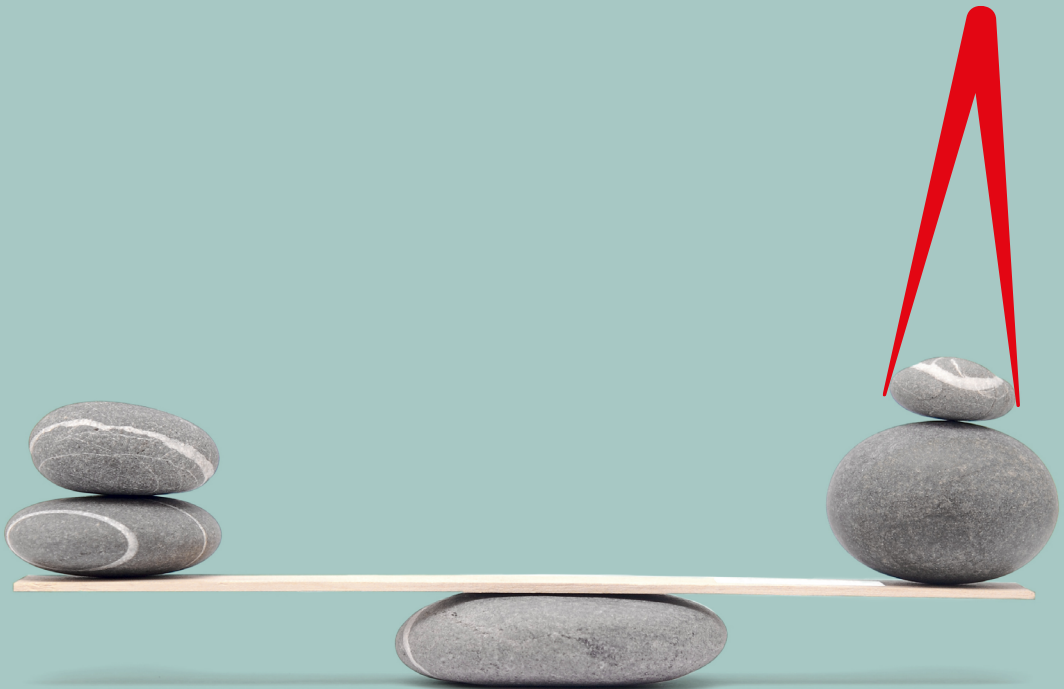


# *Performance measurement and target-setting*

ACHIEVING BALANCE IN A CHINESE  
STATE-OWNED ENTERPRISE



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## *Summary*

Subjectivity is often eyed with suspicion in a commercial world. This project investigated how subjectivity was applied in the strategic performance measurement system (SPMS) of a large Chinese state-owned enterprise (SOE) where both market and government forces coexist long term. Its innovative five-dimension SPMS integrates financial and non-financial with subjective and objective measures. The same dimensions were applied across its strategic business units (SBUs) to communicate firmwide that meeting multiple demands was an inherent aim of SOEs, and to be embraced by all the SBUs.

However, the weightings for each dimension varied across the SBUs and over time, reflecting the dynamic strategic position of each unit. For firms with multiple, simultaneous and often competing demands, our case study shows how the use of subjectivity in measures and weightings can keep a multi-dimension SPMS stable yet flexible. The study also reveals innovative mechanisms used in participative target-setting. These show how using subjectivity in incentive formulas can transform difficult bargaining into greater cooperation between superiors and subordinates. These could be particularly important for multi-divisional firms with activities in many different areas.

Using objective and subjective measures together, maintaining stability while embracing flexibility, and accepting 'push' alongside 'pull', our case study celebrates paradox management. It suggests that a finely calibrated SPMS that simultaneously integrates opposing forces in a system can be particularly beneficial for organisations operating in complex and dynamic environments. Considering the nature of *Yin* and *Yang* within a particular mechanism and integrating duality into systems, we bring Chinese wisdom into management control practice.

