

Systematic Performance Evaluation for Private Elementary School

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Abstract

A serious economic crisis caused by US sub-prime mortgage crisis greatly influences public and private organizations on the financial system. As a result, the organizations have faced challenges to rehabilitate their performance measures and management strategies. Especially, non-typical business entities, such as private schools have been encouraged to adopt typical industry models to evaluate the performance of their existing systems. In this paper, efforts to improve a private school's performance evaluation process was illustrated. Particularly, the present study attempted to employ an industry model such as Malcolm Baldrige criteria to promote school's effort.

Key words: school performance, school evaluation, school leadership, school management

1. Introduction

Current research suggests that internal or self-evaluation has many positive effects on school development, including an improved evaluation understanding among teachers and the involvement of more stakeholders in school evaluation (Thornton et al., 2007; Bubb and Earley, 2008), thus promoting organizational learning (Robinson and Cousins, 2004; Hofman et al., 2009). Schools undergo various models of school evaluation to ensure accountability and quality in education (Janssens and van Amelsvoort, 2008). However,

Because of economic crisis in US, many private and public organizations have been through difficult and painful transformation financially (Moseley, 2009). The private schools were not exception. To date, major change efforts in industry and government have helped some organizations adapt significantly to shifting conditions, and have improved the competitive standing of others (Moseley, 2009; Wang and Liu, 2009; Gilbert and DeVilbiss, 2010). It would be important for the private schools to adapt industry models to evaluate systems performance in order to improve appropriately and accordingly. Utilizations of systems approach in industry have been very popular in an effort to enhance organizational performance via restructuring, reengineering, quality programs, downsizing, and strategic redirection (Agarwal et al., 2009; Rajshree et al., 2009; Singh and Shi 2008). The primary objective of this project was to assess the current performance measurement system at a private elementary school and develop an improved version with deliverables that would help the school track key parameters and thus, better their performance in the future.

The BNS is a parent-teacher cooperative which offers a unique learning environment to every child enrolled in the BNS. Student learning is individualized and self-motivated, with students and their parents alike contributing to its system of education.

While BNS has enjoyed success in terms of growth since it began over thirty years ago, there are a number of areas for which a systematic performance measurement system would benefit the school in identifying areas for improvement. The school does track financial performance (through budgeting and expense-tracking) as well as enrollment, there is a lack of other types of measures that would be helpful in gaining a holistic view of the school's progress and performance, such as parent satisfaction, teacher satisfaction, community involvement, etc. In addition, the school has experienced varying levels of turnover both in teachers and in students over the years. Although some factors contributing to this turnover are outside of the school's control (recession, etc.), a systematic measurement system would better enable decision makers to understand and perhaps predict measures such as enrollment and thus, financial performance.

A systematic measurement system would therefore, allow the school and decision makers to evaluate school performance from a balanced and holistic perspective which could in turn, contribute to improving performance in targeted areas such as curriculum, enrollment, teacher satisfaction, financial stability, etc.

The users of the proposed performance measurement system are intended to be primarily the BNS Board of Directors (composed of the parents and alumni parents serving as leaders of the school and secondarily). The Board meets every month, while the Corporation meets twice a year. Current measures used to evaluate progress and performances include financial performance and enrollment. Although teacher evaluations are conducted twice a year (completed by parents), these are not aggregated into an overall measure of performance within a BNS measurement system.

2. Methodology

2.1. Analysis of the Current System

Input/ Output analysis

The Input / Output Analysis (figure 1) was used to define the school as a “system” with suppliers, inputs, processes, outputs, customers, and desired outcomes.

Major Goals / Objectives / Strategies for the organizational system

Based on input from key members of the school, it appears that the primary improvement objectives that are currently being worked on are; 1) Improve fundraising efforts, 2) Increase student enrollment to full capacity of 65 students, 3) Increase the diversity of students enrolled into the school, 4) Improve the reputation of the school within the community, 5) Increase playground space and the amount of playground equipment, and 6) Improve the current school facility.

In addition to these objectives, BNS has in place a philosophy that forms part of its strategy. The philosophy is as follows: “The school wishes to instill the desire to learn in each student by; 1) Letting each student progress at his/her own pace using positive reinforcement, 2) Emphasizing how to work with one another and honour each other’s traits, 3) Stressing development of critical thinking and inquiry rather than rote learning alone, 4) Having parents support students’ educational activities and participate in the daily running of the school, 5) Avoiding competitive, racist, or sexist mindsets, 6) Making schoolwork a challenge but not a frustration, 7) Giving students and teachers the opportunity to set goals, develop projects, and provide evaluation jointly, 8) Encouraging the mixing of age levels within the school so that students can help one another, and 9) Stressing that with freedom comes responsibility, both to oneself and to others.

The school wants to promote self-knowledge and growth by aiding each student to; 1) Respect oneself and others, both in language and behaviour, 2) Be cooperative rather than competitive, 3) Learn self-discipline and take responsibility for one’s own actions, 4) develop a spirit of service-mindedness by helping others and being patient, 5) learn to concentrate, 6) Listen to and understand what others say and feel, 7) learn to focus on one’s needs, feelings and goals, 8) Learn to show feelings in appropriate ways, 9) Respect property and treat the environment with care, and 10) Witness the importance of family involvement in their education.

