

Research into the Production Time of Film Project Management: Taking Small-budget Films in China as an Example

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Abstract

Presently, Chinese film has become industrialized while the production management system still being imperfect. Small-budget films account for the largest proportion of Chinese film output and the problems in production management, influence the development of the entire cultural industry. Among the problem, the waste of time caused by production management emerges endlessly. In this article, in-depth interviews with nine veterans in the industry and multiple case studies using six small-cost film crews for practical observations are combined. The time control problem in small-cost films is explained from the perspective of project time elements for the first time. Two phases of the preparatory period and the shooting period in the production are studied, analyzed and summarized by virtue of the Gantt Chart and the Critical Path Mapping to expand the theoretical framework of project time management in this field.

Keywords: Film Project, Time of Production, Small-budget Films in China

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การวิจัยเรื่องเวลาการผลิตของการบริหารจัดการโครงการ ภาพยนตร์: ตัวอย่างของภาพยนตร์ทุนสร้างต่ำในประเทศจีน

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บทคัดย่อ

ปัจจุบัน ภาพยนตร์ในประเทศจีนกลายมาเป็นการผลิตในเชิงอุตสาหกรรม ในขณะที่ระบบการบริหารจัดการการผลิตยังไม่สมบูรณ์ ภาพยนตร์ทุนสร้างต่ำคิดเป็นสัดส่วนสูงสุดของการผลิตภาพยนตร์ของจีน และปัญหาของการบริหารจัดการการผลิต มีอิทธิพลต่อการพัฒนาอุตสาหกรรมที่เน้นวัฒนธรรมทั้งหมด ปัญหาหนึ่งที่เกิดขึ้นอย่างไม่มีที่สิ้นสุด คือ การเสียเวลาจากการบริหารจัดการการผลิต บทความนี้ประกอบด้วยบทสัมภาษณ์เชิงลึกกับผู้ที่คร่ำหวอดในอุตสาหกรรมภาพยนตร์จำนวนเก้าคน และกรณีศึกษาหลายกรณีที่ใช้ทีมงานในกองถ่ายภาพยนตร์ทุนสร้างต่ำ จำนวนหกคน สำหรับการสังเกตการณ์เชิงปฏิบัติ ปัญหาของการควบคุมเวลาในภาพยนตร์งบประมาณต่ำ อธิบายได้จากมุมมองขององค์ประกอบเวลาของโครงการเป็นครั้งแรก บทความนี้ทำการศึกษา วิเคราะห์ และสรุปขั้นตอนสองขั้นตอนของช่วงเวลาการเตรียมตัวและการถ่ายทำในการผลิตโดยใช้แผนภูมิแกนต์ และการจัดทำแผนที่เส้นทางวิกฤต เพื่อขยายกรอบเชิงทฤษฎีของการบริหารจัดการเวลาของโครงการในสาขา

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Introduction

At present, the market for small-budget films in China continues to expand and production proceeds to soar (Nie & Du, 2017). But at the same time, there are also irregularities even confusion in production management, which result in a deterioration of the artistic and commercial quality of the films, increase in economic costs, and waste of time resources. More seriously, some films die because of the chaotic management of the crew. Therefore, small-budget films are also a high-risk industry. It can be seen that there is no relatively mature and perfect management model in the field so far. Everyone in the actual management process is led by their intuition. As for theoretical research, there is not yet a systematic study into production management issues of small-budget films projects, which is inconsistent with the expanding market share of the industry and the rising film production rates.

There are many uncertain factors in the film production management process, and these uncertain factors will hinder the managers from completing the target tasks according to the preset plan. Because the funds invested in small-budget films are limited, the process of all links is relatively simplified, which increases the uncontrollable probability of grasping time. At present, most of small-budget films in China are found to be overdue and overtime, which causes the entire project to be aborted (Sina Finance, 2019 July 5). In the actual filming process, most managers also advance cautiously and manage projects by their own subjective feelings. When various uncertain factors become real problems, many managers are often unable to cope, which results in failure to complete the target tasks on time.

The research purposes of this article is to enable the film production management team or the small-budget film practitioners to have a deeper understanding of the factors affecting the film production time during the production stage and grasp the main points of each factor so as to make the production managers' behaviors, methods, choices, etc. improve gradually in the process and thus effectively reducing the waste of time that occurs during the production stage. Moreover, this article can also be applied into the production management of television and movies to a certain extent.

Unless specified, the small-budget films mentioned in the paper refer to "small-budget films in China", and the currency mentioned in the paper is "RMB".

The definition of “small-budget film” is measured by the investment costs of the film, which is not uniform in the industry and academia. The “small-budget films” in this article is defined as “a film with an investment of less than 10 million” based on the statements of the academic authority and the mainstream of the industry (Zheng, 2009).