# ***1. Introduction***

Our research investigates subjectivity applied in the strategic performance measurement system (SPMS) of a large Chinese state-owned enterprise (SOE) in which market forces and government control are intertwined. Since China's reform prefers incrementally 'touching stones to cross rivers', rather than a 'big bang' approach, the coexistence of markets and government is delicately balanced and refined through its slow evolution, which brings dynamic tensions. Chinese SOEs often face high levels of uncertainty arising from both imperfect market mechanisms and powerful governments (Peng, 2003; Wright et al., 2005). To survive and succeed, they must continuously search for optimal ways to manage simultaneously competing demands. Empirical evidence suggests that 'SOEs must balance multiple goals and make trade-offs between social responsibility and economic benefits, which leads to use of multi-measure performance evaluation' (Du, Tang, and Yound, 2012: 1583).

This study reveals the features of a SPMS developed within such an SOE in China: a large multi-divisional organisation that reflects Chinese wisdom in its senior management practice. The innovative SPMS integrates subjective performance measures and participative target-setting, with a focus on managing the dynamics and uncertainties arising from a complex environment. The findings have practical implications for multi-divisional firms facing ambiguity and complexity.

## 2. *Theoretical background*

Organisations today operate in an increasingly global, dynamic and competitive environment. It is essential for them to deal with the often-conflicting needs of numerous stakeholders such as shareholders, customers, employees, suppliers and regulators. Smith and Lewis (2011: 382) describe the features of such conflicting pressures as paradox that are 'contradictory yet interrelated elements that exist simultaneously and persist over time'. This paradox perspective suggests that organisations can and do manage competing demands together. It emphasises that contrasting challenges can and should co-exist, and that exclusive focus on any single element within such complexity may be harmful (Smith and Lewis, 2011).

This paradox-embracing stance is consistent with the Chinese notion of Yin-Yang. This philosophy suggests that all universal phenomena are shaped by the combination of two opposing cosmic energies – namely *Yin* and *Yang*. *Yin* represents negative energy, manifest in the moon, the night and femininity; *Yang* stands for positive energy, manifest in the sun, daytime and masculinity. This framework emphasises 'opposites-in-unity'. Ultimately, it embraces paradox by recognising and appreciating both trade-off and synergy between opposites in the same place at the same time (Li, 2012). Applying the *Yin-Yang* lens, Smith's paradox model (2011) illustrates paradox as interdependent opposites which are synergistic and interrelated within a larger system, creating a dynamic relationship between them and ensuring their longevity. A typical example integrating Yin-Yang and the paradox perspective in practice is Lego's '11 paradoxes of management' (Evans, 2000).

However, meeting multiple demands simultaneously can be challenging in a dynamic environment where managers must respond effectively to constant change. It is particularly testing for multi-divisional organisations because, as top management seeks to embrace and satisfy competing demands at the same time, they face ongoing pressure to set unambiguous and consistent guidance for the rest of the organisation (Smith, 2014). This project offers insights from a study of how Chinese managers in an SOE respond to contradictory demands and engage their staff to manage paradoxical tensions.

Within this context, the strategic performance measurement system (SPMS) is recognised as an important mechanism to translate the vision and strategy across an organisation (Kaplan and Norton, 1996; Groen et al., 2017). Previous research suggests that SPMS can play a key role in managing paradoxical tensions (Busco, Giovannoni and Scapens, 2008). Subjectivity in the SPMS, either through the use of subjective performance measures or participative target-setting, brings dialogue and communication into the process of performance evolution. This is particularly important for organisations facing uncertainty (Hoppe and Moers, 2011).

## **SUBJECTIVITY IN PERFORMANCE MEASUREMENT**

Many firms use both objective and subjective performance measures in evaluation and compensation practices (Ittner et al., 2003). Some studies suggest that subjective performance measures give information about qualitative job aspects, like cooperation and innovation, and therefore offer incentives not provided by objective measures (Moers, 2005). Evidence shows that including subjectivity in performance evaluation increases subordinate pay satisfaction, sales productivity and trust between superiors and subordinates (Gibbs et al., 2004). It is also suggested that using subjective performance measures in the SPMS is of value to the organisation as they signal strategic changes and provide support through constructive discussions (Voubem, Kramer and Schaffer, 2016). Theory indicates that subjectivity should be most relevant and useful when environmental unpredictability is high. For example, Hoppe and Moers (2011) find that the use of subjective weights in balancing the financial versus non-financial elements of CEO annual bonus contracts is positively related to environmental unpredictability.

