

Characters of a Good Project Manager in the Automotive Industry

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Abstract: Project is a very basic concept, it runs through all walks of life, is the so-called "everything can be project". As the leader of the project and the main executor of the project management activities, the project manager has full control of the project-related matters, which directly determines the success or failure of the project. At the same time, different industry attributes have different characteristics for project managers. This paper attempts to discuss the characteristics of excellent project managers according to the requirements of project managers in the automobile manufacturing industry.

Keywords: Automobile manufacturing; Project Manager; Automobile R&D.

1. Introduction

Automobile, as the most complex product (composed of more than 30,000 parts) in the current consumer market, has a long research and development cycle, many personnel involved and deep technical level, which is not comparable to general products. First of all, cars are an important symbol to measure the consumption level and happiness of a country's people, and from steel to oil, it has an important impact on all kinds of commodities and their industrial chains. At the same time, the car is a direct indicator to measure a country's industrialization ability, whether it is from Volkswagen to Audi, Toyota to Lexus, or Buick to Cadillac, these world-renowned car brands are undoubtedly from Germany, Japan, the United States, these traditional industrial powers. Therefore, if a country wants to become an industrial power, it must have the ability to produce high-quality cars on a large scale, and high-quality project managers are essential for the production of high-quality cars

1.1. Sub Project managers in various categories of automotive industry

Project - refers to people through efforts, the use of various methods, the human, material and financial resources to organize, according to the relevant planning arrangements of the business model, to carry out an independent one-time or long-term indefinite work task, in order to achieve the objectives defined by the quantity and quality indicators.

The project manager refers to the important management position established by the enterprise with the project manager responsibility system as the core, the implementation of the project quality, safety, schedule and cost management responsibility guarantee system and the overall improvement of the project management level. It is responsible for handling all transactional tasks. Also known as an "executive producer". The project manager is the person responsible for the successful planning and execution of the project. The project manager is the leader of the project team. The primary responsibility of the project manager is to lead the project team to complete all the project work content on time and with good quality within the budget, and to satisfy the customer. For this purpose, the project manager must lead

a series of project planning, organization and control activities to achieve the project objectives.

Automotive development and manufacturing is a huge project, and this project needs many project managers to work together to complete.

Car research and development can be generally divided into four stages: pre-research, data, product and trial production, and different stages and different modules should have different project managers. When the project is ready to be approved, the project manager of the vehicle will start to take charge and promote the whole process until the mass production of the project. In the pre-research stage of the project, the preliminary technical feasibility analysis needs to be promoted by the pre-research project manager, and the modeling project manager will lead the modeling design. In the data and product stage, there will be specific module project managers to promote the completion of various data and product parts, such as car chassis, body, powertrain, interior and exterior decoration, electronic appliances, etc., will be their respective project managers; Similarly, there will be a project manager responsible for trial production in the trial production stage, and a production project manager in the production stage.

In traditional Oems, we prefer to call the project managers of professional modules as integration managers, and downstream of the integration managers of major professional modules, there will be integration managers of smaller modules corresponding to more subdivisions. Taking vehicle performance as an example, the downstream module performance such as safety, NVH, power economy, handling, durability and reliability will also have their own integration manager responsible for the corresponding project management work.

In short, the development and manufacturing of automobiles is a rather complex process, and various types of project managers are combined together to form the project team of vehicle development. The project manager and project director of vehicle development lead the entire project team and promote the entire project development process from scratch until the completion of project delivery. This article focuses on vehicle level project managers.

In addition, car research and development and manufacturing costs are often huge, more than a billion project budget, two to three years of development cycle, hundreds of people involved in the implementation of monitoring. Therefore, excellent project manager has always been a key factor in the success or failure of automobile project development. This paper attempts to make the following relevant analysis and summary of the excellent qualities required by such project manager.

1.2. Basic management skills

For project management activities, the most basic management skills are organization, coordination, communication and reporting.

1.2.1. Organize

For "Organize" here does not mean "an organic body of coordinated action to achieve a common goal;" organization "here is a verb, meaning" the action that brings together different people and things to work together effectively to achieve a working goal." Organizational ability is the most basic management skill necessary for project managers, and it is also a significant feature to measure whether a person has management talent.

In the process of automotive research and development and manufacturing, small technical problems often involve a considerable range of relevant parties, similar to the delayed delivery of a part, the release status is wrong, or the quality is unqualified, often lead to damage to the interests of many departments, at this time, the project manager needs to organize, from the upstream task publisher to the supplier partner. Conduct accurate stakeholder identification, and then organize and mobilize multiple departments to work together to solve the problem.