Literature Review

The time, quality, and cost of the project are “the main determinants of the success of the project.” This goal has never changed over the years (Meredith & Mantel, 2010). One of the key factors of the project is time management. Providing the project manager does not control over time very well, accordingly, the manager is unable to have good control over the entire project (Kerzner, 2013). The project time management process includes planning progress, defining activities, arranging activity sequences, estimating activity resources, formulating scheduled plans, and controlling progress (PMI, 2013). The mapping of the project schedule is as important as the schedule. This can help to clearly track the target and inform the critical points of the target task in advance. It is their foresight of the whole project that can help to discover the dynamic changes and reduce risks during the project implementation (Athayde, Elswick, Lombard & Crawford, 2013). In the 1950s, people began to use bar charts to develop schedules for project time control, and “Gantt Chart” and “Critical Path Method (CPM)” came into being one after another (Lewis, 2011). There are many paths from the beginning to the end of the project in terms of time control. The longest one is called the “critical path”. Those activities with the smallest time difference are found out. The earliest end time is subtracted from the latest end time of each activity to find the activities with the minimum value, all of which are activities on the critical path (Clements & Gido, 2009). Effective schedule control is the key to the factor “time” in the process of project management, which means achieving the desired work goals within a predetermined time (Chen & Yang, 2013). Reasonable arrangement of time schedules can help to make every link in the project work clear and definite, and all aspects of resource allocation can be best optimized accordingly (Li & Zhang, 2017). It not only enables us to maximize the use of resources, but also enhance the overall efficiency of the team, while also increase the success rate of the project (Fan & Yang, 2014).

The essence of film production management is project management. Horizontal studies into time, quality, cost and other factors of project management are conducted. However, the film production management in China is mainly longitudinally studied based on various phases of film production (Song, 2009). The production time control management of film projects is to optimize the allocation of manpower, material resources, financial resources and monitor their progress. Deviation from the plan should be corrected in time to ensure that the project can be completed according to the planned time (Gong, 2007). It is the key to the time control in film production management to effectively discover and overcome “the time grabber”. The management process also reflects the interplay between producer and director, and it is not desirable to solely emphasize rational management or sensible creation. Therefore, it is the core focus of time control to find a reasonable and effective balance in film production management (Liu, 2012).

Methodology

In this study, practical observations and in-depth interviews (Table 1) are applied to collect data for qualitative research analysis.

Table 1: Research Sample

Methods Objects	Practical Investigation	In-depth Interviews
A	Film (Youth hey up)	Mr. Zhou Yi (scene filmmaker, producer) Interview time:69 minutes
B	Film (Crazy chef)	Mrs. Zhou Yulan (producer) Interview time:69 minutes
C	Film (Kiss kiss da)	Mr. WuWeidong (coordination filmmaker, unit production manager) Interview time:42 minutes
D	Film (Mama’s taste)	Mr. Lei Qing (life scene filmmaker) Interview time:61 minutes
E	Film (I am a good therapist for love)	Mr. Jin Shuang (scene filmmaker) Interview time:43 minutes

Table 1: Research Sample (cont.)

Methods Objects	Practical Investigation	In-depth Interviews
F	Film (The goddess encountered the paparazzi)	Mr. Ma Yong (director) Interview time:61 minutes
G		Mr. Ma Yi (unit production manager) Interview time:61 minutes
H		Mr. Zhou Dayan (unit production manager) Interview time:90 minutes
I		Mr. Yuan Ailin (planner) Interview time:45 minutes

Source: Author's analysis

1. In the cases of six small-budget film crews, the researchers have entered and worked in the crews and conducted in-depth observation and research on the issues of production time in the crews to form a multi-case study based on replication logic. Multi-case studies are supplemented by iterations of things in different environments to make research conclusions more stable and reliable and more general (Eisenhardt & Graebner, 2007).

2. The researcher has conducted one-on-one in-depth interviews with veterans of the nine small-budget film production management teams. The issues of production time in the film crew have hidden features, and the experienced small-budget film crews have an intuitive and visual feeling about the hidden features of the industry. So the information obtained from these interviews are very suitable for the study in this paper. In-depth interviews help to trigger interviewees to share relevant events, their experience of successes and failures, and enable interviewees and researchers to understand the researched questions (Crabtree & Miller, 1999). The researcher in this article has conducted face-to-face, in-depth and long-term interviews with people who have years of experience in film production management and artistic creation in small-budget film production. The interview is carried out around the research content

in this article by virtue of semi-structured and open-ended questioning methods. The respondent has been invited to discuss topics around the following points. 1. In the production process of small-budget films, which factors of time can be reduced; 2. What the role of time is in the production of the entire film; 3. How the production time of small-budget films is related to the film quality and the shooting cost; 4. How to balance the relationship between them and what their respective importance is. The researcher also needs to carefully watch what the interviewee is doing and saying during the interview process, and perform on-the-spot recording or brain memory on the tone, facial expression, expressions in their eyes, and speech rhythm of the interviewee, so as to summarize deeper and more implicit implication with combining the text content.

Results

Different levels of overdue conditions exist in the six small-budget film crews observed in this study. (Table 2) The time control mode for film production can be roughly divided into two stages, the preproduction period and the filming period.

Table 2: Time-limit Exceeding of Six Small-budget Film Camera Crews

Film Name	Planning / Actual Time for Preparation	Time-limit Exceeding of Preparation	Planning / Actual Shooting time	Time-limit Exceeding of Shooting
A. Youth hey up	30 day / 33 day	3 day	21 day / 21 day	no
B. Crazy chef	30 day / 37 day	7 day	18 day / 19 day	1 day
C. Kiss kiss da	21 day / 25 day	4 day	18 day / 15 day	no
D. Mama's taste	12 day / 13 day	1 day	14 day / 13 day	no
E. I am a good therapist for love	30 day / 35 day	5 day	18 day / 20 day	2 day
F. The goddess encountered the paparazzi	30 day / 32 day	2 day	25 day / 21 day	no

Source: Author's analysis

Preparatory Period

During the preparatory period, each department completes their own work tasks according to the time plan after the production manager, the director and the producer jointly work out the time plan (Honthaner, 2010). The director, producer, and production manager control the entire time flow. The number of people involved in this phase is small, mainly involving the heads of various departments, and this period is easier to manage when compared to the more complicated filming period. However, as the starting filming date progresses, the number of personnel involved will gradually increase. All the cast members must arrive the day before the start-up, including the production team and all field workers, but some actors will follow their schedule and filming time to arrange their work. During this period, the director needs to have a clear idea of the overall filming plan and artistic conception, but also constantly improve and revise the literary script, and these two are mutually restrained and influenced. Any flaw in the link will increase the risk of overtime; thus, the director is required to prepare for many corresponding jobs before the preparation to ensure the integrity and controllability of the time.