Although introducing subjectivity into the SPMS can create more efficient incentives, it also gives management more discretion in performance evaluation. For example, Moer (2005) finds that managers give higher performance ratings when more subjectivity is used to evaluate and reward employees. Yet further research suggests that the use of subjective measures results in distorted ratings due to cognitive biases and the subordinate's influence, along with lower goal clarity because there is a lack of formally defined, precise targets (Voubem et al., 2016; Du et al., 2012). In order to capture the benefits of subjectivity in performance measurement, it is important to recognise their potential adverse effects on organisational efficiency. Most existing studies in this vein are found in incentive literature, with a focus on how incentive policies can be adjusted (eg, Moers 2005; Hoppe and Moers, 2011), and subjectivity is examined as a single construct either by lumping together different types of subjectivity or by focusing on only one specific type (Hoppe and Moers, 2011). For example, Hartmann and Slapnicar (2009) choose to focus on the use of objective and subjective measures in their study of the effects of superiors' performance evaluation behaviours on subordinates' work-related attitudes, and Hoppe and Moers (2011) adopt subjective weights on the financial versus non-financial dimensions.

While earlier studies have provided valuable insight into the effects of subjectivity on performance measurement, one limitation is that the use of subjective measures is often taken as static and coherent in an organisation. Furthermore, as most of these studies adopt a questionnaire survey method, subjectivity is commonly measured as simply whether it has been used or not, and how significant this use is. It is rare for a study to examine how much subjective measures are used differently across business units and the extent of their dynamism over time.

## **SUBJECTIVITY IN TARGET-SETTING**

Subjectivity can be incorporated into target-setting. Previous research finds that managers reward employees who commit to tougher targets by using either subjective bonuses at the end of a period (Aranda, Arellano and Davila, 2019) or not increasing their targets for the next period (Indjejikian et al., 2014). This highlights two issues: the difficulty in the target level and the information sources for the target.

Goal-setting theory predicts that establishing specific targets can lead to higher performance from individual employees than general instructions 'to do their best'. Existing studies support that the higher the target, the higher the employee performance, up to a point where employees believe targets to be unattainable and give up trying to achieve them (Locke and Latham 2002; Merchant and Van der Stede, 2012).

More recent studies investigate the use of subjectivity in both target-setting and remuneration. For example, Aranda et al. (2019) suggests that the relationship between subjectively set bonuses and relative target difficulty reflects an implicit agreement between the manager and the employee, whereby the latter commits to a more difficult target, trusting that the former will reward this commitment using the discretion available to them at the end of the period. Their research looked at multiple business units performing the same tasks and working under the same budget-based incentive system, so comparable peer information can be used to assess target difficulty. It would be more difficult for the superior to use discretion in either target-setting or deciding subjective bonuses if the business units performed different tasks. Our knowledge of target-setting processes and methods in multi-divisional firms with activities in diverse areas is quite limited (Feichter et al., 2018).

While superiors may have many sources of information available to determine appropriate targets, the employees (their subordinates) themselves is an important one. This can occur through participative budgeting or budget negotiation. Many earlier studies, mainly experimental in nature, have explored the pros and cons of participative budgeting and the effects of budget negotiation on performance. Despite potentially increasing subordinate motivation, it is suggested that participative budgeting can cause serious conflicts of interest between superiors and subordinates. However, such studies have been criticised for mainly focusing on internal issues, while neglecting external constraints. Arnold's (2015) exceptional study on budget negotiation under financial constraint suggests that budgeting tends to be more participative in settings without constraints and more centralised in settings with constraints.

Despite these valuable insights from previous research, we know little about how superiors and subordinates cooperate on target-setting when facing multiple external constraints. Furthermore, as most of these studies adopted experiment or survey methods, relatively little is known about how performance targets are set in reality, especially within multi-divisional firms (Feichter et al., 2018). Even rarer are insights on budget negotiation practices in settings where tension is caused by the need to meet multiple objectives simultaneously.



