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Title	**Educational leadership in Singapore: Tight coupling, sustainability, scalability, and succession**
Author(s)	**Dimmock, C; Tan, CY**
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Educational leadership in Singapore: Tight-coupling, sustainability, scalability, and succession

Studies of school leaders and leadership are often criticized for being de-contextualized (Hallinger, 2010; Tan, 2012). They describe leadership as though it were somehow divorced from the powerful political, demographic and cultural influences at the local, regional, national and even global levels - that tend to shape it. Hence, the purpose of this paper is to present a sentient characterization of leadership in the Singapore school system by acknowledging the contextual and cultural environmental forces that shape it. Indeed, we argue that it is often difficult to distinguish the nature of leadership *per se* from the forces that influence it. As we state below, the fact that surprisingly little literature exists about school leadership in Singapore and the forces that shape it, provides ample justification. Moreover, the paucity of literature on school leadership in Singapore is bound to raise curiosity as to whether and in what ways it contributes to the performance of an acknowledged 'high performing' Asian system (Barber and Mourshed, 2007; OECD, 2011). In characterizing Singapore's school leadership, we are implicitly making sense of it and the contribution it makes to the broader effectiveness and improvement of the system. However, the paper is conceptual rather than empirical, and does not set out to measure or assess the leadership effect. Furthermore, in making sense of leadership in the island republic's school system, we explicitly highlight its cultural and contextual uniqueness, and why the system seems to have mostly worked for Singapore to date. By the same token, it is not our argument that features of Singapore's leadership are necessarily transferable to other systems with quite different cultural and contextual specific conditions.

Singapore's success in achieving high student scores on international tests (PISA and TIMSS) is well documented (Barber and Mourshed, 2007; OECD, 2011). Surprisingly little

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study has been conducted, however, of the contributory factors to such success. Singapore society as a whole places enormous importance on the value of education since the absence of minerals and other resources makes it essential to maximize the talents and skills of its human resources.

The plethora of factors contributing to the educational success of Singapore can be conceptualized at three interdependent levels: the macro (societal cultural-economic-political); organizational (school and classroom); and family (parenting and socialization) (Dimmock, 2012; Tan and Dimmock (in press)). At the macro-societal level, the Singapore government has established meritocracy as the basic value determining societal organization in the republic (Ho, 2003). Specifically, academic merit measured by examination achievement is the basis of socio-economic status and reward. Being a small tight-knit society, the government is able to maintain high degrees of control over and to align education, economy and society through a powerful elite bureaucracy and a predominantly one-Party system (Ho, 2003). Consequently, education policy is driven largely by economic instrumentalism - efficiency and effectiveness – rather than by political ideology or doctrine. At the organizational level, schools pursue a largely traditional academic curriculum and as stated below, rely heavily on traditional teaching methods. Emphasis is placed on the basic subjects of mathematics, science and English. Being a small, relatively young (independence came in 1965) and now prosperous society, there is a uniformly high quality of school buildings, equipment and facilities. The one-Party government in power since 1965 straightaway adopted English as the language of education and business, further enabling Singapore's educational success internationally. At the family level, a growing population of 5 million on a very small island, with no raw materials, but with rising First World levels of income, and with meritocracy as its guiding principle, results in intense competitiveness, with

families resorting to extra-homework and home tuition outside of school to provide their children with competitive advantage (Hogan and Colleagues, 2009).

Previous research seeking to explain Singapore's high student test results has mostly focused on a key part of the organizational level identified above, namely, the pedagogical features of the Singapore system. Hogan and Colleagues (2009), for example, studying system-wide pedagogical practices, found a higher propensity of Singapore teachers adopt traditional direct teaching, teach to the test, and encourage the use of rote memorization methods – than is the case in Anglo-American school systems, such as England (Dimmock and Goh, 2011). In this respect, Singapore may be no different to other Asian systems in its heavy reliance on direct teaching – which if so, introduces a cultural dimension favoring such core technology. Significantly, as Hattie (2009) confirms, a high reliance on traditional teaching methods induces a higher effect size on measurable student learning outcomes than student-centered methods.

Amongst the many contributory factors to high performing school systems outlined above, the contribution of school leadership may arguably be the least affirmed, possibly because of its perceived remoteness *from* classroom teaching and learning. Nonetheless, the facilitative influence of school leadership, though largely indirect, on student learning, cannot be conveniently ignored. Indeed, a case can be made that school-level influences widely acknowledged to contribute to student learning - such as motivated and engaged teaching staff, sound pedagogic processes, and a pro-learning school culture – are highly dependent on the quality of school leadership (Witziers *et al.*, 2003; Heck and Hallinger, 2009, 2010; Heck and Moriyama, 2010; Leithwood *et al.*, 2010). Furthermore, school leadership has been affirmed as the second most important school variable predicting student achievement, after classroom teaching (Leithwood *et al.*, 2006; Day *et al.*, 2010). Barber and colleagues (2010)

go further, arguing that the salience of school leadership is heightened for steering high-performing school systems, such as Singapore.

Cumulative evidence on the efficacy of leadership provides strong justification for the present paper aimed at addressing the knowledge gap relating to school leadership and its contribution to Singapore's educational success (OECD, 2011). The paper argues that three unique features of Singapore school leadership account for an extraordinary level of tight coupling (Weick, 1976) of leadership across the school system, and that this in turn brings synergies of sustainability, scalability, succession and high performance. The three unique features are – first, the logistics of a small tightly-coupled school system; second, human resource and personnel policies that reinforce alignment; and third, a distinctive 'leader-teacher compact' reflecting the predominant Chinese culture.

