DOI NUMBER: 10.19255/JMPM01810



# Post-Project Appraisals

## to improve capital investment performance of Chinese State-Owned Enterprises

***Christina K Yip, Pei H Seow***
*Independent Project Analysis Inc.*

***William A Young***
*Swinburne University of Technology*

**Keywords**: post-project appraisal, capital effectiveness, lessons learnt, SOE reform

**Abstract:** Under current Chinese Government reforms, Chinese State-Owned Enterprises (SOEs) will be under closer scrutiny on asset management, capital investment efficiency and competitiveness. The use of post-project appraisals to understand project performance and root causes of outcomes is not new to Chinese SOEs; however, effectively harnessing the benefits of post-project appraisals has been challenging for these enterprises. The objective of this paper is to discuss the obstacles Chinese SOEs face, which stem mainly from organisational and cultural factors. Most of the challenges identified can be addressed if there is a strong commitment from the senior executive team to use project appraisals as a basis for continued improvement.

### 1. INTRODUCTION

The current Chinese administration is continuing its drive to reform Chinese SOEs to improve efficiency and competitiveness, with the goal to enhance state asset management and prevent the erosion of asset value. Such reforms will require enterprises to consider multiple ways to improve capital competitiveness. Capital competiveness, from the perspective of the owner, can be broadly defined as the ability to develop an asset at lower capital and faster entry to market than one's competitors for the same functionality, with no compromise on safety and asset quality.

An essential approach to improving capital competitiveness is capturing learnings from capital investments to feed back into the project system. This forms the basis of continuous improvement, to enhance the system's capability in asset creation and management. This review approach, however, has been particularly challenging for the Chinese SOEs, compared to their Western peers.

The objective of this paper is to discuss the obstacles Chinese SOEs face in effectively capturing learnings from their capital investments. This paper focuses mainly on enterprises in the resource and process industries. Primary insights for this paper come from several sources: the authors' extensive knowledge of capital project performance drivers based on their years of employment with Independent Project Analysis Inc. IPA is a research firm and consultancy dedicated to studying capital project success and failure. It has built a research database of over 18,000 capital projects, including more than 300 post-project appraisals in China and over 50 projects performed by Chinese SOEs globally. The third author brings over 36 years' experience in international business and project management including living and working in China for a number of years on business joint ventures. Their collective insights form the basis of this paper.

## 2 CHINESE SOE'S AND THE LATEST REFORM

Chinese State-Owned Enterprises are legal entities created by the Chinese central and local governments in order to partake in commercial activities on the government's behalf. They can be either wholly or partially owned by the government. Chinese SOEs are mostly governed by State-Owned Assets Supervision and Administration Commission (SASAC) of the local government, as well as the SASAC of the State Council (the Central Government). However, some SOEs are governed by China Investment Corporation (and its domestic arm Central Huijin Investment, as well as under the governance of the Ministry of Education and Ministry of Finance, for the university-run enterprises and some financial institutes, respectively.)

As a vital part of the late Reform and Opening-up policy, Chinese SOEs have experienced ownership reform since the 1970s in order to become more efficient and competitive (Garnaut, Song, & Fan, 2018). In spite of such efforts, SOE's profitability has deteriorated during the 1980s to early 1990s. In the late 1980s, the Chinese government began to seriously reform the SOEs; and during the 1990s and 2000s, many mid-sized and small-sized SOEs were privatised. This included shedding of a large number of loss-making enterprises, and significant restructuring of remaining operations. This market-oriented reform was introduced to loosen Chinese government control over SOEs subjecting them to greater market discipline, increased autonomy, and required greater accountability in terms of performance (Zhang & Freestone, 2013).