### ***3. Research questions and method***

Our study aims to explore how SPMS can help paradox management to embrace multiple objectives simultaneously in multi-divisional firms. By investigating the features and use of subjectivity in the SPMS in a Chinese SOE, we consider the following key research questions:

- How can a SPMS be designed to reflect the multiple demands from stakeholders?
- How can subjectivity be integrated in a SPMS to respond to uncertainties?

Chinese SOEs offer an ideal research field for our study. China has undertaken continuous economic reforms to open its markets and transform its SOEs into modern corporations. These large organisations need to strengthen their market capabilities to be competitive, yet the Chinese Government has continued to assert its influence over them (World Bank, 2012). The demands of market forces and government control are not always contradictory; governments also demand returns on state capital, for example. Indeed, China's SOEs play an important role in generating sufficient revenue to support the government's administration, retain state control over industries with national strategic significance, and maintain employment levels. Yet these demands may not always be compatible with market demands, creating a complex and ambiguous environment in which the SOEs have to operate.

The case company, referred to as MM, is an international corporation and SOE, primarily engaged in exploration, mining, smelting, processing and trading in metals and minerals. It has long served as a key import and export channel for metals and minerals in China. To transform from a traditional SOE to a modern enterprise with strong market orientation and competitive capacity, MM has undertaken a series of mergers and acquisitions and extended its business to cover not only the entire industrial chain in metal and minerals, but also reach beyond the traditional sectors. At the time of our study, it has developed from a dedicated import-export metal company to an enormous business group with unrelated diversification. It spans mining, metals, logistics, finance and real estate, with 18,000 employees and total operating revenue equivalent to £32bn.

With such scale and importance to the national economy, MM is an ideal subject for our study into the roles of SPMS in managing multiple objectives and uncertainty. Access to the company was a practical necessity. We undertook an action research project on the design of its SPMS between 2000 and 2004 (Li and Tang, 2009) and have maintained our interest in the development of the company's SPMS since then. Our sources of empirical data for this project include interviews and archives. We conducted 18 interviews with the CFO and other executives and managers at the company headquarters and the strategic business units (SBUs). The archival data include all versions of the SPMS manual from 2009 to 2015 along with other relevant external and internal documents.

## 4. Findings

As an SOE, MM is accountable for maintaining the value of state assets in an increasingly competitive marketplace, but at the same time it has to consider social responsibility and implement national strategy as imposed by the government. An executive explained the challenges of meeting such multiple demands simultaneously, using a business project decision-making example:

**'Choosing business projects is hard for an SOE. Some of our projects do not create value, but we can't simply downsize or shut them down as a private firm would do because we have to consider the state's mandate in maintaining control over certain industry areas, and also we would not be allowed to make redundancies.'**

**'We have a steel factory, which has never been profitable. We should have withdrawn investment ages ago but we are still there. The local government has all sorts of reasons to keep the factory in operation. The employee settlement cannot be agreed on. We can't even halt production, not to mention withdraw investment. The more we produce, the more we lose.'**

While the push for profitability is compatible from both viewpoints – marketplace and government – the challenges faced by an SOE in pursuing profitability are still quite distinct from those of a private firm, as observed by another executive:

**'The government requests steady profit growth year on year, regardless of market conditions. But our hands are tied: our operational costs are often stiff because we have to consider social responsibility, environmental protection and social stability.'**

To smooth the impact of market volatility on profit, in delivering steady growth as expected by the government, MM strategically divided its business into two main areas: core business SBUs of national importance (mining and metals) and non-core business SBUs (finance and real estate). The market cycle of the two areas seemed to usefully offset each other. For example, during the 'golden years' for mining and metals before 2008, its core business was the main profit contributor, amounting to 80% of total profit in 2008; however, after the global financial crisis when the core business entered recession, it was the non-core business that helped to maintain profit levels, with, for example, 50% of total profit from real estate in 2013. MM was proud of its diversified business structure, regarding it as a significant and adaptive response to the market-government paradox. However, in this case, business diversification did not mean completely splitting the conflicting demands between the SBU areas. On the contrary, MM adopted a multi-dimensional SPMS to conceptualise the multiple demands and communicate the tensions across the organisation.