Apart from this philosophy, BNS is committed to value its students, staff and each of their families by creating an appropriate environment. BNS does not discriminate against employees, students, families, or applicants on the basis of race, ethnicity, gender, physical disability, age, national origin, religion, sexual orientation, physical appearance, or political affiliation.”

Organizational Environment Assessment using SWOT Analysis

SWOT (Strengths, Weaknesses, Opportunity, and Threats) analysis was performed to identify the key internal and external factors that are important to achieving the objectives.

Strengths:

- *Experience in unique teaching style*

The school has been applying the particular teaching style, such as integrating each child’s interests and abilities into the teaching method, since 30 years now.

- *Clear philosophical approach to style of education*

Since the 1970s, the school has maintained their philosophy in education.

- *Good Parental support*

The school provides a chance for parents to get directly involved with the child's education. Parents also serve on the school committees, such as building, fundraising, scholarships, etc.

- High student to teacher ratio

The school offers a small size class, which serves to be more effective as far as student-teacher interaction is concerned.

- Good Internal communication

As there are 9 teachers, a good level of communication takes place between them.

- Small size of the school

As the maximum capacity of a class is limited to 65 students, this helps in improving student-teacher interaction.

- After School program

This program serves as one of the school's unique strengths, in that it allows students to stay in school longer and engage in meaningful activities. This program also gives parents the flexibility to pick up their children a little later in the afternoon, and more so, pay for only the times that their child (ren) had stayed back into the program.

Weaknesses:

- No external financial support

The school does not receive funds from the government, or local societies. Also, fundraising by parents do not provide enough supply of funds.

- Processes not clearly defined

Although the school has a small number of teaching staff, the decision-making lines are not clearly defined which may lead at times to unclear roles.

- Input from parents

Although valuable for many reasons, input from parents may also make it difficult and/or time-consuming to make decisions for the school, especially if the input is strongly varied on specific issues.

- Lack of systematic tools to assess and analyze potential problems and improvement opportunities

The school does not currently have or apply tools to assess potential problems and/or improvement opportunities.

- School equipment. Some school equipment and facilities may not be at desired levels (computers, playground equipment, etc.).

- Cost of tuition

Tuition is expensive in comparison to other private schools in the local area. This may be a cause for decreased student enrollment.

Opportunities:

- Local community organizations.

The school could tap financial resources available with the local community and the government.

- Presence of Virginia Tech and the Corporate Research Centre in the locality.

The school could use this as an opportunity for exploring additional resources. In addition, the presence of VT and affiliated entities such as the CRC provides the opportunities for students.

Threats:

- Limited opportunities for external fundraising

The school has had limited opportunities to raise funds through external sources.

- Size of local community

The BNS is located a small town. This may influence the student enrollment in the present as well as in the future.

- Presence of other public and private schools in the locality

There are other schools in the locality that offer quite the same curriculum with lower tuition.

2.2. Identification of Key Performance Areas (KPA's)

KPA's were defined and End-Result Metrics (ERMs) for each KPA were listed in figure 2.

2.3. Audit of the End-Result Metrics

This audit reflects the mapping of each of the ERMs against balanced quality dimensions such as Sink's performance criteria, Kaplan and Norton's Balanced Scorecard approach (Kaplan and Norton, 1996), System components (S, I, P, O, C, and Desired Outcomes) and the Baldrige performance categories (Brown 2000 and 2001). Refer to table 1. The ERMs are listed across the columns while the balanced dimensions are listed down the rows.

2.4. Metrics Development Matrix (MDM)

The MDM is a tool that gathers the following information about the metrics applicable to the target system; Operational definition, Purpose of the metric, The portrayal tool to be used to show the metric performance, Frequency of update and portrayal, Whether data is currently available on the metric, The tools used to collect data, The person responsible of the metric, Frequency of data logging, and The goal and target of the metric.

The BNS employs Microsoft Excel as one of its tools to record and track data. As such, the school could use a software coupled with excel, if necessary, specially designed to help track performance more efficiently than Excel by itself. However, this may prove time consuming and expensive in that the school has never used such software for this purpose; it would require users of this software package to undergo training on it before actually implementing it. Most of the metrics portrayed in figure 2 are new and consequently, do not have historical data collected for them. It is *recommended* here that BNS use the proposed measurement system for a time horizon of 3 years to be able to better predict the future goals and targets on the metrics. The following table 2 shows the Metrics Development Matrix depicting information on the above points in detail:

2.5. Visibility Board

A Visibility Board is a tool that is used to communicate the performance of the metrics and, in turn, that of the target system to stakeholders. In the case of our measurement system, we have designed a Visibility Board that focuses on the most important metrics given the current situation of the school. The Visibility board will include 3 main areas:

1. The Mission and Vision of the BNS.

2. The four KPAs

- *Financial Viability*, containing three metrics: Revenues, Cost allocated per student, and Student Enrollment

The above metrics communicate the pool of money available with the school and its distribution. Parents can compare the amount of money they pay towards tuition for their children with the cost allocated per student, which is assigned by the school.

- *Staff Excellence and Development*

Innovation is the metric highlighted under this KPA. This metric reflects new methods or any sort of innovation introduced in the teaching methodology at the school.