The producers represent the interests of the investors. Usually, the producers are more cautious about the invested money. However, such cautiousness must be controlled, otherwise it will affect the progress of the previous preparations. Reasonable and orderly capital injection requires the producers to have a certain degree of film and television management expertise and keen judgment. At present, most of the producers of small-budget film projects in China are laymen and non-professionals. They often use the habitual pattern of traditional industries to deal with the production of films. As to their working mode, they often have certain control over capital inflows. Occasionally, there are some delays which are conducive to cost savings, but the producers often do not understand the attributes and characteristics of film production, which affects the progress control during the preparatory period. Of course, mutual trust between the producer and the artistic creation team still acts in this process.

The producer is the boss or the investor. The production manager is equivalent to the general manager requested by the boss. Specific execution and management work is completed by the production manager, so the production manager is required to be quite familiar with each business link. More importantly, the production manager must have strong coordination capability. In many cases, the communication between

the departments is coordinated by the production manager. It is also the production manager who represents the crew to sign the employment contract. Slow progress is directly related to the coordination ability of the production manager, because various tasks in the preparatory period go hand in hand. If the work of any department is slightly delayed, the total time will be delayed. In the film crew are people of various trades. How to manage the work of director, the drivers and the field workers needs the production managers to coordinate one by one in order to ensure the smooth progress of the plan. The production manager has enormous work tasks every day, which requires a complete and clear arrangement of the implementation plan in his mind, otherwise the crew cannot advance the work. It is assumed that the preparatory period is 30 days and is roughly divided into four stages: the day before the establishment of the crew, the tenth day in the preparatory period, the twentieth day in the preparatory period, and two days before the start-up. The directors need to arrange specific tasks according to the priorities of the tasks during each stage. Therefore, the production manager can effectively control the progress of the preparatory period. Of course, if the planning time of the preparatory period is longer or shorter than 30 days, specific adjustments can be made based on the proportion of the progress. (Figure 1)