The paper is structured as follows. After an introduction accounting for the high performance of Singapore schools and students, a framework and literature review is provided based on the core concept of tight and loose coupling. This concept is subsequently developed and applied heuristically in analyzing Singapore school leadership. There follows a short explanation of the methodological approach taken in the paper, emphasizing its conceptual rather than empirical justification. The main body of the paper is organized according to the three unique characteristics accounting for the nature of coupling in the Singapore school system – and how these give rise to a tightly-coupled, aligned and systematized approach to leadership which in turn leads to leadership succession, and sustainability and scalability of the government's policy and reform agenda. The penultimate section discusses recent trends to professionalize teachers and to provide some latitude to school autonomy, albeit somewhat curtailed, and conceptualizes the contribution of leadership to student outcomes. The final part identifies specific key issues and challenges

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for Singapore's school leaders and leadership going forward, raising concerns about an overly homogeneous cadre of leaders.

The centerpiece of our argument is that a uniquely high degree of tight coupling secures alignment and distinguishes leadership across Singapore schools; this in turn, we argue, has contributed to system success and high performance. However, as we contend later, new emergent types of school and purposes of schooling, and a more professionalized body of teachers will predictably and increasingly challenge the degree to which tightly-coupled leadership may need to evolve to embrace greater heterogeneity and diversity in order to mitigate excessive homogeneity and conformity among leaders.

Conceptual framework – tight and loose coupling

The metaphor of coupling, when invoked in descriptions and analysis of complex organizational systems, provides powerful imageries of potential and actualized interdependencies that exist between and among various systemic and organizational elements that constitute the larger whole (Rowan, 2002). As a powerful conceptual tool, it was first imported into the study of education systems by Weick (1976), whose work 'Educational organizations as loosely coupled systems' is regarded as seminal. Weick (1976) argued that, contrary to most non-educational organizations, educational organizations can be characterized as loosely coupled systems, where 'coupled events are responsive, but that each event also preserves its own identity and some evidence of its physical or logical separateness' (p.3). This turned conventional wisdom on its head, as institutional theorists had until then largely perceived educational organizations as tightly coupled systems exhibiting large degrees of determinacy and predictability (Meyer, 2002). Significantly, academic interest in the concept has remained undiminished since, as theorists continue to debate the effect of both actual and desired coupling – tight, loose, or both simultaneously –

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characterizing educational institutions and systems, as influences on their effectiveness (Boyd and Crowson, 2002; Fusarelli, 2002; Hargreaves, 2011; Orton and Weick, 1990).

The tight-loose coupling metaphor is applicable in describing the control and influence relations between the system center (the political-administrative hub) and the peripheral operational units, that is, districts, clusters and schools. The greater is the control exerted by the center over its peripheral units, the tighter the coupling. Increasingly, however, the metaphor is heuristically helpful in analyzing the patterns of relationships within and between schools, as shown below. At both levels –the center-periphery and within/between schools – one can find examples of both tight and loose coupling. Our analysis in this paper distinguishes vertical (coupling operating hierarchically between different levels) from lateral (coupling between professionals and units/sub-units at the same level). As Weick (1976) himself made clear, the 'tools' for coupling include more than policies, strategies, regulations, and frameworks; additionally, they include shared values, cultures, structures, processes and practices.

Summarizing the list of attributes characterizing 'tight coupling', Hargreaves (2011) cites – hierarchical leadership, control from the top, standardized operating procedures, little freedom for subunits to be innovative or experimental on their own, reliance on top-down direction and instructions to implement new ideas, and leaders with clear sense of purpose and direction. Concomitantly, his list of 'loose-coupling' features includes – more distributed leadership, more autonomous subunits, less control from the top, tolerance of diversity, creativity and experimentation in sub-units, reliance on informal networks for scaling-up innovative practice, and reliance on a shared culture to create alignment and synergy for success.

The rise of neo-liberalism, managerialism and performativity movements from the 1990s onwards (Mercer *et al.*, 2010) has had significant effects on the re-distribution of

powers, responsibilities and accountabilities at all levels of education – system, district, school and classroom. Educational organizations have since evolved into complex systems that often defy simple characterization as either tightly- or loosely-coupled. Rather, a more accurate description of modern educational institutions and systems is their display of complex, nuanced, or hybrid forms of coupling (Orton and Weick, 1990; Meyer, 2002; Hargreaves, 2011). Adding further momentum to a more nuanced complexity of tight-loose coupling has been the dawn of the knowledge-based economy (KBE) and its implications for requisite knowledge and skills in the workforce. When the effects of both forces – neo-liberalism and KBEs – are combined, the nature of coupling appears to be changing in tandem with the proliferation of educational reforms.

Furthermore, Hargreaves (2011) distinguishes 'professional coupling' that refers to the level of teacher autonomy, especially in deciding how and what to teach, from 'institutional coupling' that refers to connectivity between administrative structures such as timetables and departments, and 'inter-institutional' coupling that refers to a school's linkages to other schools and organizations. Traditionally and conventionally, in England at least, the prevailing model of coupling, Hargreaves claims, has been characterized by tight institutional coupling but loose professional and inter-institutional coupling. However, he maintains that professional coupling and inter-institutional coupling have strengthened more recently. This is attributed in part to the current emphasis on teacher professionalism and collaboration (for example, professional learning communities) and the establishment of networks and exchanges among schools, often referred to nowadays, as clusters. However, Hargreaves (2011) goes on to argue that the other form of coupling - institutional coupling (between administrative structures) – has tended to loosen with decentralization and school-based autonomy, greater flexibility of within-school structures, and teacher empowerment. These

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are generalizations however, and may well vary according to different state systems, cultures and environments, as this study of Singapore reminds us.

Nonetheless, the Singapore education system – in common with other systems, certainly exhibits many characteristics associated with a complex, nuanced combination of both tight and loose coupling (see for example Fusarelli, 2002). It does so, however, in unique ways and combinations, reflective of its political, economic and socio-cultural characteristics. These characteristics pertain to structure and logistics (compactness, centralization, school cluster system), leadership capacity-building processes (identification, development, appraisal, principal rotation, alignment with the Ministry of Education (MOE) values), and the prevailing leader-teacher social compact (premised on Confucian values). As will be evident later, these different characteristics provide a rich basis for the discussion of the nuanced state of coupling mechanisms with respect to educational leadership.