## 4.1 *The five-dimension SPMS with stability and flexibility embedded*

SPMS is an important management control instrument for communicating objectives and strategy across an organisation, and multiple measures are often used when an organisation faces competing demands, as with MM. Table 1 depicts the structure and features of a five-dimension, multi-measure SPMS that MM adopted to assess the performance of its SBUs.

**Table 1: The five-dimension SPMS**

<b>FIVE DIMENSIONS</b>	<b>PERFORMANCE MEASURES (EXAMPLES)</b>	<b>NATURE OF THE MEASURES</b>	<b>BALANCE OF DEMANDS FROM GOVERNMENT AND MARKET</b>
<b>Financial Returns</b>	Profits, ROI, EVA.	Objective, financial.	Reflects compatible demands from market and government forces, although profit is tied to business size and seen to be more a concern of the government for the consideration of employment and industry control.
<b>Operation</b>	Sales/market share, expenses to profit, assets turnover, debt ratio.	Objective, financial /non-financial.	The measures on operation processes and efficiency are expected to lead to financial returns; sales or market share are included to emphasise government demands on business size and/or to reflect marketing strategy, depending on the position of the SBU under consideration.
<b>Strategic Projects</b>	The progress of strategic projects against the original plan. They could be merger & acquisition projects, IT upgrades, management innovations or reforms promoted by the government.	Subjective, non-financial.	Highlights the strategic focus and communicates it to the SBUs.
<b>Constraints</b>	Safety and pollution incident rates, violations to the Code of Business.	Objective, non-financial.	Reflects the need for risk control, as for any private firm. But safety and environment measures are imposed by the government and applied rigidly.
<b>Institutional Aspiration</b>	360° questionnaire and annual appraisal on managers' diligence, integrity and cooperation.	Subjective, non-financial.	Reflects government demands related to organisational and individual behaviours. Emphasises the importance of adherence to socialist principles when facing market competition.

MM applied the same five dimensions to the performance measurement across all its SBUs, as this reflected their view that meeting multiple demands is a mission inherent in an SOE and therefore to be appreciated by all the SBUs. However, at the same time it was important to consider the differences across the SBUs, which could prove to be dynamic over time, especially given the evolving external environment or the potentially shifting strategic positions of each SBU. Two mechanisms were embedded in MM's SPMS to allow for simultaneous stability and flexibility:

- integrating not just financial and non-financial, but also subjective and objective measures; and
- using the same dimensions but applying different weightings for the SBUs.

First, we consider subjective measures. In MM, these were established to complement the performance measurement based on objective measures, which did not depend on the observer. Being impartial and without bias or prejudice, these objective measures provided an important means for effective control. They were used across three dimensions – Financial Returns, Operation and Constraints – with the actual performance of each being compared to its target and the variance identified and analysed periodically. Based on this, subjective measures have been used in the other two dimensions – Strategic Projects and Institutional Aspiration – and have played two roles; they provide opportunities for constructive discussion and for balanced control.

The Strategic Projects dimension allowed for consideration of the specific and dynamic environment in which a particular SBU may have operated at a particular time. For example, during the 'golden years' of expansion before the global financial crisis, the measures of the Strategic Projects dimension for the core SBUs were often the progress of merger and acquisition projects. These then changed to the quality of the management of those acquired assets in the subsequent years. The assessment of the project progress and management gave tailor-made opportunities for interactions between company headquarters and the SBUs. As one SBU manager explained:

**'The strategic projects and their expected progress are proposed and approved annually. Our managerial focus during recent years has been to integrate the acquired assets into our management system. The executives of the Group read our reports and conduct site visits regularly. We discuss all sorts of issues face to face. By the end of the year, they score our progress with the projects.'**

Moreover, while subjective measures in Institutional Aspiration and objective measures in Constraints both focused on employees' behaviour, the former acted as a positive 'push' and the latter as a negative 'pull' factor in allowing balanced control. Institutional Aspiration represented the core value of the company, being an SOE committed to the socialist model required by the government. This was promoted on the MM website and emphasised by executives at all conferences and meetings. Working within the boundaries set by Constraints, these subjective measures promoted socialist beliefs in helping to deal with the conflicts and pressures of multiple demands.