- *Child Growth Development*

Diversity of curriculum is the metric highlighted under this KPA.

- *Customer Satisfaction* (including Parent Satisfaction and Parent Participation).

The purpose of portraying metrics under this category on the Visibility Board is that it would involve all stakeholders of the school and would, thus, encourage them to contribute to the system performance.

3. Input / Output Analysis

Metrics to be displayed as part of the Visibility Board have been done keeping in mind the different stakeholders at the school. Information exchange amongst the stakeholders has been considered a critical factor during this activity. Additionally, the Visibility Board must be displayed in a prominent place within the school, allowing stakeholders and other parties involved with the school to understand and interpret the performance of the school. Two places are recognized as prominent areas for the display of the Visibility Board. They are the school reception area and the main corridor immediately behind the reception area. The President and Vice-President of the school must also have free access to this information and as such the placement of the Visibility Board in each of their offices is also *recommended*.

2.6. An Assessment of Employee Perceptions of Performance of the Target System

The Visibility Board designed above for the BNS would enable the users of the tool to look at performance of the target system as a whole and also along the KPAs highlighted on it. To understand the perceptions that stakeholders may have regarding their opinions as a stakeholder group, a Teacher Survey Questionnaire was developed. The questionnaire was targeted towards the teachers at BNS; 'Teachers' in this context refers to Teaching Staff, After-School Program (ASP) Staff, and Others, such as people teaching Spanish, Art, etc. The survey was divided into ten constructs. A construct is a theoretical construction about the nature of human behavior. Constructs help people understand human behavior.

The survey comprised the following ten *constructs*: Resources, Pay and Benefits, Interaction with Classroom Parents, Interaction with Parent community, Child Progress, Work Environment, Professional Development, Curriculum, Administration, and Overall Satisfaction. Specific question items within each dimension were defined and were distributed in random order throughout the survey so as to remove the possibility of bias towards a particular area of concern, on the part of the teacher completing the survey. To collect any general comments that teachers may have about the School, some open-ended questions were included at the end of the survey questions.

Performance Dimensions and Survey Items

Table 3 shows which numbered survey questions measures what dimensions. For example, the 'Resources' construct is measured by numbered survey questions 1,9,26,27,32,36 and 39.

Data Collection

A seven-point Likert-type scale (1-6) was used to allow subjects to respond to the survey items. The six-point scale had the following response options: Completely Satisfied (1), Satisfied (2), Slightly Satisfied (3), Slightly Dissatisfied (4), Dissatisfied (5), Completely Dissatisfied (6) and Does Not Apply (7). A lower the score on an item the greater the employee's satisfaction for that particular item.

Item Analysis

The survey response rate was 92.31% with 12 out of 13 survey forms completed and returned for analysis. The item analysis for the 40 numerical survey questions is contained in the table 4 below.

Reliability

When using questionnaires to measure constructs, reliability must be addressed in survey development and evaluation. Reliability allows the survey designers to determine the degree of systematic variance in the questionnaire. Reliability is the degree to which measurements are free from random errors. It can be thought of as the relationship between the true underlying score and the observable score. For one to feel confident that a questionnaire's scores accurately reflect the underlying dimension, the questionnaire must have high reliability. Although many types of reliability exist, internal consistency reliability was used in the present study. Internal consistency indicates the extent to which the items in the measurement are related to each other. The higher the interrelationship among the items, the higher is the internal consistency. The Cronbach's alpha coefficient was used to estimate the degree of internal consistency.

Cronbach's alpha estimate

Cronbach's alpha is used to indicate how highly the items in a questionnaire are interrelated. Cronbach's estimate is calculated using the correlations between items.

The formula for Cronbach's reliability estimate is:

$$r_{xx'} = (K / [K - 1]) (1 - [(\sum X_{ii}) / (\sum X_{ii} + \sum X_{ij})]); \text{ where, } i \neq j$$

The elements X_{ii} and X_{ij} are the elements of the covariance matrix or correlation matrix, and K is the number of items in the scale. The numerator $(\sum X_{ii})$ indicates that the elements in the diagonal of the covariance matrix be added together. The denominator $(\sum X_{ii} + \sum X_{ij})$ indicates that all the elements in the covariance (correlation) matrix be added together. This index can range from 0 to 1. A reliability of 0 indicated that the observed score is not related to the underlying true score; a reliability of 1 indicates that the observed score is a perfect indicator of the underlying true score. Generally, a reliability of 0.7 or greater is an acceptable level of reliability. Table 5 provides an overview.

Correlation Matrix

Table 6 below illustrates the inter-correlations between the survey constructs.

Table 7 shows the highest and the least correlated constructs. The highest correlation of 0.912 was found between construct (5) 'Child Progress' and (2) 'Pays & Benefits'. The scales of the survey can thus said to be reliable; this is not at all related to the correlations between constructs – this is the type of statement you can make, if justifiable, after the internal consistency analysis!

