	30000/year
Total promotion expenses in 2024:		**78000**

Table 4- Other Comprehensive Cost Budget

project name	quantity	monthly salary	Subtotal（RMB）
Teacher honorarium costs	8	8000/month*12 months	768000/year
admissions teacher	5	5000/month*12 months	300000/year
Venue rent (including water and electricity	1500 square meters	20000/month*12 months	240000/year
Textbook fee	1200 students	1000/person*1200 students	12000/year
Equipment depreciation expense	quantity	1,200 people x RMB 60/	72,000/year
Loss of training materials	8	1,200 people x RMB 60/	72,000/year
Examination and appraisal fee		people	12000/year
project name		1200 people*100	Subtotal
Labor wages and other expenses：			**1476000**

In 2024, 1,200 students will be enrolled * 3,000/person = total income of 360,0000 yuan)

In 2024, taxes and fees for the intelligent manufacturing training center project of T Academy, including business tax, urban construction tax, and education surtax

Table 4- Taxation

project	calculation process（RMB）	Subtotal（RMB）
business tax	3600000*5%=180000	180000
Urban Construction Fee	180000*7%=12600	12600
education surtax	180000*5%=9000	9000
Total profit in 2024	Total income 3,600,000 - promotion fee 78,000 - labor wages and other expenses 1,476,000 = 2024 profit 2,062,000	**2062000**

4.10. Marketing Control and assessment

Objective	KPI
Improve the popularity and recognition of the training center	Increase Douyin and BILIBILI fans to a total of 100,000 The number of visits to WeChat official account content increased by 40%, and the number of followers increased by 20%
Increase the number of applicants	Let 10% of the number of people who consulted buy the course
Increase the loyalty of existing customers	The repurchase rate of old customers increased to 5%
Increase the turnover	RMB:3600000yuan

5. Conclusions

With the continuous development of intelligent manufacturing technology, the intelligent manufacturing training center plays a vital role as an important platform for cultivating talents and meeting market demand. In order to stand out in the fiercely competitive market environment, the Intelligent Manufacturing Training Center has formulated a marketing plan for 2024, aiming to comprehensively improve the popularity and recognition of the training center, increase the number of trainees in 2024, increase the loyalty of existing customers, and increase the turnover of T Academy in 2024.

This project collected a large amount of data, analyzed the current situation of the training center and analyze the market research, positioning, competition analysis and internal resources, clarify the marketing method, marketing purpose, and formulate the marketing plan for 2024, budget and KPIs.

According to the analysis, it is found that the courses of the training center are not comprehensive enough, the selection is not wide enough, and the publicity is not enough. In 2024, the marketing plan will mainly focus on course improvement and advertising promotion.

Based on the above methods, the intelligent manufacturing training center is expected to achieve a significant increase in the market in 2024. The number of trainees is set at 1,200, the training income is RMB 3,600,000, the expenses are RMB 1,476,000, and the profit is RMB: 2,062,000. It has a good conclusion. The Intelligent Manufacturing Training Center of T College has further consolidated its leading position in the field of intelligent manufacturing, and made greater contributions to cultivating outstanding talents and meeting market demand.

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Appendices

Appendix A –Survey

Satisfaction Survey of Intelligent Manufacturing Training Center

This survey intends to get information about your satisfaction level with the Intelligent Manufacturing Training Center, in order that some improvements may be done.

If you ever participated in training in the Intelligent Manufacturing Training Center, please answer this survey.

The answers are anonymous and confidential.

Your opinion is very important for us. So, we ask that you provide honest answers.

PART 0

*1. Have you ever participated in the training in the Intelligent Manufacturing Training Center?

- Yes
- No _. ➔ The survey ends (Thanks for your collaboration)

PART 1 – Socio-Demographic Data

*2. What is your gender?

- Male
- Female

*3. What is your age? _____ (years old)

*4. What is your occupation?

- Student
- Serving staff
- Freelancer
- Others

PART 2 – Satisfaction Assessment with the Intelligent Manufacturing Training Center

Indicate the most appropriate answer to each statement.

	I strongly disagree	I disagree	I neither agree nor disagree	I agree	I strongly agree
The content of the training is related to the actual work					
The training time is appropriate					
The training is difficult					
The teachers are competent					
The teachers are friendly					
The teachers provide us updated information					
The teachers understand my needs					
The teachers do everything they can in order that I learn					
I received enough guidance and help					
The training equipment is complete					
The training environment is comfortable					
The benefit of the training is greater than its cost					
It is easy to contact with the Center					
Center's curriculum is complete					
Center equipment is very advanced					
The website of the Center is very interesting and with useful information					
When I contact the Center, I get a quick answer					

*5. Taking everything into consideration, what is your satisfaction with the Intelligent Manufacturing Training Center?

- Very dissatisfied
- Dissatisfied
- Neutral
- Satisfied
- Very satisfied

*6. On the whole, how do you compare the service of the Intelligent Manufacturing Training Center to your expectations?

- Much worse than expected
- Worse than expected
- As expected
- Better than expected
- Much better than expected

*7. How likely is it that you would participate again in training in the Intelligent Manufacturing Training Center?

(Indicate in a scale from 0 to 10, in which 0 = Not likely at all and 10 = Extremely likely)

Not likely at all										Extremely likely
0	1	2	3	4	5	6	7	8	9	10

*8. How likely is it that you would recommend the Intelligent Manufacturing Training Center to a friend or colleague?

(Indicate in a scale from 0 to 10, in which 0 = Not likely at all and 10 = Extremely likely)

Not likely at all										Extremely likely
0	1	2	3	4	5	6	7	8	9	10

Thanks for your collaboration.