If the project manager does not have the ability to organize, he will not be able to engage in project management at all, let alone become a good project manager.

1.2.2. Coordinate

Coordination is to correctly deal with all kinds of relations inside and outside the organization, create good conditions and environment for the normal operation of the organization, and promote the realization of the organization's goals. As the saying goes: "Where there are people, there are rivers and rivers", when the project manager faces a large number of project team members and stakeholders, various conflicts will inevitably break out. Conflicts can arise because of differences in the way project members solve problems, differing ideas about the product, dissatisfaction with the division of responsibilities and credit, self-interest, or even personality differences. At this time, as the backbone of the project team, the project manager has the responsibility and obligation to resolve conflicts through coordination ability, build a harmonious working atmosphere in the team, and avoid embarrassment. The harmonious atmosphere will make each project team member feel relaxed and happy, and then the work will be more efficient. Therefore, how to assume the "lubricant" and do a good job in the coordination of various people and things in the team is the ability that the project manager must have.

If the coordination ability of the project manager is poor, it can be imagined that the conflict within the project team can be seen everywhere, the project members are disorganized and fight for themselves, the working atmosphere is tense, the

work efficiency is low, the staff turnover is serious, and finally lead to the failure of the project.

1.2.3. Communicate

Communication is the process of transmission and feedback of thoughts and feelings between people and between people and groups, in order to reach a consensus of ideas and smooth feelings. 80% of the project manager's work needs to be completed through communication, effective and efficient communication is the key way to solve problems, in a sense, the project manager is not a direct participant in the production of products and the solution of problems. The project manager is more of a service provider, providing resources and support for the front-line product production and problem solving personnel to help them complete their work and solve problems. At the same time, the project manager should also act as a supervisor to ensure that all problems are properly resolved. This requires strong communication skills!

Man is not a machine without feelings, but an animal with the most basic emotions and the needs of the heart. Therefore, the means and methods of communication are particularly important. What the project manager needs to do is to let the relevant parties clearly accept the needs through simple and effective communication, and get the corresponding emotional satisfaction in the implementation process, so that the implementers can complete the project tasks more attentively.

If the project manager does not have good communication skills, it will not be able to accurately convey information, and it will not be able to obtain the trust of the relevant parties, which will eventually lead to the relevant parties unwilling to accept your resources and services, but also unwilling to travel the project promotion plan formulated by you, and the project will eventually fail.

1.2.4. Report

A report is a document used to report the work, reflect the situation, put forward opinions or suggestions, and reply to the inquiry of the higher authorities. For project managers, reporting is the best way to present results to superiors and obtain support and resources at a higher level.

In traditional automobile companies, there are often huge organizations, hierarchical personnel system, accompanied by multiple leaders.

Due to the huge investment in the development of automobile projects and the large number of relevant parties, changes in any dimension of the product will trigger huge risks for stakeholders. Without exception, the leaders of relevant parties will review and make decisions on such cases one by one. At this time, the project manager needs to collect complete technical information, carefully prepare the plan to deal with various risks, and then explain the position to the leader.

Therefore, the report is not simply to read the PPT, but to prepare perfect "multiple choice questions" for senior leaders to make decisions conducive to the development and promotion of the project.

At the same time, the report is also an effective way to show the results of the hard work of the project team members to the senior leaders. A well-prepared report can make the senior leaders effectively feel the problems encountered in the process of project development and promotion. A well-prepared report can also make the senior leaders deeply feel

the project team members' enthusiasm for the project meticulousness and excellence. A wonderful report can make the senior leaders have a more complete understanding of the project, obtain their more powerful resources and encouragement, and strengthen their support for the project development.

If the project manager does not have a good ability to report, it is easy to put themselves in the "above" can not deal with the "below" can not account for the awkward situation.

1.3. Service consciousness

Service refers to performing duties, doing things for others, and benefiting others from a paid or unpaid activity, not in the form of material goods but in the form of labor to meet some special needs of others. The essence of management is service. Whether it is personnel, administration, purchasing, sales or projects, the managers themselves are not directly involved in the corresponding work, such as research and development, sales, procurement of goods and so on. More often, managers provide technical, financial, power and resource support for front-line workers.