Methodological approach

As a conceptual rather than empirical paper, our main purpose is to make sense of and to characterize school leadership and its context in Singapore. In so doing we attempt to provide an overview or gestalt – as well as an explanation – for why Singapore school leadership assumes the form it does. Being a small island state, with 'strong' government for which it is renowned, it is to be expected that politically and economically, context and culture define the nature of leadership itself – possibly more so than in more liberal democratic regimes.

Conceptually, as our literature review section on coupling indicates, our framework derives from the seminal work of Weick (1976), as well as others who have developed his conceptual work subsequently. We also rely on several concepts customarily used in the school leadership literature, such as *leadership succession,* by which we mean that successive generations of leaders tend to uphold the same or similar leadership values and practices; *leadership sustainability* by which we mean leadership practices enduring over time; and

scalability by which we mean the application of leadership practices on a school-wide and/or system-wide basis.

Supporting evidence for our ideas, concepts and arguments has been sought from a range of data sources. Government documents have been of particular influence, although many of them remain unpublished and available only through a government intra-net. Published sources, such as OECD and McKinsey reports, and published work of colleagues - have furnished invaluable insights into, and helped support, our arguments. Finally, and in light of the dearth of published empirical and evaluative work on the Singapore school system and its leadership, for some parts of the paper the authors have relied heavily on the shared experiences of policy makers and practitioners known to them. In conversation, these colleagues have provided invaluable accounts of human resource management practices and their modus operandi; without them this paper would not have been able to address this important gap in school leadership literature.

Tight coupling and alignment enabled by logistics

Unquestionably, the smallness of the system contributes greatly to its high performance, tightly-coupled leadership and in turn, the scalability of innovations. In this respect Singapore conforms to an increasingly acknowledged phenomenon - that the highest performing school systems in the world share a common feature of smallness (Barber and Mourshed, 2007, Barber *et al.*, 2010).

Singapore's small school system is consequential on the small, highly urbanized nature of the city state itself. The population has grown threefold since 1965, when it was 1.8 million to 5.1 million people, and its population density of 7,022 per square kilometre in 2011 is one of the world's highest (Department of Statistics Singapore, 2011). Its per capita Gross Domestic Product (GDP) of S$53,143 (or US$36,537) is one of the highest in Asia. Based on the latest official estimates, Chinese, Malays and Indians make up 74%, 13% and 9% of the

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Singapore resident population, respectively. The remainder is classified as 'Others', and includes 'Eurasians' (i.e. from European and Asian descent). In 2009, the non-resident population of Singapore was estimated to be about 25% of the total population.

Although the whole school system is small, compact and centralized, there is increasing diversity in types of school. It is a system with a relatively short history, and an ethnically diverse school population. There are 356 schools in total - 173 primary schools (grades 1-6), 155 secondary schools (grade 7-10), 15 mixed-level schools, and 13 junior colleges, centralized institutes and specialized schools that offer academic pre-university curriculum (grades 11-12) (MOE, 2011b). All these publicly funded schools employ English language as the medium of instruction and cater to almost all Singaporean students of school-going age. Prior to 1978, besides English medium schools, there were vernacular schools where lessons were taught primarily in Chinese, Malay and Tamil. All the publicly funded schools are organized into 28 school clusters, each with 12-14 schools. Each cluster is headed by a Cluster Superintendent who supervises and advises the school principals (Sharpe and Gopinathan, 2002).

Tight-coupling is aided by the fact that Singapore has relatively few, but large schools to run, pro rata its population. The typical size of a primary 1 cohort is about 40,000 and the enrolment of a typical Singapore school is approximately 1,500 and 1300 for primary and secondary schools, respectively (Barber *et al.*, 2010). Importantly, compared to say England (where the primary and secondary school average sizes are 250 and 850, respectively), these are uniformly very large schools, with relatively little range in size because of the highly urbanised and clustered society on a small island, the absence of small rural primary schools to bring the average size down, and the Ministry preference for large schools. The Singapore government's policy favouring large schools is mainly driven by its push for efficiency and cost effectiveness to yield economies of scale. Uniquely, however, primary schools are

typically larger than secondary, reflecting the government's priority for all Singapore primary students to be socialized in the same government schools. Thereafter, at the secondary level, some students will leave the government system to enter independent, private and international schools, thereby reducing the average size of government secondary schools. Thus somewhat paradoxically, the consequence of these factors is that a small population, and very small school system is comprised of relatively few but large schools.

All schools are well resourced and modern, reflecting the absence of a historical legacy from a distant past, as well as recent rapid economic growth in income per capita and societal educational expectations. However, the proportion of GDP spent on education is relatively low by OECD standards, as shown below, suggesting the system spends education dollars efficiently across its fewer but larger schools. The pupil to teacher ratio is 19.3 in primary schools and 16.1 in secondary schools (MOE, 2011b). The Singapore government's total expenditure (both recurrent and development) on primary, secondary and pre-university education in FY2009/2010 was S$4,924 million or just over 2% of the annual GDP. This compares with the typical OECD figures of 5.5% of GDP in Nordic countries and approximately 3% in Japan, Luxembourg and the Slovak Republic (OECD, 2010).

The Singaporean educational system remains highly centralized and regulated – making for tight coupling vertically between center and periphery, following three decades of reorganization, rationalization, consolidation and reformation (Gopinathan, 1985; Hogan and Gopinathan, 2008). Over the last five years, however there has been a significant rhetorical shift towards favouring more autonomy of administrative and pedagogical authority to individual schools. Virtually all Singaporean students study in one of the publicly funded schools, and virtually all the school leaders and teachers in these schools (except a small number of Independent Schools and Specialized Schools) are recruited, paid and managed (in terms of appointment and promotion) by the Ministry of Education (Barber *et al.*, 2010). The

highly centralized school system allows it to leverage substantial economies of scale which partly explains the relatively lower level of education expenditure as a percentage of GDP compared to the OECD average. Tight-coupling - achieved through smallness, central bureaucratic control and a single political Party (the People's Action Party – PAP) monopolising power since independence – has achieved a high degree of tight coupling and alignment in policy and leadership, both of which have unquestionably enabled the implementation, sustainability, and scalability of policy reforms across the 356 schools.