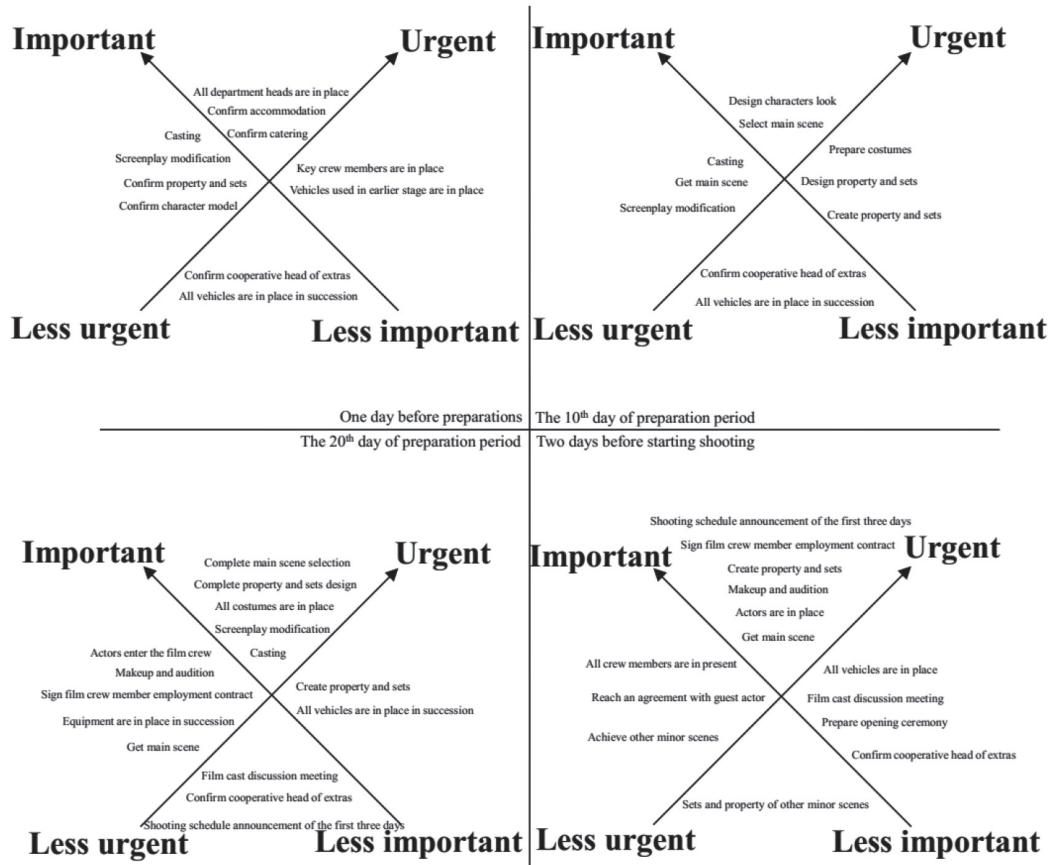


Figure 1: Dual-index Evaluation Chart of Schedule Control in Preparation Period

Before starting filming, the influence of the individual factors of the actors on the progress cannot be ignored. It does not need to worry about the guest actors and the extras too much, because the casting director can depend on the lead of the extra to seek out them. However, the leading actors and the supporting roles are related to the quality or success of the film, so early selection is very crucial. Sometimes the remuneration or the schedule may delay the casting of a certain role. Usually, well-known actors ask for relatively high remuneration and their schedules are always tight. Small-budget film productions will not take these kind of actors into account. As for actors who can accept the remuneration provided by the small-budget films and have tight schedules, they often have more scripts to select. Therefore, they will have priority to choose better scripts or roles with higher remuneration. Actors' asking for higher remuneration while being able to guarantee the filming time indicates that they are satisfied with the remuneration,

the script or the role. Usually, actors with little shooting experience or school students always ask for low remuneration but can guarantee the filming time, because they are eager to get a chance to play the leading role. Therefore, they will fully cooperate in price and time, and some even participate in filming for no remuneration. In these four cases, the first and fourth cases usually do not affect the progress of the preparatory period, while in the second and third cases, the actors need to communicate and negotiate with the film production manager and the casting director. In the end, both sides can reach a consensus on the schedule and the remuneration. During this stage, the weakness for the film crew is limited time. The sooner the actor is determined, the better the work will be carried out, because if the actors get the script sooner, they will have more time to study the script and characters. Providing the plots and the characters are far from our real life, and the actors have little performance experience, the actors will be badly needed to enter the crew earlier for training and experience. Thus, it is more passive to choose actors when the start-up is approaching. Finally, that the start-up is delayed because the actors are not determined is common.

In a sense, the director and the production manager are both managing time in the preparatory period, but the speed of the progress depends on the overall strength of the crew. The preparatory period begins at the filming. On the one hand, everyone still maintains a sense of freshness. On the other hand, everyone is more cautious before signing the contract, and they are afraid of being replaced by the producer due to some mistakes. Therefore, during the preparatory period, the heads of various departments have a clear understanding of their work, and they can basically complete their work tasks on time. The producers, directors, and production managers jointly control the entire progress, and formulate specific time plan for each link and know everything very well. If it is assumed that the planned preparatory period for the crew is 30 days, the work of each link can be summarized by Gantt chart. This time ratio can also be used as a reference for the preparatory period longer or shorter than 30 days, and then according to the actual situation of the crew, the preparatory period can be adjusted so that time costs can be saved to a large extent. (Figure 2)

Filming Period

Usually coordination is a global “controller”. The control over the progress of the filming period is the most complicated. Compared with the preparatory period, the working environment during the filming period is fluid, so the existing variables are also quite large (Honthaner, 2010). The main manager who performs management control during the filming period is the production manager or producer. The director mainly focuses on artistic creation. At this time, the coordinator is also very important, because the daily filming plan is formulated by the coordinator. When making a daily filming plan, the coordinator will take all the possible variables into account. If there is a slight difference, the plan of a whole day may be cancelled, and there will be a series of chain reactions that will affect the subsequent filming plan. Therefore, the key person for time control in the filming period is the coordinator.

Among the many uncontrollable factors, the only factor that is not affected by humans is the weather. Usually the filming plan of a whole day is arranged at least one day in advance or a few days in advance, but the weather conditions on the filming day cannot be controlled. The weather forecast can only be used as a reference, and once the weather changes suddenly, there is almost no way to adjust the filming and time will be wasted. However, for an experienced coordinator, the risk of weather factors can be minimized. Under the premise that the scene can be controlled, the exterior will be protected first, and then the interior scene will be taken into consideration. When planning the exterior scene, a set of non-exterior alternatives can also be retained. According to the actual situation in the local area, the coordinator can adjust the proportion of the possibility of implementing alternatives and preferred schemes. For example, in the summer in Yunnan, China or in the rainy season in Thailand, the variability of the weather is relatively large, and the coordinator needs to increase the possibility of implementing alternatives when planning. In short, experienced coordinators or production managers can largely avoid the risks brought by the weather, but the risk of weather factors cannot be completely circumvented. As a saying goes, “Man proposes and God disposes”.

Shooting scenes are an important part of filming. The main filming scene must be determined before starting filming. And non-main scenes also need to be determined before starting filming. Once filming starts, all the rhythms should be determined according

to the shooting cycle. It will be passive at the time, because the director and the artist pay more attention to two aspects of the best scene: one is whether the scene can be taken down; the other is how much it costs to get the scene, if the scene can be taken down, and whether the price paid for the scene is acceptable or not. If any of the conditions cannot be met, it is needed to find a new scene. The crew is at a disadvantage if they need to seek out a new scene or take down the scene during the shooting process, because the whole shooting time is constantly going on, and it is the crew rather than the other party that is anxious. Some scenes are very popular among the crews and both know the principle very well. Thus, it is difficult for the crew to successfully take down the scene. Therefore, the work of setting the scene should be completed in the preparatory period if possible, so that the crew can have more initiative. In the process of setting the scene, it needs more time to take down the best scene in the director's mind. For example, that the scene is far from the crew's residence also needs to be coordinated according to the actual situation of the crew. Even if the scene is set, there may be unexpected risks, for example, sudden weather changes in the exterior scene or interference from third parties may make the shooting impossible, etc. After these obstacles are removed, it needs to consider whether the crew continues to use the scene to shoot and what the price of continuing to use this scene is. All these need to be considered because these problems will result in a waste of time to some extent. Therefore, the relevant personnel of the crew should be familiar with the flow framework of using the scenes. (Figure 3) According to the actual situation of the crew, the risk of wasting time can be minimized by effective control and management allocation of time by virtue of the corresponding plan.