Most of the project managers working in the automotive industry hold certain powers, such as budget allocation, personnel adjustment, technical program decision-making, etc., and most of them are engineers who have been working in the front line for a long time, so it is difficult to have a deep understanding of service awareness, compared with those who have been engaged in the service industry for a long time. They are more like a real party, and they tend to prefer a top-down approach to problem solving, giving orders and communicating with interested parties. Based on his long-term accumulated engineering experience, he habitually evaluates and makes decisions on technical issues across departments and fields. He has not transformed his engineer thinking into a manager's thinking, let alone a sense of service.

Building a car is a very complex behavior, and the ultimate solution is often the front-line engineers, who are mostly persistent and cute "science and technology men", and when the project manager communicates with them in a top-down way and points to their work, it often causes them extreme disgust. At the same time, even the project manager with rich engineering experience can not cover all aspects of automobile technology, so when the information without service consciousness begins to pass, front-line engineers often create some difficulties for the development of the project through their own professional ability, as a response to the arrogant project manager.

The so-called sense of service does not mean to please others with false flattery and flattery in order to obtain relevant benefits, but refers to the project manager's inner recognition and admiration for the work of front-line staff, willing to serve them, give them strong support, and help them solve various problems, so as to achieve a "win-win" result. Similarly, front-line engineers are more willing to be led in this way of service, so as to break out more powerful work energy and more actively promote the development of the project.

1.4. Sense of ownership

The sense of ownership refers to a person who basically meets the qualifications of a certain post, enters the post, performs and completes all the work given by the post according to the requirements of the post, and realizes the

social value of the individual. Here, more emphasis is placed on taking the initiative to take responsibility and have the courage to solve the attitude.

Car research and development involves a wide range of technical levels, in a long development cycle, large vehicle performance, small to the size of the bolt problems are numerous, and the consequences of any problem may be fatal. At the same time, due to the large number of participants in the project development, the involvement is too broad and directly derived a large "gray area". Therefore, whenever there is a problem, the phenomenon of "kicking the ball" can not be avoided.

As a project manager, in the face of problems, the first reaction should be to take the initiative, how to solve the problem, how to mobilize the resources at hand to overcome the difficulties as soon as possible, rather than to worry about whose responsibility and fault, escape, and passively face the difficulties (of course, after the successful delivery of the project, in the review of the project analysis, these need to be summarized one by one).

Having a sense of responsibility, actively seeking solutions, striving to move in the right direction, not afraid to bear any consequences, this is the "ownership" spirit that project managers need to have. Take care of the project as if it were your own child, and devote all your resources to the achievement of the project goals. Often such a project manager will have a high "popularity", everyone is willing to work with it, there is a strong sense of trust and dependence on it, and then work together to go forward to complete the project.

On the contrary, project managers who do not have a sense of "ownership" are often afraid of their hands, alienated and distrusted by people, and over time enter a vicious circle, unable to account for the top and bottom, and eventually lead to the tortuous project development process until failure.

1.5. Logical thinking ability

Logical thinking ability refers to the ability to think correctly and reasonably. That is, the ability to observe, compare, analyze, synthesize, abstract, summarize, judge and reason things, the ability to use scientific logical methods to accurately and methodically express their thinking processes. The logical thinking ability of the project manager is mainly reflected in two aspects: one is to face various problems; The second is the method and steps to solve the problem.

In the process of automobile development and production, there are often various types of problems, and mature project managers tend to manage problems with the four-quadrant principle when facing problems, that is, important urgent, urgent not important, important not urgent, not important not urgent.

After accurately dividing all kinds of problems, project managers need to evaluate the availability of resources, and then formulate detailed solution plans one by one, which is the demonstration of logical thinking ability.

At the same time, the significance of the existence of the project manager itself is to solve the problem. In the face of specific problems, the project manager must quickly find out the nature of the problem through clear logical thinking, and then accurately mobilize relevant resources to implement and solve the problem quickly and effectively. Although the research and development cycle of automobile projects is

long, the workload is huge, and many modules are often delivered in a very short time in order to smoothly pass each node. If the project manager does not have clear logical thinking and cannot make effective decisions and use reasonable resources to solve the problem in a short time, the direct result is the stagnation and delay of the project development, and gradually miss all nodes and fail to deliver according to the original plan, resulting in a huge failure at the strategic level of the company.