Tight-coupling through human resource and personnel practices

To this point we have argued that tight coupling and alignment is partly attributable to the compactness and centralization of the system (with 356 schools reporting to one central authority, the MOE). However, there is also increasing diversity in the types and niches of schools in the Singapore educational landscape (MOE, 1987; Chan and Tan, 2008; Ng, 2010). The question that arises is - What else explains the high levels of tight coupling in school leadership, especially given the increasing diversity of school type? An exegesis reveals a high degree of structural and process alignment in human resources and personnel policies and practices. These span different phases of the leadership career track, traverse sequential phases of identification, preparation, and development of school leaders, in a system context of high congruity of professional ethics, as explained below. MOE human resource and personnel policies may be said to contribute to leadership tight coupling and alignment in at least seven ways, through policies, values, structures and processes: first, the creation of a Leadership Track as one of three career paths; second, an appraisal system (Enhanced Performance Management System - EPMS) that consistently rewards leaders conforming to specified criteria; third, a consensus view of the Currently Estimated Potential (CEP) of leaders at all levels; fourth, leadership preparation and development principally provided by a monopolist institution; fifth, the rotation of senior school leaders, especially principals; sixth,

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the cluster structure and superintendent role that recognizes and promotes those with leadership talent; and last, MOE robustness in exhorting and explicating the values underlying its policies and leadership *per se*. Each of these ways is elaborated below.

The leadership career track

Personnel in the Singapore school system are organized into three career tracks – teaching, specialist, and leadership (MOE, 2003). Normally, after a few years of teaching, those judged to have leadership potential will be encouraged to follow the Leadership Track. Although such teachers need to be willing, the decision to pursue a leadership career path is not self-initiated; that is, it is not up to the individual teacher. Rather, after a lengthy process of monitoring as described below, those with potential are spotted and encouraged to apply. Unlike promotion elsewhere, the decision to opt for a leadership position is thus a very deliberate and calculated one, arrived at by an elaborate monitoring and selection process operated by senior leaders and by the willingness of the teacher him- or herself once spotted. Primarily, it is a system- rather than individual-initiated process of selection.

Appraisal and monitoring – the Enhanced Performance Management System

Teachers are scrutinized by senior leaders at every step of their career progression. Regular monitoring and appraising of all teachers, especially those deemed to have leadership potential is undertaken by school principals, cluster superintendents, and/or senior management at the MOE. The enhanced interactions afforded by the smallness of the system ensure that these senior leaders use a common set of criteria to identify and select potential leaders system-wide. The compact system also enables senior leaders to triangulate with one another their observations and assessments of teachers with high leadership potential. Furthermore, teachers with high leadership potential, or conversely those who commit 'serious' mistakes, do not go unnoticed. In particular, the close scrutiny and triangulation of

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assessments on particular individuals precludes the appointment of poor or average performing, but aspiring, teachers to school leadership positions. While not a foolproof methodology, this rigorous and collaborative model of leader selection circumvents some of the problems other school systems face in principal selection (Walker and Kwan, 2012), including incomplete information and only partial evidence on the performance of candidates for leadership positions, and different assessors acting independently of one another.

That teachers and leaders are formally appraised annually is not unusual. However, the nature of the process, known as EPMS (MOE, 2003), does have unique Singaporean characteristics. Throughout the year, the reporting officer is expected to give feedback, coach and support the teacher (known as officer) and at an end of year meeting expose the degree to which targets have been reached. The smallness of the system, plus the continuity and triangulation of assessment enable a detailed knowledge base to be built of each individual's abilities and performance. With such detailed profiles constructed over time, few mistakes are made in selection and promotion.

Estimates of leadership potential and ranking of 'officers'

A unique feature of the system, however, is the ranking process that takes place after each round of appraisal. Individual supervisors' assessments of appraisees are moderated through ranking them in terms of the current estimated leadership potential (CEP). It is argued that ranking also imposes discipline in appraisal and ensures assessments are rigorous and fair. A ranking panel (principal, vice-principal and relevant department heads) is convened with the cluster superintendent, who attends the ranking panels of all cluster schools, as moderator. The objective of the panel is to decide the CEP and performance grading band of each teacher (significantly called officer), after which they are ranked and considered for performance bonuses and promotions (or neither, if their performance levels are judged below expectations). Promotion decisions are based on the officer's performance, knowledge,

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experience and potential, their readiness to perform at a higher level, availability of vacancies and the recommendation of supervisors. In adopting these practices – appraisal, estimating the leadership potential of all officers, and ranking them according to perceived performance (merit) - current senior school leaders and superintendents exercise huge control over the selection of personnel into and through the leadership pipeline. As current leaders they select and endorse the next generation of leaders – thereby influencing succession - all within a strong and clear set of guidelines and values laid down by the MOE (Ng, 2008a; OECD, 2011).

Leadership preparation and development - monopolized by one institution

Once in the leadership Track, officers are given formal leadership preparation and development at different stages of their career. Here, a further distinguishing factor in securing cohesive leadership emerges. As in other systems, two levels of formal leadership programs are provided – a middle level leaders' program designed for department and subject heads, and a senior program for vice principals who aspire to become principals. However, unlike most other systems, all formal leadership training – at middle and senior level - take place at the same state-run teacher training institution – the National Institute of Education (NIE) (Lim, 2007; Ng, 2008a). A single institute thus enjoys a monopoly of formal leadership development provision (as well as teacher education programs) and works in close unison with the MOE. Two consequences are worth noting: first, all middle and senior leaders experience exactly the same training; second, the NIE is ostensibly governed by an executive council chaired by the Permanent Secretary of the MOE (NIE, 2012). The close links between the MOE and NIE ensure strategic alignment between the policy center, the formal training of teachers and leaders, and the 356 schools in the system, thereby bridging a possible chasm between policy intent and implementation, and translating national priorities into a concrete school agenda on the ground (Norton *et al.*, 2002; Davis *et al.*, 2005). The

close interrelationships between the MOE, NIE and schools are further cemented through the active and well funded research projects undertaken at NIE, funded by the MOE, and directed at school and system improvement (Hogan, Teh and Dimmock, 2013).