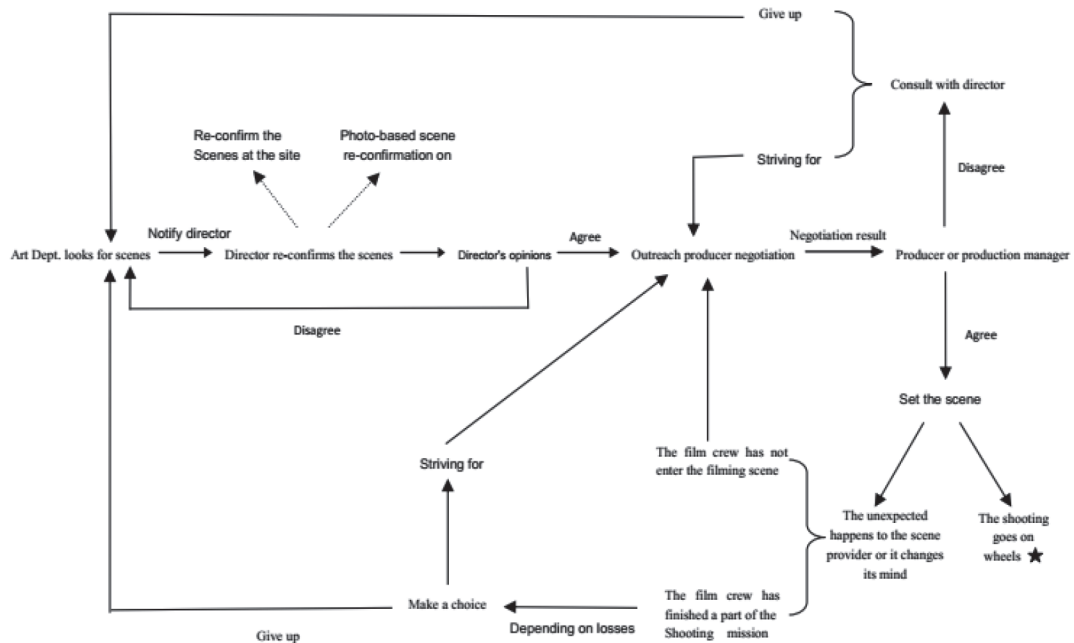


Figure 3: Flow Frame for Use of Scene

One of the greatest and most obvious factors causing man-made delays is the actors. In the small-budget film crew, there will be more or less the phenomenon of actors' putting on airs:

1. being late for filming; According to the shooting plan of the day, the whole crew should follow the planned schedule to get up, dine, and start to work on time. The shooting work of the crew on each day is pressing, but there are often actors who do not follow this time-planning and will always be late for everything. In the crew, this happens almost exclusively with the actors, causing each link related to the actors to be delayed. One is makeup. Due to the delay made by the actors, it is impossible for the makeup artist to complete the makeup work of each actor in the order planned. Consequently, it is not possible for the makeup artist to arrive at the shooting scene on time, which also brings troubles to the makeup and refining the makeup work at the filming site. Secondly, the delay may influence the work of the costume designer, because their work procedure is same as the makeup procedure. Thirdly, there may be troubles in the working lunch. The working lunch of the crew is usually ordered by the line producer according to the plan. Once ordered, the working lunch will be delivered

to the crew at the agreed time. Because the lunch time is fixed, the work lunch will be cancelled if someone is late for it. The delay of the actors will not only affect the dining of the actor, but also affect the dining of the makeup artists, costume designer and other personnel. The most important thing is that when everything on the filming site is all ready, the delay caused by the actors at this time will result in incalculable loss.

2. The actors' character and temperament will also affect the shooting progress. During the shooting process, it is common that a NG (not good) shot fails to pass after many times of filming. The actor or the opponent actor may lead to that failure. Probably, the costume, makeup, lighting, photography, props, etc., can also result in such failure. Whatever the reason is, a responsible director will maximize the perfection of art without easily letting every shot go. Other personnel will comply with the arrangement even being dissatisfied. However, some actors may have an emotional outburst and strike on the filming site. At this time, the casting director or production manager will act as a guide to try appease the actor. During this period, the work of all the personnel is stagnant. If the coordination fails, the play will not be filmed. It is typical loss in time progress caused by man-made time waste. This is a tip of the iceberg. Sometimes, the actors with bad temper may blame the crew and the personnel if something unpleasant happens. This will seriously affect the normal progress of the crew.