1.6. Leadership

Leadership refers to making full use of human and objective conditions in the jurisdiction to accomplish the required things at the minimum cost, so as to improve the efficiency of the entire team. Leadership is a fundamental category in the leadership system. It is the cohesive force and appeal of a leader's personality to a specific individual or organization under certain conditions based on the comprehensive effect of his personal qualities, and an important driving force to maintain the growth and sustainable development of the organization.

For the automobile industry, based on the organizational analysis of project matrix, project managers do not have a superior and subordinate relationship with each project member, but only an upstream and downstream relationship of information transmission. Therefore, project managers should not consider themselves as leaders and carry out top-down leadership. Therefore, project managers need to rely on charismatic leadership theory to carry out team building. By clearly describing the project prospect to the project members and connecting all the big and small things in the project, the project members have an accurate cognition of the project and are full of confidence in completing the project objectives. At the same time, project managers need to lead by example, by promoting their values in a variety of ways, and by demonstrating their courage and unwavering confidence in their prospects through dedication and unconventional behavior.

The development of an automobile project involves many functional departments, and the quality of project members is also uneven. Therefore, it is urgent for the project manager to actively treat each member with his strong leadership even in the absence of administrative jurisdiction. Fully combine service awareness and communication skills to carry out leadership activities. Ensure that each member can play a due role in the project development, and have a strong sense of trust in the project manager, willing to accept and implement the top-down information of the project manager, and then actively participate in the project development activities.

If the project manager does not have excellent leadership, it is difficult to bring the project members together to work together to promote the project development process, and the project team will be disorganized and fight on their own, which will eventually lead to a low team atmosphere, lax morale, and eventually to split.

1.7. Technical capability

The so-called technology refers to the method to solve the problem and the method principle, refers to the use of existing things to form new things, or change the function of existing things, the method of management, refers to the implementation of planning, organization, leadership, cooperation with others.

Automobile manufacturing industry has always been a technology-intensive industry, do not understand technology, talk about management is ultimately a handyman, only understand technology, not management often will have disastrous consequences for the project team. Therefore, an excellent project manager must be a versatile talent who understands technology and management.

Different automotive companies will adopt different project development models and organizational structures and matrices, and therefore have different definitions of project manager competencies. In the strong project matrix, the project manager is generally required to have a senior technical background and can directly make professional decisions on technical issues. In the weak project matrix, the project manager is more like a functional person who is simply responsible for the tracking of the progress of the vehicle project and the release of the related budget, more support rather than leadership. Therefore, many project managers at this stage are "partial", "understand technology, do not manage" or "understand management, do not technology".

If the first five points determine whether you work in project management or as a project manager, then the sixth point determines whether you have a chance to become a good project manager. Only by truly "understanding technology and managing" can we accurately identify various technical problems, reasonably use all kinds of resources to provide support, make correct decisions for project advancement, effectively exercise the power vested by the organization, and efficiently carry out project management activities.

2. Literature References

Wang Wei focuses on the application of project management knowledge system in the automotive development process, and describes the responsibility requirements of project managers in different modules in the automotive industry[1]; Kong Ming analyzed and improved the cost control methods of C Company's project management, and expounded the skills required by project managers in cost management[2]; Zhang Hongzhi optimized the vehicle design and development process, improved the vehicle design quality and development efficiency by solving related problems such as insufficient research in the early stage and poor cooperation between departments, and clearly defined the role and task of the vehicle project manager in the development process[3]; Wang Qingyan focuses on studying the impact of software development process on vehicle product development. Based on software-defined process, he improves project management efficiency from five aspects, such as requirements, responsibilities, paths, rules and resources, and puts forward new requirements for vehicle software project manager skills[4]. Hu Xiaoman analyzed the current situation and deficiency of project management in the process of new product development of Zhicheng automobile; Based on PMBOK system, the application level of project management is proposed to improve the skill requirements of vehicle project managers[5]; Tan Guowen combines the practical experience of project management for vehicle product development with ten knowledge areas of project management. Strive to establish an efficient and professional vehicle product development project management model, and

accurately define the responsibility requirements of project managers in different modules[6].

3. Summary

The project manager is the helm of the project. For the complex and low-profit manufacturing industry, the project manager is often under great pressure from the company, because the success or failure of a project is likely to directly determine the fate of the company. In many cases, power and obligation are not equal. An excellent project manager will always abandon many traditional concepts, break traditional cognition and rules, selflessly dedicate himself to the project, and finally complete the high-quality delivery of the project. This is the challenging and fascinating part of the post of project manager.

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