In addition, two further features of the human resource system are important for their impact on tight coupling, leadership alignment, sustainability and scalability in the Singapore school system. The first is the practice of leadership job rotation in the school system, and the second concerns the cluster structure and superintendency. Each is discussed below.

Rotation of principals

The MOE adopts a strategy of rotating school leaders (principals and vice-principals) between organizations and types of work responsibilities (MOE, 2011c). Most primary and secondary principals are typically rotated between schools every five to seven years. This arrangement affords them the opportunity to experience different school cultures and contexts, interact with different colleagues, and understand the different needs and aspirations of teachers, students and parents. Consequently, they can draw on their accumulated pool of experiences and practices that have worked in their previous schools in deciding what is appropriate in their new school settings. Furthermore, the rotation scheme is not restricted to movements between schools. School leaders can also be rotated to MOE headquarters to serve as cluster superintendents, or assistant/deputy directors in specific branches. They can also request to be seconded to the NIE for a teaching stint. Such principal mobility can be conceptualized as enhancing tight coupling vertically and laterally, and inter-institutionally, across the system.

The diversity of exposure that comes with rotation affords school leaders the opportunity to experience issues from different vantage points and to interact with stakeholders representing diverse interests (Fidler *et al.*, 2009). For instance, school leaders who move on to assume cluster superintendent responsibilities have to lead other school

leaders within the cluster (tight-coupling vertically, laterally and inter-institutionally). In so doing, they are expected to understand the diverse composition, needs, and goals of cluster schools, and support other school leaders in their endeavors to achieve their individual school goals. These responsibilities are diametrically different from those experienced by individual school leaders heading their own schools. Superintendents are also able to learn from their cluster schools' best practices. When they are rotated back to schools as principals, they should be better equipped to adapt their leadership to benefit teaching and learning.

As for the small number (two or three) school leaders who are seconded to teaching positions within the NIE, they are able to share insights from their practical work experiences with educational leadership academics as well as with in-service practitioner leaders on formal courses, thereby enriching the knowledge base on school leadership. In Hargreaves's terms, this generates tight coupling professionally, culminating in research and instruction that is more aligned to authentic issues encountered by school leaders on the ground, as opposed to more abstract theoretically-based research. When these seconded school leaders are posted back to schools, it is expected to enable them to make more informed decisions, premised on sound theoretical underpinnings, with respect to the work issues they encounter – tight coupling in a professional and inter-institutional sense.

Overall, the system of leadership job rotation is calculated to benefit the system by facilitating the sustainability and scaling up of effective leadership and teaching practices (Elmore, 2006), while at the same time building capacity in the leadership pipeline (Dinham and Crowther, 2011). It is believed that the rotation of school leaders across different roles and organizations provides the platform for school leaders to grow professionally and enlarge their leadership repertoire, while sharing their practices across the system. Rotation is thus seen as a means of securing a tightly-coupled leadership both vertically and laterally, as well as professionally and inter-institutionally. It is considered to contribute toward the

proliferation of good leadership practices, albeit ones adapted to suit localized contexts, in different schools.

Furthermore, leadership job rotation may, at least in part, address the issue of sustainability and succession planning involved in the leadership pipeline. If leader rotation eases problems arising from the perceived paucity of outstanding individuals seen as eligible for school leadership, it is of considerable value; it is one way in which Singapore confronts a problem currently experienced by many school systems worldwide (Fink, 2011). It provides an opportunity for all schools to renew themselves at the start of each rotation cycle and to benefit from the fresh approaches of new leaders posted to each school. In an ever-changing policy landscape, leadership rotation increases the likelihood that key values underpinning the system are passed on from older to younger school leaders, thereby furthering leadership succession. While rotation may contribute to scalability, it presents challenges to sustainability and the career trajectory of principals. A new principal, for example, may decide to change the strategic direction in which the school was heading under the previous principal. Whether justifiable or otherwise, the timeliness or otherwise of a new principal appointment and whether it synchronizes with the school's improvement cycle, is difficult to plan and calibrate. Lack of synchrony between principal leadership priorities and school cycle could lead to possible instability in school strategic direction. In addition, problems of principal fatigue seem to arise, especially where principals have served three 5-7 year cycles, and may still be at least ten years from retirement. Additional drawbacks to rotation include the relative inactivity that may occur during the first and last year of a principal's placement in a school – the former time spent bedding in, the latter, preparing to exit.

Rotation seeks to periodically 'freshen up' each school with a new principal and new ideas; however, it may defeat its own purpose if, as sometimes happens, principals become labeled by the type of school they are adjudged suitable for and are then repeatedly posted to

that type of school, even against their wishes. In summary, the rotation process seems to have both positive and negative effects; but in moving principals around the schools, and occasionally to other parts of the system, there is a mobility effect of sustaining and scaling leadership, of cross-pollinating ideas and practices, thereby achieving tighter coupling.

The cluster system and superintendent

A system of 28 clusters, each with a superintendent in charge, are in effect the conduits for top-down MOE policies and directives (Sharpe and Gopinathan, 2002) and bottom-up reactions from schools. These clusters are intermediate units between the MOE headquarters and the schools. They are essentially an integral part of the vertical tight coupling. A group of 12 to 14 primary and secondary schools typically form a cluster, working together and sharing good practice under the supervision of the superintendent. Thus clusters enable principals and school leaders of cluster schools to be conceptualized as tightly coupling in a lateral sense, too. In Hargreaves's terms, clusters enable tight coupling from an inter-institutional and professional dimension. Leadership issues are shared, and good practices supported, across the cluster; the superintendent is involved as mediator between the principals and the MOE in ensuring policies and practices conform to MOE expectations. Superintendents play a crucial role in appraising the performance of leaders in their cluster schools.