Possible Revisions to the Survey

In the case of construct 5, the reliability results show that upon deleting item 22 “The academic progress of the children in your classroom,” the alpha value would increase to 0.7924 from 0.6662. In the case of construct 7, the reliability results show that upon deleting item 7 “Getting support from your colleagues”, the value of alpha would increase to 0.375 from 0.0104. In the case of construct 8, the reliability results show that upon deleting item 5 “The autonomy while designing curricula for your class” the value of alpha would increase to 0.7105 from 0.5155. In the case of construct 9, the reliability results show that upon deleting item 17 “The responsiveness of the administration to the needs and schedules of everyone involved” the value of alpha would increase to 0.5507 from 0.4089. The Survey Questionnaire and a revised draft of the Survey will be available upon requested to the author.

A Proposed Implementation and Deployment Plan

Up until now, the present study illustrated the following activities; 1) defined the need for change / improvement at BNS, 2) defined the users of the management system, 3) defined and analyzed BNS using an Input / Output Analysis and a SWOT Analysis, 4) developed and defined Key Performance Areas for BNS, and 5) defined the measurement system architecture. The purpose of the next description was to propose an implementation and deployment plan for the users of this measurement system. The plan is to be implemented in the following stages:

- Requirements Analysis

This step would require reviewing the measurement system with the Board (user of the measurement system) and other stakeholders at BNS in terms of the timeline proposed for implementation of the system. The review session would essentially involve understanding of the requirements of the measurement system by the users and stakeholders, henceforth referred to as “stakeholders” throughout the report. It was necessary to understand and incorporate any changes that the stakeholders may wish to have on the measurement system. The stakeholders and the team would decide on the procedures for data collection as well as on individuals to be involved in this process and with the process of testing the data collection tools.

- Data Portrayal

During this step, the stakeholders together with the author would develop a Visibility Board as a tool to track key performance measures. It is recommended here that the visibility board be pilot tested before its actual implementation. At this stage, the data collection methods would be finalized and sample results would be displayed in the school lobby and main corridor.

It is also recommended that BNS invest in Scorecard software to track progress on metrics in an efficient manner.

- Training and Development

This is an important step in that the stakeholders who would actually be using the system need to be trained on the software and educated about how to read and interpret the results. A training schedule would be designed which would be presided over by the Lead Teacher at the school. Training would be imparted in stages to the different stakeholder groups on a weekly basis. At the end of the training schedule, stakeholders would be required to provide comments and recommendations that would then enable the Lead Teacher to make changes to the training methodology and schedule and incorporate the new version at the end of the test run.

- Communication

The information being tracked on this measurement system would then be communicated to all the stakeholders in this step. Various modes of communication would be used. They are:

- a. Biannual meetings of the stakeholder group with the Lead Teacher
- b. An online suggestion box wherein stakeholders can provide much required feedback and recommendations.
Grievances would be expressed through the online suggestion box.

- c. A web-mail service that would communicate any updates and changes on the metrics after fresh measurements. It would also be used to provide comparative data at the end of every month of the metrics measured earlier during the school year..

- System Review

This step would review the performance of the measurement system. Review would be conducted by the author made up by lead teacher, Board representative(s), and one representative from each stakeholder group.

The review team would meet once every year at the end of the school year. Activities involved during this phase would be:

1. To carry out a Teacher Satisfaction Survey that would enable the review committee to better understand the requirements of a stakeholder group and implement the changes, if necessary, to improve work environment and organization culture.
2. To carry out an in-depth analysis of the measurement system and analyze it in terms of the goals to be achieved or set targets.
3. To set fresh targets based on historical data collected during the school year.
4. To incorporate any other changes that may be required on the scorecard.
5. To forge partnerships with suppliers (of software) and other schools to improve training and culture.

At this point, it is imperative that the users of the proposed measurement system link measurement to improvement and decision-making. A PDSA (Plan-Do-Study-Act) review process is compiled below to provide a summary of the activities documented earlier.

PDSA Review Process

Phase 1: Plan

During the Planning stage, the aspects of the Measurement System have to be understood by the stakeholders. Background information has to be collected creating a history of records for future reference. This information could be the Mission and Vision of the school; whether it needs to be revised; an environment examination through a SWOT analysis and Input / Output Analysis.

Phase 2: Do

During this stage, the following activities need to be carried out; 1) design of a measurement framework, 2) identification of metrics (leading and lagging), 3) design of data collection plans, and 4) data collection. The measurement system would be in effect through this stage.

Phase 3: Study

During this stage, information on the performance of the system would have been accumulated. This information would then need to be studied and interpreted in order to aid the stakeholders in better decision-making towards the performance improvement of the school. The primary activities to be carried out in this stage are:

- *Evaluate performance on metrics*

Identify 'gaps' between target values and measured values. *For example, the target on 'Student Enrollment' is 14 students per classroom. If the measured value is 12 students per classroom, then stakeholders would know that there exists a 'gap' which needs to be bridged.*

- *Identify improvement initiatives and incorporate them on the measurement system.*

- *Create learning by exploring linkages*

Understand the cause-and-effect relationships between metrics through the different tools suggested on the system. Interpret the relationships and design changes accordingly. This would improve the overall efficiency of the tools in improving the performance of the school.

Phase 4: Act

In today's fast changing competitive world, performance measurement and improvement is vital. In this context, a constant review of the measurement system would need to be done in order to update the Measurement System with current needs and trends, and incorporate improvement initiatives to stay alongside or overtake competition.