Even though recent reforms may have led to a decline in Chinese SOEs share in the economy, they still make up a substantial part of the Chinese economy (Scissors, 2016). Chinese SOEs are often credited with China's economic growth and have become increasingly influential in the global economy since 2000. The proportion of Chinese SOEs (based on a number of companies) among the Fortune Global 500 has grown from 3% in 2005 to 15% in 2014 (PWC, 2015). In 2016, three SOE banks (Industrial and Commercial Bank of China, China Construction Bank and Agricultural Bank of China) took up the top three spots in the Forbes Global 2000, which is an annual ranking based on a comprehensive composite score from equally-weighted measures of revenue, profits, assets and market value of the world's largest companies (Xu, 2010). Other than the Banking / Finance sector, other major sectors represented by the largest Chinese SOEs on global ranking include: energy, engineering, construction, motor vehicles/parts, and telecommunications. The Second National Economic Census conducted in 2008 reveals that of all the 208 trillion RMB total assets of the secondary and tertiary sectors (industrial and service sectors) in China, 63 trillion RMB (or 30 percent of total) was held by SOEs, or over 50 percent of total industrial assets in China. The average size of SOEs is much bigger than their non-SOE peers, with average assets of the former equalling over 13 times the latter (Xu, 2010).

The Chinese administration listed SOE reform as a priority on the 2013 Third Plenum reform agenda, aiming to further strengthen SOE profitability and international competitiveness rather than reduce their importance. According to the 2015 reform guidelines, SOEs will be classified as either commercial (those seeking profit) or public welfare entities (Grieger, 2016). Future reforms are expected to focus separately on these two groups with specific strategic objectives and performance evaluation criteria set for each. While improving all SOEs' operational efficiency, service quality, and ability to innovate are key reform issues, a top priority for commercial SOEs is to improve their market competitiveness and financial gains (Leutert, 2016).

For commercial-oriented SOEs, while corporate governance is to be improved through greater transparency with increased levels of external auditing, the appointment of senior executives remains directly under the authority of SASAC (State-owned Assets Supervision and Administration Commission of the State Council, 2018).

Executives will continue to be supervised by SASAC even though the Board of Directors of the SOEs will have greater decision-making powers compared to their predecessors. Given the hierarchical nature of this type of corporate structure and leadership, it remains to be seen whether the recent reforms are sufficient to improve the performance and governance. Effective transition will not occur if the corporate leadership structure goes unchanged and continues to be heavily influenced and protected by the Chinese Government.

### *2.1 WHAT ARE POST-PROJECT EVALUATIONS AND APPRAISALS?*

Post-project evaluations and appraisals were originally developed in the 1930s by the American Congress to monitor new investments planned and executed by the government (Jiang & Zhang, 2001). They were developed to understand project performance and associated root causes to feed back into the system. They have since become a standard way of doing business around the world for corporations, banks, government bodies and others. For example, most major multinational oil and gas corporations, such as Shell, British Petroleum, ExxonMobil, and Chevron have established internal independent post-project appraisal units and external post-project appraisal mechanisms with the aim to capture completed capital project learnings.

Post-project appraisals are also not new to China. The first major formal post-project appraisal was completed in 1988 when the Chinese government engaged China International Engineering Consulting Corporation to evaluate a group of national key projects completed in the 1970s and 1980s. However, to-date, Chinese SOEs do not appear to have actually gained benefit from post-project appraisals. Capital projects executed by Chinese SOEs are less predictable incurring significant cost and schedule overruns compared to global industry competitors. Further, their asset quality appears poorer with shorter life cycles, limited allowances for additional capacity, and inflexibility in operating conditions to react to market changes (Frederick, Yip & Seow, 2012).