Both the rotation system and the cluster structure and superintendent exert a strong influence on tight coupling and alignment of school leadership, and the sharing of resources across cluster schools promotes scalability and sustainability of leadership practice and innovation. Decisions on promotion of staff within the cluster schools also impact on leader succession.

MOE values underlying policy and leadership are continuously explicated

In addition to tight coupling and leadership alignment achieved through human resource and personnel policies, the MOE achieves further tight coupling by underpinning their policies with an explicit and strongly espoused values/ethics framework. This not only highlights for school leaders the basic values the center wishes to promulgate in all schools, but at the same time makes explicit the foundations on which they expect leadership to be practiced. For instance, through a number of policy initiatives the MOE has established a set of professional ethics encapsulated in its vision (*Thinking Schools, Learning Nation*), mission (*Molding the Future of Our Nation*), and corporate values (*Integrity the foundation, People our focus, Learning our passion,* and *Excellence our pursuit*) (Goh, 1997; MOE, 2007). There is also values uniformity in the MOE's *Desired Outcomes of Education* (*Confident person, Self-directed learner, Active contributor,* and *Concerned citizen*), and philosophical tenets of educational leadership (MOE, 2011a). In particular, the MOE espouses what it calls a *Philosophy for Educational Leadership*, anchored in values and purposes. It advocates that leaders inspire all toward a shared vision, commit to growing people, and lead and manage change (MOE, 2008).

Hence uniform, consistent and system-espoused values are continuously reinforced on different platforms and occasions, and by different policies – all of which are conceptualized as tight coupling through sharing the same values. Given these continuous reinforcements in a tightly controlled small system, it is evident that some, perhaps many, school leaders gradually begin to integrate their own personal and professional identities with the MOE's values, thereby internalizing the latter as their own, adopting them as a kind of 'default' position for undergirding their leadership practice over time. While such a 'fusion' between individual and corporate values may be seen as restrictive in its orientation, it has the effect of ameliorating the values incongruity with which some principals elsewhere are reported to be

struggling (Frick, 2009). In Singapore's case, the strong alignment in values and priorities between the MOE and its school leaders results in policies and reforms being overseen and implemented in schools on a scalable and sustained basis. Indeed, it is not surprising that survey results have shown that, relative to other East Asian countries, policy-makers and scholars from Singapore perceived fewer problems pertaining to the lack of a systemic perspective, communication of vision, and coordination in implementation, leadership change during implementation, and preparation of staff for educational reforms (Hallinger, 2010).

When systemic values and policy frameworks are overly espoused, there is a danger that they can become restrictive on professional autonomy – even as in the case of Singapore, it enters a phase of educational development where more autonomy for schools is figuring in MOE policy statements (Gopinathan *et al.*, 2008). For example, although all schools are encouraged to develop their own niche extra-curricular areas, school leaders are aware that the inherent differentiation must not compromise educational basics, such as the provision of a holistic learning experience for students anchored in strong academic fundamentals, as underscored in the Master-plan of Awards (a system of annual prizes for the 'best performing' schools) and sacrosanct national examinations (Ng, 2003; Ng, 2007; Ng, 2008b; Gopinathan and Deng, 2006; Tan, 2011). Even school leaders of high-performing independent and autonomous schools are cognizant of the need to safeguard core national priorities (e.g., promoting racial harmony in *National Education*) and academic excellence when they experiment with curricular reforms and flexibility in human resource management. Furthermore, the cluster system of 12 to 14 schools under the oversight of a cluster superintendent, ensures the effective dissemination and implementation of MOE policies at the school level (Sharpe and Gopinathan, 2002). As for independent schools, the *School Boards (Incorporation) Act* of 1990, empowering the MOE to take over the running of

independent schools under exceptional circumstances, effectively precludes any potential 'departure from the norm' of school leaders (Chan and Tan, 2008).

Collectively, these myriad initiatives serve to keep schools, and their leaders, in tandem with the overall priorities and developmental trajectories of the school system. Given the convergence of school leaders' cognitions and behaviors, tight coupling seems to achieve a synergy percolating throughout the entire school system that is hard to overstate.

So far, we have argued that tight coupling in the system is achieved through its smallness and by a raft of human resources and personnel policies, backed up by clearly espoused strategic values that impact leadership. We now introduce a third major component making for tight coupling and leadership alignment namely, the impact of a socio-cultural leader-teacher compact.

Tight coupling and alignment through a socio-cultural (leader-teacher) 'compact'

A third powerful factor explaining the tight coupling of Singapore schools occurs at the school level – what Hargreaves (2011) refers to as institutional coupling. However, besides the traditional forms of structural and administrative tight coupling found elsewhere (eg, timetable), there exists a distinctly Asian cultural characteristic binding leaders and teachers in Singapore schools in a form of vertical tight coupling. Indeed, leader-teacher interactions, when conceptualized in the form of a leader-teacher 'compact', provide the all-important context for implementing the curriculum and promoting student learning. Such 'compacts' provide the necessary social capital for school leaders to lead their teachers, and teachers to support and follow their leaders (Dimmock, 2012; Law, 2009).

In the socio-cultural context of Singapore, this 'compact' may be said to be characterized by an Asian Confucian form of leadership – namely, paternalism (Farh *et al.* 2006). According to Chen and Farh (2010), paternalistic leadership is the 'most well-developed, systematically researched, and clearly indigenous' form of leadership adopted in

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Asian Confucian societies (p.601). The relevance of paternalistic leadership is not unexpected in the Singapore school system, in part because of the city-state's cultural heritage and also because of the government's continuous emphasis on Confucian values to build a cohesive, harmonious society (Clammer, 1985; Kuo, 1987; Quah, 1999; Tong *et al.*, 2004; Goh, 2009).