Second, we examined the application of different weightings to the dimensions across the SBUs. The same five dimensions of performance measures across all the SBUs made the multiple demands and possible conflicts visible. A non-core SBU manager revealed his frustration arising from the conflicts between market competition and government control in this quote:

**'Our operation is fully market-oriented. The main performance expectation from headquarters is on profit, but we have the same five dimensions of the SPMS (as with all the core SBUs).'**

**'...we need funds to bid for projects and increase the scale of our operation in order to maximise profit, but we have the same target debt ratio as other SBUs in the SPMS Operation category, which is much lower than the industry average. Risk control is severe in SOEs, you know. What can you do?!'**

As an important balance to such an approach in the SPMS, the weightings of the dimensions and measures were allowed to change across the SBUs and, over time, reflect the dynamic influences of markets and governments, and allow for differing degrees of control over the SBUs' operation. To begin with, weightings of the Financial Returns and Operation dimensions contrasted for core and non-core SBUs to match with MM's paradox strategy. For core SBUs, the SPMS emphasised both the Financial Return and Operation dimensions to give headquarters more direct control over their business operation. Each dimension could take a weighting greater than 30% and up to 70% for both on aggregate.

**'The executives at HQ monitor our performance via not just Financial Return measures, but also detailed Operation measures. They can spot any unusual deviations in a timely manner, in terms of cost and quality control, project progress, and other things, from our information system. We discuss with HQ all the issues as they arise, rather than wait until the end of the year.' - the financial manager of a core SBU.'**

In contrast, non-core SBUs were more market oriented, so they took higher weightings for Financial Return and lower for Operation, in order to give senior managers more autonomy.

Additionally, the weightings could change over time to align with dynamic shifts in strategic focus. Taking one core SBU as an example, before the global financial crisis, they were the major profit and value contributor and had a weighting for the Financial Return and Operation dimensions up to 70%. When the core business went into recession after the financial crisis, this SBU's profit dropped significantly and MM relied on the non-core business to meet the demand for Financial Return. Hoping for a favourable turn from the market in the near future, the focus of this SBU changed to upgrading its management systems and improving internal control. Accordingly, the weighting of Strategic Projects significantly increased for this SBU to address the change in strategic focus.

## ***4.2 Participative target-setting: from bargaining to collaboration***

Target-setting can create a dilemma for a firm's performance management, especially when a participative approach is adopted to allow subordinates to negotiate their targets with their superiors. For MM, the bonus counted for 70% of an SBU manager's remuneration package and was based on the performance score of the SPMS. With a bottom-up and top-down procedure adopted to set annual targets, the importance of target-setting to an SBU cannot be overstated. An SBU financial manager clarified:

**'We initiate the target of the main performance measure: usually it is profit. Once the profit target is decided, other targets are locked. With profit target, we consider last year's performance, the expected market changes and the performance assessment methods, aiming to achieve the highest scores, because our bonus is linked to the performance scores.'**

From a performance management perspective, the superiors wanted to see a more challenging target to motivate better performance, while the subordinates hoped for a less challenging target to guarantee any related bonus. This can lead to endless bargaining tension and an antagonistic climate. To address the potential adverse effects of subjectivity in target-setting after years of trials and refinement, MM has developed a system to promote cooperation in target-setting. The technique includes the use of 'target hurdles' and cumulative decline scoring in the calculation of performance scores. Taking profit as an example shown in the appendix, the methods are illustrated in Tables 1 and 2, with a further example given in Table 3.

First, 'target hurdles' are set to motivate challenging yet realistic target-setting. An SBU's initial performance score was calculated as the actual performance divided by the target. While the SBUs would aim to maximise the performance score, MM set 'target hurdles' to represent expected high targets and use differential multipliers as rewards for challenging yet realistic targets.