If Chinese SOEs are not competitive domestically, it will be challenging for these organisations to be globally competitive. Project delivery becomes increasingly challenging when SOEs venture out of China as they face more uncertainties in unfamiliar territories with different regulatory regimes and market conditions. Unlike domestically, where the SOEs may harness strong support from the government to facilitate project development (e.g., fast approval of permits), Chinese SOEs may be subjected to greater scrutiny overseas (Penty & Mayeda, 2013), particularly in recent years, which can lead to long project delays along with many other challenges (Price, 2016,Young, 2013a). Working with multinational contractors is also a challenge SOEs face. While SOEs are well experienced in managing domestic contractors, multinational contractors have different cultures (both national and organisational) that require SOEs to adopt different management styles. The authors have evaluated a US$500 million resource development project for a Chinese SOE, located outside China, with a huge cost overrun. The project director expressed he had simply lost control over the massive number of invoices and claims issued by his multinational contractor. Domestic engineering and construction contractors in the resource sector are typically state-owned and often affiliated with major Chinese SOEs, hence are more aligned when it comes to change management. However, once Chinese SOEs are out of their normal home environment, their lack of experience in a global capital market-orientated environment can and does present major problems. Such environments can expose huge risk scenarios for SOEs not accustomed to not having control (Young, 2013a).

Managing labour workforce on global projects is also a major and usually costly challenge for SOEs. Depending on location, labour compensation packages, work norms and productivity differ vastly from the Chinese local labour. Working 7 days 10 hours (*) may be an expected norm in China for the construction workforce, but expecting such work shifts in many regions is simply not realistic. A recent example is the Metallurgical Corporation of China, which paid a price of $6 billion over budget and ran 4 years behind schedule as a result of poor planning around the challenges of executing a mining project in Australia (Cai, 2014). The SOE assumed the Australian workers would live in similar living standards as Chinese workers do in China (e.g., based on all three authors observations, on many Chinese construction projects, workers are typically placed in small groups housed in single rooms with basic amenities).

*(*) Chinese Labor Law requires workers to rest for at least 1 day per week. However, companies can seek approval from the labor bureau to apply the Cumulative Calculated Working Hours methodology, where working hours are calculated on a monthly, quarterly or annual basis and rest days are accrued accordingly.*

### *2.2 COMPLETING AND BENEFITTING FROM A POST-PROJECT APPRAISAL: THE CHALLENGE FOR CHINESE SOES*

Chinese SOE asset erosion can be directly connected to a lack of solid capital project governance, limited use of industry best practices, and weak corporate culture around continuous improvement in comparison to their global industry peers (Frederick, Yip & Seow, 2012). A key element all the best performers share is performing post-project appraisals to have an objective and measureable view of performance and problem root causes, and thereafter, embedding the learnings from these appraisals into future work efforts.

To harness the full benefits, post-project appraisals should be completed quantitatively and methodologically to safeguard accuracy, fairness, and objectivity. They need to be robust in how they are structured, stringently conducted, fact-based, transparent, and independent with no conflicts of interest. However, if not purposefully managed, structural factors both intrinsic and external to the SOEs can challenge these goals and restrict the enterprises gaining the benefits from post-project appraisals.

### *2.3 NO CORPORATE FRAMEWORK AND ACCOUNTABILITY TO USE POST-PROJECT APPRAISAL RESULTS IN CONTINUOUS IMPROVEMENT EFFORT*

Most Chinese SOEs do not have an independent, centralised process that provides feedback from captured lessons. The lack of a standard approach and accountability for collection and distribution of lessons learnt impedes best practice for setting continuous improvement goals. Without capturing the root causes of project challenges, the Chinese SOEs do not have mechanisms to avoid making the same mistakes over again. Moreover, practices that are found to drive better performance cannot be captured or shared with others in the organisation to ensure future investment success. Many multinational corporations, on the other hand, have internal organisations solely responsible for project governance. These organisations conduct independent post-project appraisals with the aim to capture learnings drawn directly from project experience. These organisations are usually centralised and have the authority to access various project stakeholders and documentation to provide a comprehensive evaluation. Most Chinese SOEs do not have a similar function/department as part of their corporate governance. Such a lack of deliberate structure will primarily prevent or hinder these enterprises benefitting in any way from post-project appraisals. Also how information is dealt with from an independence and transparency perspective is very different from that of many private and public companies in western countries.

Finally, accountability for ensuring a good return on investment is typically not an explicit key performance indicator for the Chinese SOEs. Because the original function of SOEs was to deliver the planned economy for the central government, these entities have insufficiently embedded market values and motivation to drive continuous improvement on capital investment systems. However, as Chinese SOEs are given more responsibility for their investments, more scrutiny will come on them to assure a successful return on investment. Continuous improvement will be a basic necessity for the next phase of SOE development.