Upon the review of the measurement system, a fresh scorecard could be created, if necessary and the revised measurement system could be seen as another starting point in the PDSA cycle. Figure 4 shows the PDSA cycle described above.

Recommendations

The stakeholder group at BNS should; 1) use the proposed measurement system for 3 years to be able to better predict goals and targets on the metrics, 2) invest in entry-level software to execute the system of measurement, and 3) place the Visibility Board in following areas within the school premises: reception area, main corridor, offices of president and vice president, and office of the lead teacher.

Summary

The objective was to assess the current system at the BNS and design a measurement system that would overcome the shortcomings of the current one in place at the school. During meetings with the school representatives throughout the semester, it was realized that there were a number of areas for which a systematic performance measurement system would benefit the school in identifying areas for improvement.

Based on this need, the information was collected on the current system, carried out an in-depth study of the school using Input / Output and SWOT analysis, designed a scorecard and developed the metrics using the Metrics Development Matrix. Display of the measurement system was recommended through the design of a Visibility Board. A Teacher Satisfaction Survey was also part of the team's design to improve the current system by understanding the cause-and-effect relationships on various categories on the survey. Finally, a plan was proposed to implement the designed system.

Acknowledgements

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Figure 1: Input / Output Analysis

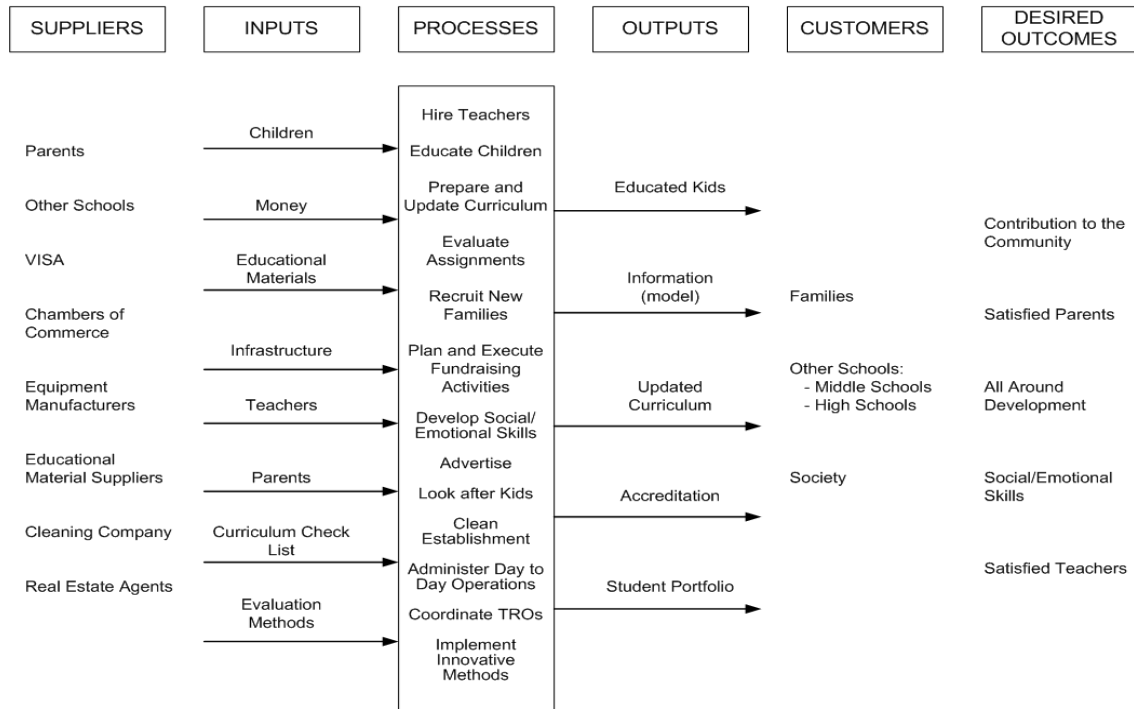


Figure 2: Key Performance Areas

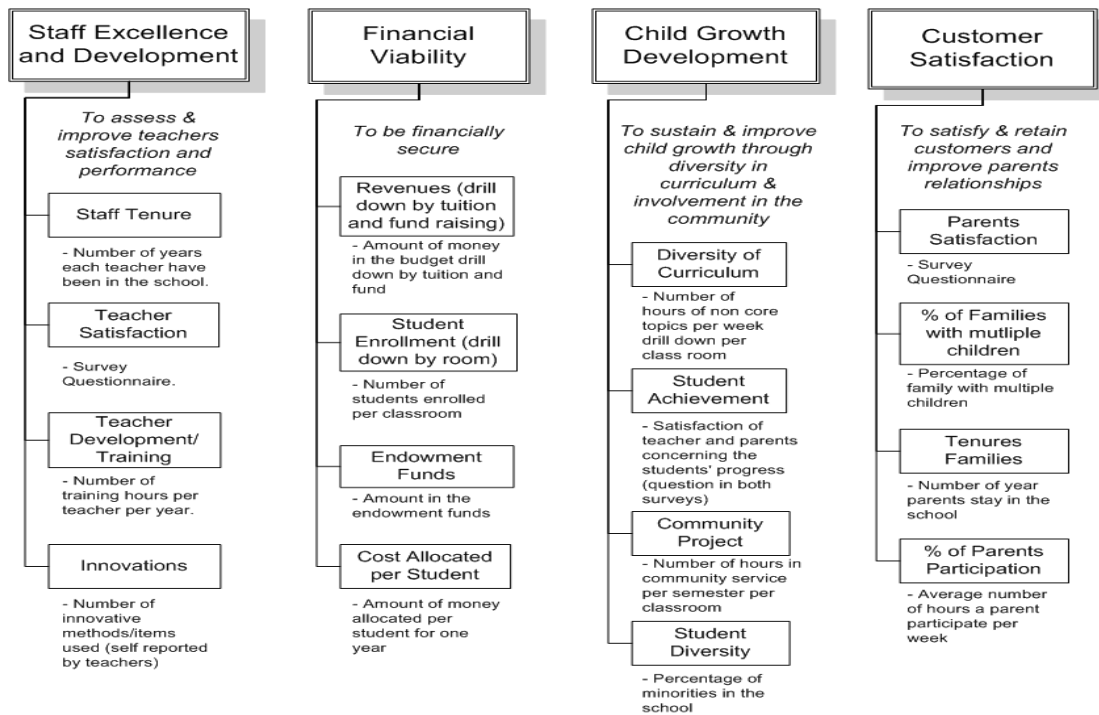


Figure 3: PDSA Review

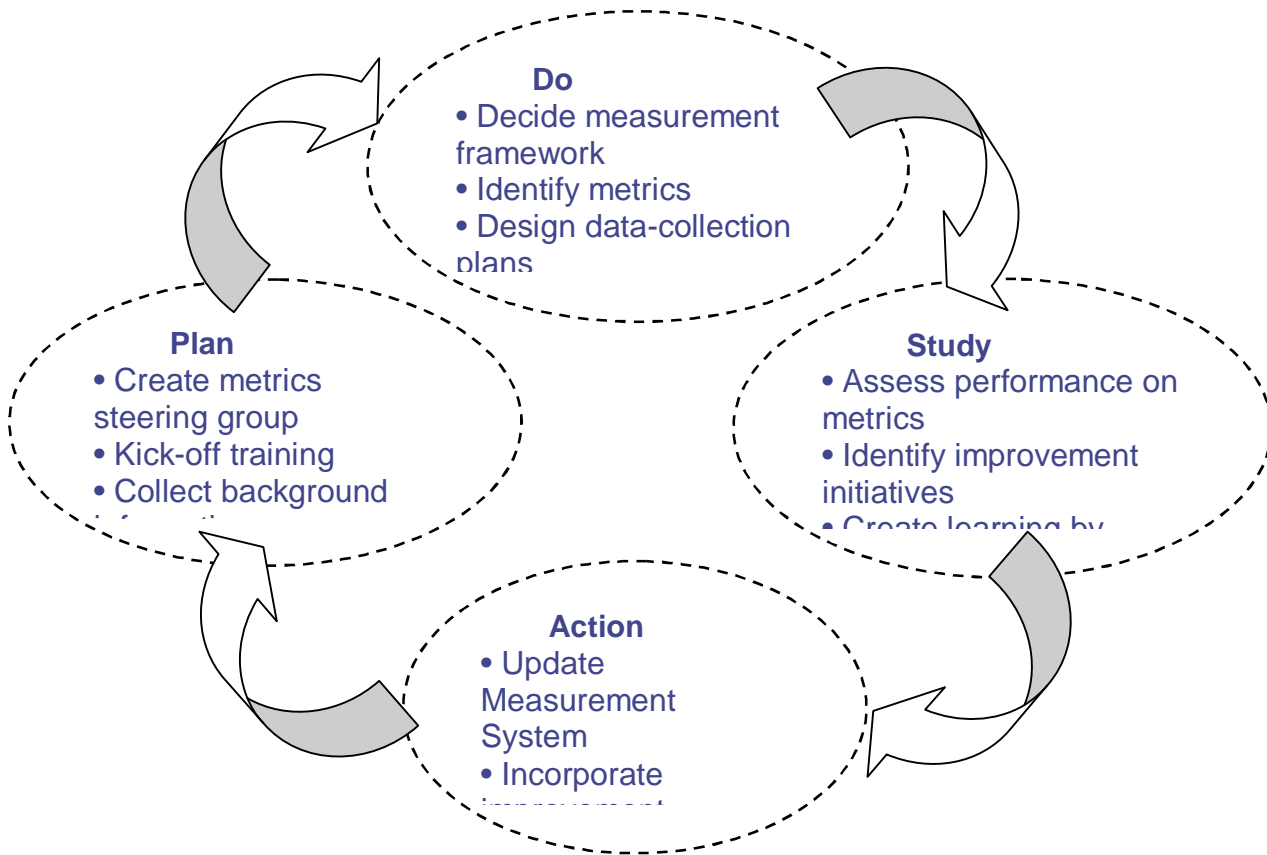


Table 1: Audit to Improve Matrix

<i>Metrics/ Balance Factor</i>	Staff Excellence and Development				Financial Viability				Child Growth				Customer Satisfaction			
	Staff tenure	TS	TD	Innovation	Revenues	SE	EF	CS	DC	SA	CP	SD	PS	PFC	TF	PPP
Perf. Criteria																
Efficiency																
Effectiveness						√				√						
Productivity																
Innovation			√	√												
Quality*				Q3					q3	q4			q5	q5	q5	q5
QWL	√	√	√													
PABA					√											
BSC Perspectives																
Financial					√	√										
Customer										√			√	√	√	√
Internal Process	√	√		√		√			√							
Learning & Growth		√	√	√												
System																
Suppliers																
Inputs						√										
Processes	√	√	√	√		√			√							
Outputs										√						
Customers					√								√	√	√	√
Desired Outcomes		√			√	√							√		√	√
BC																