There have been two hurdles used in recent years: last year's actual performance (H1) and the last three years' average performance (H2). They were considered as high target expectations due to the year-on-year deteriorating business environment since the global financial crisis. If the target and actual performance were higher than either H1 or H2 (or both), a higher-than-one multiplier would be applied to increase the initial performance score as a reward. On the other hand, if either target or actual performance was lower than H1 and H2, the multiplier would be maintained as one and no reward scores would be given. As the condition is set for both target and actual performance, the target had to be challenging but at the same time achievable in order to gain the reward scores. See Table 1 in the appendix for details.

Second, we examine cumulative decline scoring for favourable performance variance. Favourable variance seemed a positive factor for an SBU's performance measurement, however, it could come from better performance or lowered targets. To further encourage challenging target-setting and better performance, cumulative decline multipliers were applied to the performance score for the favourable performance variance. The performance score would be discounted when favourable performance variance exceeds 105%. Yet different discount rates would be applied based on the level of target – the higher the target, the higher the discount rate and the less the score would be reduced. This aimed to further discourage the intention of increasing performance scores by lowering the target. Examples are shown in Table 2 of the appendix.

To demonstrate the effects of the above methods on performance scores, two assumed scenarios are illustrated in the appendix. The initial scores, the adjustments and the final adjusted scores are shown in Table 3.

The above mechanisms helped to divert energy from bargaining for lower targets to setting reasonable targets. As one SBU manager commented:

**'The SPMS is smart. There are 'push' and 'pull' forces in the design [of our performance assessment methods]. For the best interests of our unit, we need to plan carefully to set targets that are challenging enough yet achievable.'**

The role of headquarters also transformed from control to support. As an executive from headquarters explained:

**'We sit with the SBUs to discuss market potential and the government's expectations, and then we work out the business plan and targets that can align the interests and also match the resources.'**

While the above methods have been developed over time and are regarded as successful calibrations within MM, they should not be taken as a mathematical rule. The multipliers adopted for the adjustments were mainly established through trial and error, using human intuition.

## ***5. Conclusion and practical implications***

Despite valuable insight on subjectivity in performance measurement from previous studies, current knowledge is limited when applying such practices to multi-divisional firms with activities across diverse areas (Feichter et al., 2018). Even rarer are such insights in settings where tensions arise from the need to meet multiple and often contrasting objectives at the same time. Aiming to shed light on the use of subjectivity in SPMS to address such paradoxical forces, this project conducted a case study in a large multi-divisional Chinese SOE, where the interweaving of market and government forces is a long-term characteristic. The SPMS had been developed from years of experience of managing competing demands in a dynamic, ambiguous and complex commercial environment. The embedded 'push' and 'pull' forces of its five-dimension SPMS and participative target-setting reflect their managerial capability to balance stability and flexibility in a multi-divisional firm with activity across diverse areas. We summarise this case study with the following conclusions and practical implications.

Firstly, with years of exploration and refining, the case company has developed a five-dimension SPMS to reflect the multiple demands from markets and governments. These dimensions are Financial Returns, Operation, Constraints, Strategic Projects and Institutional Aspiration, with not just financial/non-financial, but also objective/subjective performance measures integrated into the system. While scorecard-type performance measurement systems are widely used, this case study confirms that organisations should analyse their own situation and act innovatively and responsively in developing the use of multiple dimensions and measures.

Secondly, it is important to keep the structure of the SPMS stable to maintain consistency across the organisation, but the weightings of each dimension and measure can be adjusted to indicate the varied and dynamic strategic focus of the SBUs. This could be particularly important for multi-divisional firms with activities across diverse areas. For example, the flexibility embedded in the multi-dimensional SPMS allows MM to differentiate the extent of its control over core and non-core SBUs and make adjustments over time. With a higher weighting on the Operation dimension, an SBU received more attention from headquarters over its operations, while the higher weighting on Financial Return could give an SBU more autonomy with its operations.

Thirdly, their design of 'target hurdles' and scoring methods effectively transforms participative target-setting from bargaining towards cooperation between superiors and subordinates. The 'push' and 'pull' forces implicit in the design drive the subordinate to set targets that are challenging yet achievable. This can help to achieve goal consistency across multi-divisional firms.