3. Choosy actors; Some actors may have special requirements for their own lives. Some may complain that food is distasteful and ask the crew to cook for them separately, and the crew will take much time to prepare for the actors. Sometimes, the actors are not willing to sit in a car with others and ask to ride in a car alone. It is even more ridiculous to specify the brand and model of the car. It often happens that the personnel fail to meet the requirements of the actors after searching and endeavors. Sometimes, the actors may complain about tiredness after filming for a long time on the filming site and ask for a break, or put forward specific requirements for the daily shooting time. From a time perspective, this series of requirements seriously affects the overall time progress and increase the workload and work intensity of the personnel.

4. Being apart and above; Some actors in the crew are very aloof and proud and rarely communicate with the personnel and wait for the personnel to communicate with them about everything. They are likely to shirk responsibility when making mistakes. Sometimes, such incidents may lead to that the actor not finishing filming on time.

5. Playing roles in different films at the same time; Some actors always play roles in different films at the same time. As a result, repeated time adjustments make the crew unable to control the filming time. For example, if two crews are in different cities, one in Beijing and one in Bangkok large variables do exist due to actors' going there and back between two cities. Accordingly, the actor cannot come to the filming site for shooting according to the agreed time. Once such a situation occurs, the time loss of the crew is also huge. Of course, in a narrow sense, playing roles in different films at the same time cannot be called "putting on airs" because it does not involve personality ethics, but in a broad sense, playing roles in different films at the same time can be called "putting on airs", because this special behavior is different from that of other actors indeed brings inconvenience for the crew and increases the risk of wasting time.

The above phenomena or behaviors are defined as actors' putting on airs. Usually the actors who put on airs are suspended in midair while A-lister is highly cultured and steeped in propriety and their requirements are always explained in the contract in advance. Unknown actors do not have the qualification to "putting on airs". And there are also other types of actors who were born with good family conditions and are accustomed to being pampered, or thinks they are influential socially. These actors are usually young, but selfish in life and have no consideration for others. Naturally, they may bring troubles to the crew. In general, the investment in small-budget films is not large. There is a big gap between the management of personnel and professional level of small-budget films and those of the large-budget films. It is precisely because of certain problems in their own crew that has increased the odds of actor's putting on airs. At this level, the crew should make a certain review and pay more attention to improving their management level and professional level. The delay phenomenon caused by the actors' putting on airs exists in all the six crew cases observed in this study.

The extras are the least valued group in the crew because this group is large in number, get low income and do not have professional skills. If a scene involves dozens of extras or more, their poor management will bring big challenges to control the schedule. Such a large number of extras required by the drama group are usually contacted through the head of extras and brought to the filming scene at the agreed time and place. The two parties agree on the shooting time, usually eight to ten hours a day. In addition to the salary, the crew also needs to provide working lunch at the meal time. The crew

firstly needs to inform the head of extras about the time to start work, the age and gender of the extras needed in the film, but in many cases the extras that are recruited by the head have a discrepancy with the situation agreed in advance. If the crew needs the extras urgently, while the extras image under the shot is quite different from the frame requested by the director, it will be troublesome to make adjustment at this time. How to call the extras together in a short time will become a serious challenge for the crew. Time goes on. The arrangement and preparation of a large scene is time-consuming and labor-intensive. No filming may cause huge loss to the crew. Providing the problem is solved on the site, half a day may be wasted. There are still more deadly troubles. Some extras in the play want to drop out the filming halfway or they do not want to continue the filming the next day. This situation may lead to the lack of connection between the shots taken before and after. Effective communication between personnel and the extras is particularly important, but in the process, the crew has to stop to wait. If the communication is unsuccessful, there are only two solutions: one is to remove the previous frames and re-shoot. This may result in a certain amount of time wastage; another solution is to take out the relevant frames when editing the film, which may cause a good picture to be removed. Usually it needs the director as the controller of the whole situation to make a decision when this happens. The two methods are combined to deal with this situation. The ratio of applying the two methods is determined according to the specific situation. However, the director still wants to guarantee the quality of the frame first. The extras are not only low-paid, but also are impossible to make the so-called artistic achievements. Many people come to be the extras just for fun, experience, the feeling of freshness and satisfying curiosity. As soon as they get the filming experience, they may not want to continue playing any more. At this time, if the crew despises them or is indifferent to them it may increase their chances of interrupting the filming. The extras that seem to be undervalued play a decisive role in the control over the crew's shooting period. Although the extras may not lead to the crew's losing control over schedule as other factors, they still can cause serious waste of time once the above situation happens in the crew.

During the filming period, the work of various departments are linked and when any link cannot keep up with the overall process it may delay the whole schedule. In addition to the big factors of weather, scenes, and actors, the control of other factors should be

paid attention to, for example: props and scenes must be well prepared before the filming and meet the director's requirements; the costumes and apparel modeling in consecutive plays cannot result in goofs. For instance, the costume in the film was muddy yesterday, while the play to be filmed today requires the costume to be clean, then the costume designer must deal with the costume; also, the actor's make-up style should be consistent with and conform to the character image. The coordinator shall take each objective link in the announcement plan into consideration and the vehicles shall be on time and in place during the delivery process; the on-site producer shall guarantee the fluency of on-site scheduling and controlling, while the line producer shall provide comfortable or reasonable logistical support for everyone to avoid a waste of time and so on. On the contrary, it is the least possible for the more professional photography, recording, and lighting departments to cause delay of filming in addition to equipment failure and these three departments are also tools to directly reflect the art of the director. In general, the time control over the shooting period is closely related to the quality and the professional skills of the entire team. The risk of time control will be reduced with the comprehensive capability improved.