CS/L													√	√	√	√
PS/Q									√							
F/MP					√	√										
E	√	√	√													
Safety																
W										√						
SPP						√										
OPP				√						√						
REP																
CP									√							√

*in the cells, we specify whether the metric is measuring q1, q2, q3, q4, or q5.

TS: Teacher Satisfaction, TD: Teacher Development, SE: Student Enrollment, EF: Endowment Fund, CS: Cost located per Student, DC: Diversity of Curriculum, SA: Student Achievement, CP: Community Project, SD: Student Diversity, PS: Parent Satisfaction, PFC: % of Families Having Multiple Children. TF: Tenure Families, PPP: % of parents' participation

PABA: Profit Ability/ Budget Ability, BC: Baldrige Categories, CS/L: Customer Satisfaction/Loyalty, P/SQ: Production/Service Quality, F/MP: Financial/Market Performance, E: Employee well-being/satisfaction, W: Work system effectiveness, SPP: Supplier and Partner Performance, OPP: Operational Partner Performance, REP: Regulatory/Environmental Performance, CP: Community Performance

Table 2: Metrics Development Matrix

Metric Specification			Portrayal Design			Data Collection Plan				Utilization
Metric	Operational Definition and/or Formula	Purpose of Metric	Portrayal Frequency	Type of Data	Portrayal Tool	Data Collection and/or Tracking Tools	Data Available?	Data Collection Responsibility	Data Collection Frequency	Metric Goal
What is the metric?	How is it measured?	Why are we measuring it and/or what types of decisions do we want to make using it?	How often will it be portrayed/aggregated for review purpose?	What type of data does the metric represent?	What portrayal is used?	What tools will be used to collect and track/store data?	Is data currently available for this metric?	Who is responsible for ensuring that data are collected?	How often are data collected?	
Key Performance Area: Staff Excellence and Development										
Staff Tenure	Number of years each teacher have been in the school	To assess teacher loyalty	Annually	QOC	Radar Diagram (1 axis PT)	Excel	Data known by lead teacher but not formally reported	Lead Teacher	Annually	TBD
Teacher Satisfaction	Survey Questionnaire	To assess teacher satisfaction and identify areas for improvement	QSC, (Unit: 6 Annually points scale)		Box plot per category	Excel	No	Personnel Committee	Annually	More satisfied teacher
T's Develop. and Training	Number of training hours per T per year	To look how teachers are kept up to date	Annually	QOC (Unit: Hours)	Box Plot PY	Excel	No	Personnel Committee	Annually	TBD
Innovation	Number of innovative methods/items	To evaluate innovation in the school	Annually	QSC (Unit: # of innovation)	Bar Chart PY	Excel	No	Curriculum Committee	Annually	TBD
Key Performance Area: Financial Viability										