### *2.4 LACK OF RELIABLE DATA ON COMPETITORS' PROJECTS*

In the words of the famous war general Sun Tzu , 'You will not be defeated if you know thyself and your enemy'. Chinese SOEs need to embark on systematic post-project appraisals that not only internally measure performance but also benchmark performance against external competitors. But whether this occurs will depend on the agendas of those in authority.

Without access to external information, organisations can only measure their performance against set targets. Spending less than planned does not necessarily indicate competitiveness. Companies need to understand their competitors spending on similar projects. To be globally competitive, Chinese SOEs need to benchmark against their global competitors. Especially in cases where SOEs are working outside of China and in vastly different economic, social, and political environments. Understanding performance relative to competitors is necessary to identify strengths for leveraging future success and identifying weaknesses that need to be overcome.

SOEs cite a lack of data, in terms of availability and quality, as a challenge to quantitatively measure project performance. A root cause is lacking effective tools to be able to collect that project data. As a result, appraisals are often qualitative or rely on poor quality data that l imits accuracy, credibility and end up superficial. Most multinational companies on the other hand not only have created tools to capture data consistently, but they also utilise the data to measure their performance against their competitors by engaging external third-party benchmarking capability. One of the key benefits of a third party is that they retain independence, hence good projects and bad projects can be measured and compared objectively and fairly.

### *2.5 CULTURAL OBSTACLES TO CAPTURING LESSONS*

Chinese management culture stresses human relationships, personal connections (guanxi), and trust to sustain harmony, all of which stem from Confucian philosophy 'Doctrine of the Mean' (Liu, 2012). What can appear a broadly beneficial approach focusing on harmony can manifest as a barrier to continuous improvement. Reporting bad news and highlighting mistakes are often unfavourable because they are perceived as blaming, which may cause others to lose face and disrupt harmonious relations. Hence, capturing lessons learned objectively becomes challenging. Further, disclosure of opposing insights can be perceived as being disloyal to the rest of the team as the Chinese workplace emphasizes working for collective goals. To overcome these cultural barriers and encourage objectivity in post-project appraisals, the leadership should highlight that the appraisals focus on issues, rather than individuals (Young, 2013b,c).

The paternalistic leadership approach that sustained Chinese social and industrial organisations over many centuries also creates another barrier to improvement (Lockett, 1988). A paternalistic leader (i.e., the project director/manager in a project setting) is expected to be responsible for the interests, well-being, and career progression of his/her team. Under such leadership, questioning decisions made by the leader may be considered a betrayal. Likewise, the leader will lose respect and loyalty from team members if they fail to protect their employees from external stakeholders. On an SOE project that was perceived as successful, the authors found that team members became defensive when asked about opportunities for improvement on the project and were concerned that their responses would be reviewed by the project leadership. The team members responded mainly with commendations of the project director and minimal views on what could have been done better. When the same questions were posed to the project director, he had similar responses only praising his team and the senior executive leadership. The reluctance of the team to objectively discuss issues and performance can make it challenging for both internal and external parties to gain realistic project insights that help deliver improvements.

### *2.6 CULTURAL OBSTACLES TO CHANGE*

The pathway to improvement starts with a desire to improve, establishing the principles of improvement, and getting organisational alignment; this in turn translates to changes. The idea of change is not a preferred value in China. The dominant Chinese culture values are high power distance and low individualism (Hofstede, 2001). These attributes can oppose those values that drive and support successful organisational change (i.e., low power distance and medium to high individualism, Sun, 2000).