According to Farh and Cheng (2000), paternalistic leadership is 'a father-like leadership style in which clear and strong authority is combined with concern, consideration, and elements of moral leadership' (p.94). It is premised on the behavioral roles and obligations of the leader-member dyad in the Confucian principle of the Five Cardinal Relations (King and Bond, 1985; Bond and Hwang, 1986; Jiang and Cheng, 2008). First, paternalistic school leaders are expected to epitomize high degrees of internalization of moral values in order to gain the respect and deference of staff. They are also benevolent in promoting the school as having a collegial familial culture, with the staff referred to as members of the larger school family, and seeking to address their staff's needs and aspirations. However, there are also tacit provisions for the leader to be authoritarian at times, but more because of the need to educate and 'correct' unsatisfactory behaviors than to abuse, silence, or 'break the will' of followers. Concomitantly, followers are expected to respect, defer to, and unreservedly support their leaders who are bestowed with authority to guide and lead (Farh & Cheng, 2000). This reciprocity between school leaders and teachers constitutes a distinctive social compact that governs work behavior and typically makes for cooperation, care, and respect in the workplace.

Results of a study of Singapore middle school leaders provided evidence for paternalistic school leadership by middle leaders in Singapore schools (Zhang, 1994). More specifically, these middle leaders perceived effective school leaders as having moral courage (related to morality); being honest, considerate, trusting, inspiring, and understanding (related to benevolence); while being domineering and of strong will (related to authoritarianism).

These findings suggest that Singapore school leaders can be perceived as moral, benevolent, but also authoritarian in their leadership style - simultaneously. Through reciprocally exercising such values, leaders and teachers tacitly understand their respective culturally expected roles and in so doing, a form of vertical tight coupling within schools, is realized.

It should be qualified that paternalism is a paradigmatic archetype of leadership style, whose elements are moderated by socio-political contexts and whose 'benefits' may not be immediately obvious to the observer outside the cultural system. It is also not the intent in this paper to claim that leadership in the Singapore school system is premised exclusively on paternalistic values. Consequently, without the benefit of an established knowledge base, evoking paternalism to explain facets of leader-follower interactions in the school context represents a step forward in furthering our understanding of leadership behaviors in a high-performing Asian society, like that of Singapore.

Singapore's tightly-coupled leadership, highly-performing system and student outcomes

While the main purpose of the paper is to characterize school leadership in Singapore, a secondary aspect is to gauge the contribution of leadership to the high performance of the schools as measured by student outcomes. Empirical evidence indicates that school leaders mainly impact student learning through their influence on teachers (Witziers *et al.*, 2003; Heck and Hallinger, 2009, 2010; Heck and Moriyama, 2010; Leithwood *et al.*, 2010). These studies also confirm that the leadership effect is second only to classroom teaching in impacting student learning outcomes.

It is thus reasonable to assume that a tightly-coupled leader-teacher relationship is more likely to secure implementation of innovations that are both sustainable and scalable, leading in turn to school improvement and hence better student outcomes. Leaders and teachers are more likely to cohere around consistent values and goals, thereby achieving synergies in teaching and learning practices geared towards the same goals. The traditional

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vertical center-periphery model of tight coupling has certainly achieved clarity of purpose in the mind-sets of teachers in their understanding of the MOE expecting the very best test results for every student and school. Furthermore, the MOE has prizes and incentives in place (the annual Master Plan of Awards) for those schools who meet these expectations. Significantly, the MOE added a further element of (professional) tight coupling between leaders and teachers (thereby impacting student outcomes), when, in 2009-10, it became the first system in the world to adopt a policy for all schools to become professional learning communities (PLCs) (Dimmock and Hairon (in press)). In promoting collaborative professional development between school leaders and teachers, it is introducing a professional form of tight coupling.

Even in a small, tightly-coupled system such as Singapore, however, difficulty is encountered in aligning teachers' classroom practices with reformist Ministry policy. Time lags and obstacles exist, for example, between Ministry desire to re-balance the system to achieve emergent priorities through its adoption of new policy – and teachers' classroom implementation. Currently, the MOE has broadened its priorities to embrace the preparation of young people for 21st century society and economy. Greater attention is being paid in the curriculum to 'soft' skills, such as team work, leadership and citizenship, and also the imparting of higher order thinking skills and problem solving. However, the MOE has not lessened its priority for continued improvement in student academic test scores. Teachers are thus facing a conundrum – how to satisfy all stakeholders across an expanding spectrum of goals and expectations, not all of which seem readily or easily compatible. Even in a very tightly coupled system, there appear some disconnections, particularly between policy and teachers' classroom practice.

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Challenges and implications for Singapore school leadership in future

In this paper, we have contended that three sets of powerful forces coalesce – logistics, human resource policies and a dominant socio-cultural compact – to create a tightly-coupled system and propel leaders and schools towards the achievement of system and school goals. In turn, this tightly-coupled system achieves an extraordinary level of coherence and alignment - in leadership and system-wide policy innovation – to which most other systems can only aspire. Tight coupling at the institutional level – especially vertically through the leader-teacher compact, and increasingly professionally through PLCs – achieves alignment within schools, and across leaders and schools - bringing synergies in the form of innovative practices that are more likely to be sustained and scaled up. These practices have also ensured a strong continuity in leadership succession from one generation to another. In this respect, school leadership, we contend, contributes substantially to the successful performance of Singapore schools. However, as Singapore schools and their purposes change during the 21st century, we need to ask whether the same extraordinarily high degree of tight coupling and alignment in leadership will continue to serve Singapore's best interests. What are the intrinsic challenges and problems for its leaders and leadership going forward? We highlight five in particular.