Our case study findings contribute insights on the practice of using subjective performance measures, which complement earlier studies that have used survey and experiment methods. For a large firm intending to embrace multiple and often competing demands simultaneously, we demonstrate how the use of subjectivity in measures and weightings can help keep a multi-dimension performance measurement system stable yet flexible. It also shows how the use of subjectivity in incentive formulas can transform hard bargaining towards cooperation between the superior and subordinate. These findings could be particularly important for multi-divisional firms with activities spanning diverse business areas.

This case study illustrates the delicate and considered calibration in management mechanisms that recognise 'opposition-in-unity' from the Chinese *Yin-Yang* heritage. It clearly shows how – using both objective and subjective measures, maintaining stability with greater flexibility and balancing 'push' and 'pull' – an SPMS can usefully integrate opposing forces simultaneously within a system. This Chinese wisdom in management control practice can be invaluable for organisations facing complex, ambiguous and dynamic commercial environments in the 21<sup>st</sup> century and the post-COVID-19 world.

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# Appendix

## EXAMPLE OF TARGET-SETTING MECHANISMS EMPLOYED IN THE CASE COMPANY

First, 'target hurdles' are set to drive more challenging target setting.

Table 1. Target hurdles and multipliers to adjust initial performance scores

PROFIT TARGET/ACTUAL PERFORMANCE	HIGHER THAN H1 AND H2	HIGHER THAN H1 OR H2	LOWER THAN H1 AND H2
Higher than H1 and H2	1.10	1.05	1
Higher than H1 or H2	1.05	1.08	1
Lower than H1 and H2	1	1	1

\*last year's actual performance (H1) and the last three years' average performance (H2)

Second, cumulative decline scoring is used for favourable performance variance.

Table 2. Cumulative decline multiplies for favourable performance variance

PROFIT TARGET/ACHIEVED PROFIT TO PROFIT TARGET	100-105	105-115	115-125	ABOVE 125
<=10m	1	0.4	0.2	0.1
10m-13m	1	0.5	0.3	0.1
>=13m	1	0.6	0.4	0.2

Third, the effects of the above methods on performance scores are extrapolated in two scenarios.

Assuming, for one SBU, that last year's achieved profit is £9.5m (H1) and the last three years' average achieved profit is £10.5m (H2). Scenarios 1 and 2 have different profit targets, £10m and £11m respectively. If the achieved profit for the year under consideration is £12m, the initial performance scores and the adjusted scores based on Table 1 and 2 are shown in Table 3.

**Table 3. Illustrative example**

COLUMN	PERFORMANCE MEASUREMENT	SCENARIO 1	SCENARIO 2
1	Target profit	10m (higher than H1 but lower than H2)	11m (higher than H1 and H2)
2	Actual profit	12m (higher than H1 and H2)	12m (higher than H1 and H2)
3	Initial performance score	$12/10 = 120$	$12/11 = 109$
4	Adjusted score based on Table 1	$120 * 1.05 = 126$	$109 * 1.10 = 120$
5	Adjusted score based on Table 2	$105 + (115 - 105) * 0.4 + (125 - 115) * 0.2 + (126 - 125) * 0.1 = 111$	$105 + (115 - 105) * 0.5 + (120 - 115) * 0.3 = 113$

- Initial performance scores: With the same achieved profit of £12m, scenario 1 has a higher initial performance score due to the lower target (Column 3, 120 vs 109).
- The adjustments based on Table 1 (Column 4, 126 vs 120): Both scenarios have the same achieved profit that is higher than H1 and H2; scenario 1 has a lower target, which is higher than H1 but not H2; scenario 2 has a target higher than H1 and H2. The adjustments in column 4 reduce the extent of the advantage from setting a lower target in scenario. The scores for scenarios 1 and 2 changed from 120 vs 109 to 126 vs 120.
- Further adjustment based on Table 2 (Column 5, 111 vs 113): Scenarios 1 and 2 have different multipliers; the adjustment reversed the advantage under Scenario 1 with a lower score awarded for setting a lower target.

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