The crew makes every minute and second count every day during the filming period, and even the daily working hours are arranged to the limit. According to the work experience of peers, friends, and classmates in the small-budget film crews, and the daily work of the six cases in this study, their working hours are about 15 hours a day. However, this does not mean that all departments and personnel all keep working. The remaining nine hours for rest include sleep time and private time. This time proportion is based on normal work schedules excluding night scenes or situations in which the crew rushes for progress. Based on the fifteen hours of daily work, the "Critical Path Map of Time Control over Daily Workflow during the Filming Period" is designed according to the main daily work links (Figure 4) so as to help improve the productivity of daily shooting, draw a clear distinction between the primary and the secondary during the production time and more effectively control over time.

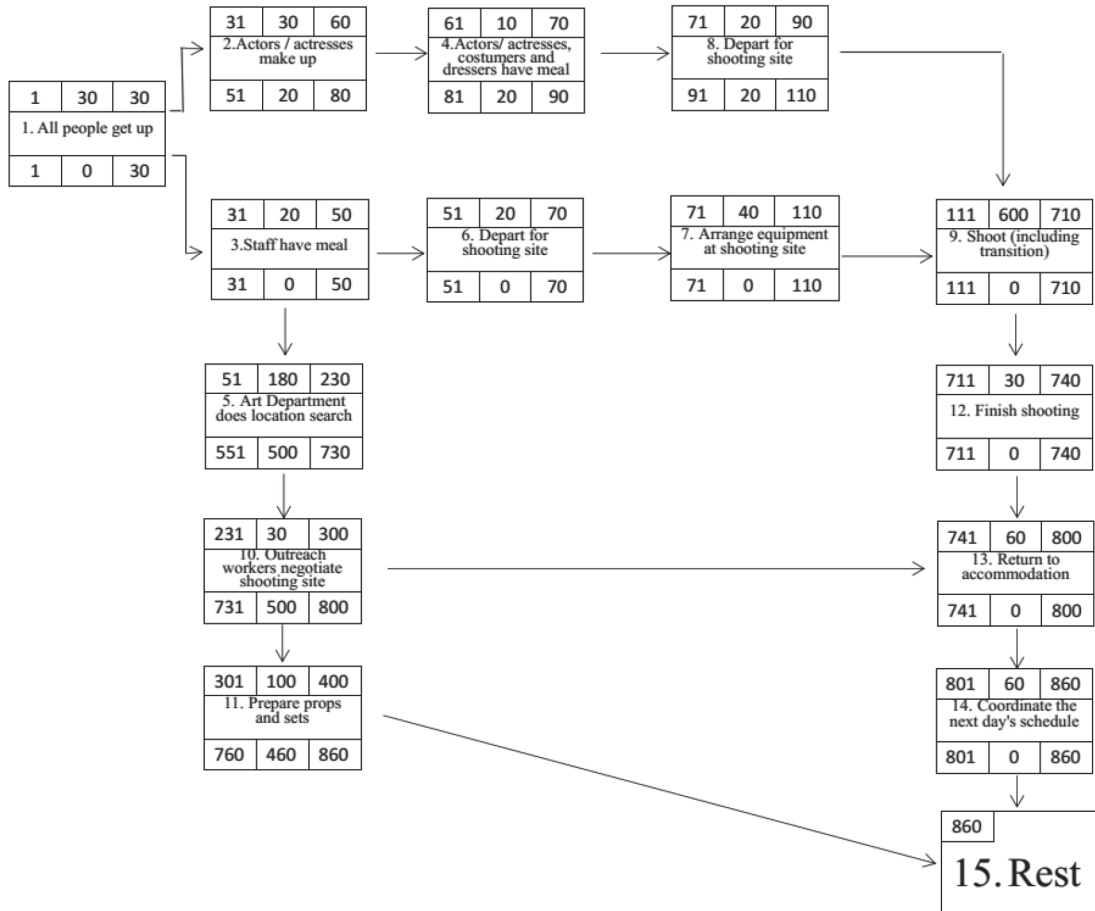


Figure 4: Critical Path Map of Time Control over Daily Workflow during the Filming Period

The block in the figure represents one task link. The text in the middle of the block represents the content of the link. The upper left digit represents the earliest start time; the upper right digit represents the earliest finish time; the upper middle digit represents the duration; and the lower left digit represents the latest start time. The lower right digit represents the latest finish time; the lower middle digit represents the difference between the earliest start and finish time and the latest start and finish time. The specific start and finish time of the filming depends on the filming conditions of the previous day. For example, if the work is completed before 10:00 pm the previous night, the working personnel and actors are required to get up at 7:00 the next day. If the filming work is completed until midnight, the work may begin at noon the next day. Under normal circumstances,