Confucianism stresses the importance of an individual understanding their position in the hierarchy of social relationships. This requires a broad commitment from the individual to the harmonious operation and welfare of the society (Watt, 1999). This view is also supported by another influential Chinese philosophy school in management, Legalism, which emphasises the power of bureaucratic administrative systems. High power distance and low individualism that stem from these philosophies bring to the discipline of management a traditional vertical type relationship between leaders and followers. Chinese SOEs generally rely more on these vertical and collectivist structures to maintain harmony, which works against change. Changes can be perceived as a threat to harmonious operations and the effort required to implement change is considerable if the change-drivers have low authority. Further, a collective management style can often lead to a lack of accountability. It is thus not surprising that the Chinese SOE managers are not highly motivated in terms of driving change.

If Chinese SOE managers are to improve, then they need to be supported by their leaders in developing a new business culture recognising that change and improvement can actually occur without destroying or even eroding harmony, or other aspects of Chinese culture. In fact, thoughtfully implementing such improvement measures can align with Chinese cultural values (Young, 2013b,c).

**3 THE FUTURE OF POST-PROJECT APPRAISALS FOR SOE'S**

Undoubtedly, it is challenging for Chinese SOEs to fully harness the benefits of post-project appraisals without substantial structural change. However, most of the challenges identified can be addressed with a strong commitment from the senior executive leadership team to use project appraisal as a basis for continuing improvement. Otherwise, the appraisals completed will just be superficial and perceived as archives rather than real tools to improve capital efficiency and competitiveness for their enterprises.

Under Chinese Government reforms, SOEs will be under closer scrutiny on asset management but will only experience transformative improvement if they recognise that change is essential and inevitable. As Deming put it, 'It is not necessary to change, after all survival is not mandatory'. The striving for continuous improvement is a fundamental tenet of the global quality movement and applicable in all aspects of business today. This is the only way companies of all structures and sizes, including SOEs, will not only survive but thrive in what is becoming a more competitive world.

**4 CONCLUSION**

The Chinese Government are on a reform journey with their SOEs to make them more efficient and competitive, and thus capital effective. This can be achieved by lowering the capital cost of doing business or building assets and at the same time getting such to market before competitors, or put another way - utilising and extracting benefits quickly.

A primary and age old method of helping this process is utilising post-project appraisals to capture lessons learnt. Then converting such learnings into a form that can feedback into new projects to achieve improved outcomes. Unfortunately though there are systemic issues that challenge the effectiveness of what would appear such a straight forward process. In spite of the fact that SOEs are a huge contributor to China's growth has not made them immune from missing critical lessons from past projects.

As described in this Paper, some of the key challenges SOEs face lie in the very fabric of their organisational structures and operating cultures, and additionally Chinese national culture itself has played a significant role.

This Paper outlines how the post-project appraisals need to be conducted, including with a strong level of organisational independence in order to extract the real root causes of success and failure throughout the business endeavours engaged in. The opportunities are real, but they will not be converted into new realities unless SOE leaders recognise them, back their managers to conduct rigours independent post-project appraisals, and ensure the learnings are robustly embedded into projects and business going forward.

## REFERENCES

[1] **Cai, P. (2014,** January 9). China's Shock and Ore at the Australian Way. The Australian - Business Review.

[2] **Fang, Y. & Hall, C. (2003)**. Chinese Managers and Motivation for Change: the Challenges and a Framework. Proceedings of the 15th Annual Conference of the Association for Chinese Economics Studies Australia (ACESA).

[3] **Frederick, N. Yip, C.K. & Seow, P.H. (2012)**. Developing Successful Projects in China: Phase 2 – Local Companies and Asset Quality, USA: Independent Project Analysis, Inc.

[4] **Garnaut, R., Song, L. & Fan, C. (eds.) (2018)**. China's 40 years of reform and development 1978–2018, ANU Press, The Australian National University.

[5] **Grieger, G. (2016)**. State-owned enterprise (SOE) reforms in China: A decisive role for the market at last? European Parliament Think Tank. Retrieved from http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2016)583796.

[6] **Hofstede, G. (2001)**. Culture's consequences: comparing values, behaviors, institutions, and organizations across nations, (2nd ed.). Sage.