Revenues	MONEY in the budget by tuition and fund raising	To assess the financial viability of the school and evaluate where the money comes from	Annually	QOC (Unit: \$)	Line Chart (amount of money PY)	Excel + Treasurer Report	Monthly report from treasurer	Treasurer and Finance Committee	Monthly	TBD
Student Enrollment	# of Ss enrolled per classroom	To monitor the evolution of enrollment and to set targets for future improvement	Annually	QOC (Unit: # of Ss)	Bar Chart per classroom	Excel + Annual Report	Annual report at the beginning of each year	Enrollment Coordinator	Annually	14 Ss per room (12 for kindergarten)
Endowment Funds	Amount in the endowment funds	To assess the amount of capital owned by the school	Annually	QOC (Unit: \$)	Line Chart (MONEY)	Excel + Annual Report	Annual report	Endowment Committee	Annually	Keep the endow-ment funds stable
Cost Allocated PS	Amount of money allocated PS PY	To evaluate the allocation of resources	Annually	QOC (Unit: \$)	Line Chart (MONEY)	Excel	No	T&F	Annually	TBD
Key Performance Area: Child Growth Progress/Development										
Diversity of Curriculum	# of hours of non core topics PW drilled down PC	To evaluate diversity of the education	Annually	QOC (Unit: Hours)	Bar Chart per classroom	Excel	Class Schedule	Lead Teacher	Bi-Annually	TBD
Student Achievement	Sat. of teachers and parents concerning the progress of S	To evaluate the evolution of the child according to teacher and parent expectations	Annually	QSC (Unit: 6 points scale)	2 Box Plot PY for P and T each)	Excel	No	Teachers and Lead Teacher	Annually	TBD
Community Project	# of Hs in community service PSPC	To assess student involvement in the community	Bi-Annually	QOC (Unit: Hours)	Bar Chart per classroom	Excel	No	Teachers	Bi-Annually	TBD
Student Diversity	Percentage of minorities	To assess the exposure of student to diversity	Annually	QOC (Unit: % of students)	Line Chart	Excel	No	Enrollment committee	Annually	TBD
Key Performance Area: Customer Satisfaction										
Parents Satisfaction	Survey Questionnaire	To assess parent satisfaction and identify areas for improvement	Bi-Annually	QSC (Unit: 6 points scale)	Box plot per category	Excel	Survey Questionnaire for VISA	Lead Teacher	Bi-Annually	TBD
Families with Multiple Children	Percentage of family with multiple children	To assess family loyalty	Annually	QOC (Unit: % of families)	Line Chart	Excel	Data known by teachers but not formally reported	Enrollment committee	Annually	TBD
Tenures Families	# of year parents stay in the school	To assess family loyalty	Annually	QOC (Unit: Years)	Box Plot per year	Excel	No	Enrollment committee	Annually	8 years for each family (all grades)
Parents Participation	Average # of hours a P participate PW	To evaluate parent involvement	Annually	QOC (Unit: Hours)	Bar Chart per year	Excel	No	Vice President - TRO coordinator	Annually	TBD