the get-up is at 6 to 7 o'clock in the morning and the time-out is at 9 to 10 in the evening. It needs half an hour to have all get up and the breakfast time may last for twenty minutes. Then the crew personnel and actors leave to the film scene. The process may take about 20 minutes, depending on the actual situation. Usually, the scene of small-budget films is not far from the residents. After reaching the filming scene, each department prepares the work and arranges the scene. The actors first need to have the make-up artists make up themselves after getting up in the morning. Usually, it takes half an hour for two makeup artists to complete the makeup for all the actors, and the time needed varies depending on the number of actors and the complex makeup requirements of the day. After finishing the makeup and dining, personnel involved leave for the film scene. Some actors can have the make-up later after arriving at the filming scene if they do not have part in the first plays in the day, so the overall time is more abundant. After the arrangement of the scene is finished and the actors are in place, the filming will be started. According to the specific progress of the shooting, the director decides when to transfer to other scenes and eat. As to the issue of working lunch, the on-site producer always closely follows the director's rhythm and communicates with the life producers at the appropriate time. Then the food will be delivered to the scene on time. One problem in the connection of this link may cause the crew to wait for food, which will eventually delay the shooting progress on the day. After completing the shooting plan for the day, the crew returns to their place of residence. During this period, they will be waiting for the announcement on the next day. All departments should be aware of the work on the next day and well prepare for it in advance. For example, the photographer should consider how to appropriately film and set the camera stand tomorrow; the actor should be familiar with the lines of tomorrow and the performance of the characters. After the above work is completed, personnel involved in tomorrow. Shooting can have a rest and are free to dominate it. After breakfast, the outreach and the art designers begin to find the scene. After the completion, the personnel of the two departments return to the place of residence and report the situation to the director. The director comprehensively analyzes various factors and formulates the plan for the next day. After the scene is determined, corresponding props and landscapes will be made according to other specific conditions of the scene. The record can be seen from the entire path map. The digits below the paths 1, 3, 6, 7, 9, 12, 13, 14, 15 are all displayed as "0", indicating that there

is no time difference. Therefore, this path is called “critical path” and the time labeled on this critical path must be strictly controlled. Paths 1, 2, 4, 8, and 9 indicate the flow of that the actors get up and then start shooting, and 20 minutes during this process is flexible for control. Five hundred minutes on the paths 1, 3, 5, 10, and 13 are free to take control of. In fact, it also takes a lot of time for the outreach and the art designers to find and negotiate on scenes. The time displayed on the path map means that the tasks on the day must be completed during the specified time, while the completion of this task is based on the preparation and payment of a large amount of time before. It is not possible to find a suitable scene and take down the right to use it immediately, so most of their work is done in 500 minutes in a day. The time of paths 1, 3, 5, 10, 11, and 15 is the most flexible. According to the final set scene and the coordinated announcement, the scene and the props needed on the second day should be guaranteed and prepared. This may take about one hour to complete. Like the work of the outreach and the art designers, sufficient work must be done in advance, and then the remaining time can be controlled freely. Sometimes the coordinator may bring out an announcement for more than one day, but this can only be used as a reference. Most of the announcements will be adjusted to a certain extent according to the actual situation, and sometimes the announcement is completely overturned, so the most reliable announcement is that brought out in the evening for the next day. The daily work flow during the filming period is to strictly control the “critical path” first, and other paths can be adjusted according to the current priorities so as to ensure the control over the overall time period.

Conclusion

The time control over the preparatory period of the small-budget film project is relatively flexible and is mainly in the charge of the director. Producers can have different degrees of impact on capital injection, and the professionalism of producers has a great impact on the judgment of capital injection. The production director plays a particularly important role in the efficient coordination between various departments which controls and promotes the shooting progress. Selecting actors is full of risks and the start-up of shooting is probably affected by the personal factors of the actors. The progress of the preparatory period depends on the comprehensive strength of the team. During this period, the crew members of each department have positive attitude, are in high spirits and the number

of team members is small. The director, producer and actors are the key factors for how to effectively control the time. The time control over the filming period is relatively complicated, and the coordinator plays a greater role in this period. Firstly, the weather variation has artificially uncontrollable characteristics. At this time, the decision-making and judgment of the coordinator are particularly important; the selection and determination of the scenes have a certain degree of uncontrollable factors, and the emerging problems usually have sudden characteristics. It is difficult to control the sudden problems; the artificial time delay is mainly caused by the actors' personal reasons; and it is more difficult for the film crew to control the time when the extras participate in shooting big scenes, and the time loss caused by the sudden problem is also large. The key to this is the management, organization and coordination of the extras by their head. During the filming period, the work fluency of other departments affects the control of time to a certain extent. In contrast, the work of the technical department is more stable. The film crew draws the "critical path map" for the intraday work according to the daily shooting plan, which can help to control the time more efficiently.

Research Significance

Theoretical significance: There are not many studies on the issue of time management in the process of film production management. Therefore, this study makes up for the lack of research in this field. Moreover, with small-cost movies as the research object, the time problem in production management is studied, and there is great innovation in the type of research objects in this field.

Realistic significance: In the production process of film, time and production cost, film quality are mutually influential and inseparable triangle relationship. Through the exploration of this research, a set of relatives are summarized for film production managers and practitioners all over the world. The time control law of the system can influence the behavior and choice of managers subtly, thus improving the quality of the film and reducing the production cost to a certain extent. In addition, this study has some reference to other types of movies, TV series, variety shows, etc. in the world.

Suggestions and Deficiencies

This study is an exploratory study in which “analytical induction” from cases to theory (Yin, 2002) and micro in-depth investigations into the production of small budget films are conducted. Future researchers can further investigate and collect statistics through samples, verify the conclusions and models of this study.

The production management of the film belongs to the category of “project management”. It has the characteristics of uncertainty. The specific situation of each film crew is very different, mainly reflected in the composition of personnel and funds, the difficulty of shooting, etc. Therefore, Time control of production cannot form a unified standard. This study explores the control of production time and studies the rules of its management. However, it cannot be applied to every film accurately. Under the guidance of this research, managers can use it reasonably according to the situation of the crew.

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