[7] **Jiang, W. & Zhang, S. (2001)**. Investment Post Project Evaluation. Sinopec Press, Beijing.

[8] **Leutert, W. (2016)**. Challenges Ahead in China's Reform of State-Owned Enterprises. Asia Policy 21, National Bureau of Asian Research, 83-99.

[9] **Liu, X. (2012)**. Culture and Quality Assurance Approach: A Case Study of 360-Degree Feedback in China. International Conference on Management Innovation and Public Policy. Retrieved from https://ssrn.com/abstract=2190043.

[10] **Lockett, M. (1988)**. Culture and the Problems of Chinese Management. Organization Studies, 9 (4), 475.

[11] **Penty, R. & Mayeda, A. (2013)**. Oil Sands Deals Dive as State Firms Scrutinised. Retrieved from https://www.bloomberg.com/news/articles/2013-09-30/.

[12] **Price, M. (2016)**. Chinese State-Owned Companies Face Greater Scrutiny of EU Deals after Ruling. Retrieved from http://www.reuters.com/article/us-china-eu-m-a-idUSKCN0YZ00U.

[13] **Scissors, D. (2016)**. China's SOE sector is bigger than some would have us think. Retrieved from http://www.aei.org/publication/chinas-soe-sector-is-bigger-than-some-would-have-us-think/.

[14] **State-owned Assets Supervision and Administration Commission of the State Council. (2018)**. Retrieved from http://en.sasac.gov.cn/n1408028/n1408521/index.html.

[15] **Sturesson, J., McIntyre, S., & Jones, N.C. (2015)**. State-Owned Enterprises: Catalysts for Public Value Creation, PWC. Retrieved from https://www.pwc.com/gx/en/psrc/publications/assets/pwc-state-owned-enterprise-psrc.pdf.

[16] **Sun, J.M. (2000)**. Organization Development and Change in Chinese State-Owned Enterprises: A Human Resource Perspective. Leadership & Organization Development Journal, 21 (8), 379.

[17] **Watt, L. (1999)**. Managing in the PRC, Better Management, 35 (12), 24-28.

[18] **Xu, G. (2010)**. World Bank. Retrieved from http://blogs.worldbank.org/eastasiapacific/state-owned-enterprises-in-china-how-big-are-they.

[19] **Young, W.A. (2013a)**. Managing Projects in China - what could possibly go wrong?. Project Management World Journal, 2 (4).

[20] **Young, W.A. (2013b)**. China - Cultural Dimensions in International Business. Project Management World Journal, 2(3).

[21] **Young, W.A. (2013c)**. Enter the Dragon - Chinese business culture and the west. Project Management World Journal, 2(2).

[22] **Zhang, D. & Freestone, O. (2013)**. China's Unfinished State-Owned Enterprise Reforms. Economic Roundup. Retrieved from https://treasury.gov.au/publication/economic-roundup-issue-2-2013-2.

## AUTHORS

**Christina K Yip** PhD, is Senior Consultant for IPA. She joined IPA in 2004 and has led numerous benchmarking studies, individual project evaluations, and PMI® accredited project management courses globally. She has evaluated over 300 capital projects ranging from US$0.5 million to over US$20 billion in size. Christina has led several industry-wide studies on the performance of projects executed by western owner companies and Chinese companies in China and has examined the performance of Chinese contractors outside of China.

**Pei Hsing Seow**, is an Advanced Associate Analyst for IPA. She joined IPA in 2007 and is now responsible for managing IPA's multinational and state-own clients in China. Pei Hsing had completed a multi-client research project focusing on China projects in 2013 and is currently exploring cultural dynamics and the impact it has on projects. She formally holds advanced degrees in chemical engineering and psychology.

**William A Young** PhD, is a consultant and Industry Fellow at Swinburne University of Technology. He has over 36 years' global experience in international business and project management focused on the process chemical, manufacturing, and mining industries. He has been a Professor in Beijing, and is a past Vice Chairman of the Global Mining Association of China. He is the President of the Asia Pacific Federation of Project Management.