First, there is the danger that tight coupling and alignment can eventually breed conformity and homogeneity. Tight coupling brings benefits of effectiveness and efficiency to the system as a whole through securing synergies in goal achievement, but at what point do these transform into a failure to provide enterprising and creative leadership at school level to meet local contextual needs? As Singapore's range of school types and curricula diversify, and with the evolution of its school system from 'great' to 'excellent' implying a more professionalized teaching force and increased school autonomy (Barber *et al.*, 2010; Mourshed *et al.*, 2010), to what extent is there a need for greater heterogeneity among the

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perspectives, skills and attributes of school leaders? The crucial issue is to what extent a vibrant and diversifying highly performing 21st century school system with an increasingly professionalized body of teachers is best served by a cadre of more diverse rather than homogenous leaders? In Hargreaves' terms, to what extent will (should) political and administrative vertical tight coupling give way to more lateral, professional tight coupling at school level?

A more diverse cadre of leaders is relevant in matching the suitability of principals to specific school contexts – a challenge already encountered in the principal rotation system. This is especially so in a school system keen to diversify the types of school deemed necessary to meet 21st century KBE needs. Although principals have different personalities, and schools have different socio-economic contexts, intakes and purposes, the pressures on principals to conform to system requirements suggests that for the present time, the range of leadership styles, perspectives and practices in the system is curtailed. Given the explicit systemic norms, values and expectations underpinning the selection criteria for leaders, and the homogeneity among those doing the selecting, principals tend to be appointed if they closely resemble the characteristics of the present cadre. How much room is there for 'different' yet outstanding leadership talent to emerge? Do existing human resource policies and practices, including selection and promotion criteria and the present cadre of senior leaders as assessors, unduly favour the continuation and perpetuation of the present, known and 'safe' options, at the expense of a more heterogeneous set of leaders? Will the same tight coupling in Hargreaves's professional sense that is being encouraged for teachers, also be encouraged for principals and other school leaders?

Second, within schools, a related issue of leadership diversity also applies. This concerns the relationships between leaders on the Leadership Track and those on the Teacher Track. There is ambiguity regarding the relative status and influence of leaders on the

Leadership Track (such as department heads) and leaders on the Teaching Track (for example, master teachers). In promoting leadership in different Tracks, the simplicity of a single hierarchy is broken, raising the question as to whether the nature and form of leadership is the same or different according to which track it belongs. Furthermore, what are the implications for distributed leadership of having leaders on different tracks?

Third, if our analysis of the 'social compact' between principals and teachers is accurate, based on predominantly Chinese cultural values, implications follow for the evolution and emergence of more shared leadership practices. How feasible is it for shared leadership – a professional form of tight coupling - to develop in a Singapore school where the social compact (vertical, hierarchical tight coupling) is strong? To what extent are such school cultures likely to be empowering of say, middle level leaders? And if possible, what form might it take? How do calls for more shared leadership resonate with notions of the social compact in Singapore schools? Assuming the continued espousal of shared leadership – in response to the continuing professionalization of teachers, greater workloads, and more complex student-centred education, then the degree to which genuine empowerment occurs - as opposed to simple delegation of responsibility - may be curtailed by the social compact. In addition, the layered, hierarchical nature of schools as organisations – favouring vertical tight coupling in Chinese cultures – suggests that the development of lateral coupling may be limited to teacher professionalization confined to vertical (hierarchical) administrative, institutional tight coupling. Under such conditions, it is more likely that dispersion of decision making responsibility will take more nested and linear forms where power is dispersed cautiously within hierarchical layers, thus raising the prospect of Asian culturally-based models of shared leadership.

Fourth, distributed leadership and instructional leadership are inextricably intertwined. A pre-occupation with principal instructional leadership has tended to underplay

the vital contributions to instructional leadership made by middle-level and teacher-leaders. Yet in reality principals themselves often feel remote from, and only superficially involved in, instructional leadership. Consequently, both conceptually and practically, clarification is needed as to what is meant by the pursuit of excellence in instructional leadership. What are the implications of pursuing excellence in instructional leadership for leaders at different levels in the school hierarchy (Leadership Track) and for leaders on different Tracks, notably the Leadership and Teaching Tracks? Should the leadership identification process focus on outstanding teacher leaders or corporate leaders, or both? Moreover, what are implications of the bifurcation between corporate and instructional leaders, and between principal and shared instructional leadership?

Finally, important issues concern leadership renewal and succession. Given the shortage of high calibre candidates for the leadership track, to what extent are stringent appraisal and promotion criteria together with the selection processes, exacerbating the problem? Many teachers considering the leadership track seem daunted by the exacting expectations the system has of its leaders. Achieving sufficient entrants to the Leadership Track is one issue, but encouraging adequate flow through the leadership pipeline to senior positions is another. A shortage of high calibre principals is partly the result of weak flow through the pipeline. Bringing in new blood from outside education has been tried to a limited extent – with mixed results. Apparently, the strength of school professional and organizational cultures makes the transition for mature entrants from other sectors to school leadership, difficult. The problem is exacerbated by the failure to make leadership positions more appealing. The rigours and expectations of an assessment-oriented system create an inherent risk-averse culture. School leaders at all levels are fearful of making mistakes. Furthermore, if a teacher or middle-level leader refuses a leadership position at any given time, they wonder whether it will ruin the likelihood of them becoming a leader later. Lastly,

how can more formal leadership opportunities be created for new leaders, given the relatively small number of schools, and the existing system of rotating principals among schools?

As the purposes, functions and forms of schools constantly evolve, so do leaders and leadership. In Singapore's case, we have argued that three compelling forces – smallness and tight central control of the system, distinctive human resource policies and practices, and the 'social compact' between leaders and teachers in a Chinese cultural context - largely explain the extraordinarily high degree of tight coupling and alignment between policy and practice, between and within schools, and across school leaders and leadership. While contributing substantially to the system's success, these same forces may have produced a cadre of leaders who now demonstrate high degrees of homogeneity and conformism. Given the desire for greater school diversity, levels of school autonomy and school-based leadership, and a 21st century school agenda to produce a highly skilled, innovative workforce for the future, the question as to whether the system should cultivate a more diverse and heterogeneous cadre of leaders deserves to be high on the agenda.

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