Develop.: Development, MONEY: amount of money per year, QO: Quantative-objective-continuous, QSC: Quantative-subjective-continuous, P: Parent, PC: Per Class, PS: per semester, PT: Per Teacher, PW: Per Week, PY: Per Year, S: Student, Sat.: Satisfaction, T: Teacher, T&F: Treasurer and Finance Committee

Table 3: Performance Dimensions and Survey Items

<i>Performance Dimensions</i>	<i>Survey Items</i>
<i>Resources</i>	<i>1,9,26,27,32,36,39</i>
<i>Pay & Benefits</i>	<i>2,8,19,28,33</i>
<i>Interaction with class room-parents</i>	<i>10,11,20,21,29,34</i>
<i>Interaction with Parent Community</i>	<i>4,13,16,25</i>
<i>Child Progress</i>	<i>3,15,22,37</i>
<i>Work Environment</i>	<i>12,30</i>
<i>Professional Development</i>	<i>7,14,24,38</i>
<i>Curriculum</i>	<i>5,18,23,31</i>
<i>Administration</i>	<i>6,17,35</i>
<i>Overall Satisfaction</i>	<i>40</i>

Table 4: Item Analysis of the Survey Questionnaire

No	Construct	Item #	Mean	Standard Deviation
1	Resources	1	2.273	1.009
		9	2.455	0.934
		26	1.222	0.441
		27	2.364	0.924
		32	2.444	1.014
		36	1.714	0.756
		39	3.000	1.485
2	Pays & Benefits	2	2.600	1.075
		8	1.400	0.516
		19	1.455	0.522
		28	1.833	0.753
		33	1.000	0.000
3.	Interaction with Classroom-Parents	10	2.167	0.835
		11	1.500	0.837
		20	2.125	0.991
		21	1.167	0.548
		29	2.333	1.155
		34	2.083	1.084
4	Interaction with Parent Community	4	1.727	0.786
		13	2.250	1.138
		16	2.167	0.835
		25	1.636	0.674
5.	Child Progress	3	3.143	0.937
		15	2.000	0.577
		22	1.875	0.354
		37	1.714	0.488
6.	Work Environment	12	1.300	0.675
		30	2.583	1.379
No	Construct	Item #	Mean	Standard Deviation
7.	Professional Development	7	1.417	0.515
		14	3.429	1.134
		24	1.750	0.965
		38	2.625	0.744
8.	Curriculum	5	1.333	0.500
		18	1.125	0.354
		23	1.750	0.707
		31	2.125	0.835
9.	Administration	6	2.333	1.073
		17	1.250	0.452
		35	1.800	0.447
10.	Overall Satisfaction	40	1.750	0.452

Table 5: Internal Consistency Analysis

No	Construct Name	Cronbach's α value
1	Resources	0.7634
2	Pays & Benefits	0.7536
3	Interaction with Classroom Parents	0.8216
4	Interaction with Parent Community	0.7085
5	Child Progress	0.6662
6	Work Environment	0.1085
7.	Professional Development	0.0104
8	Curriculum	0.5155
9	Administration	0.4089

Table 6: Correlations of the survey constructs

	1	2	3	4	5	6	7	8	9	10
1	1									
2	-0.128	1								
3	-0.666	0.388	1							
4	-0.336	0.759	0.187	1						
5	-0.209	0.912	0.257	0.887	1					
6	0.203	0.415	0.075	0.577	0.576	1				
7	-0.084	0.624	0.002	0.904	0.726	0.659	1			
8	-0.335	0.776	0.107	0.880	0.804	0.204	0.803	1		
9	-0.381	0.708	0.400	0.740	0.855	0.532	0.434	0.512	1	
10	0.048	0.659	0.288	0.256	0.666	0.323	0.032	0.209	0.684	1

Table 7: Characteristic correlation between items

No	Most Correlated	Value	Least Correlated	Value
1	Child Progress and Pays & Benefits	0.912	Professional Development and Interaction with classroom parents	0.002