madarisna
مـدارسنا

UNDERSTANDING THE POTENTIAL OF SCHOOL DATA

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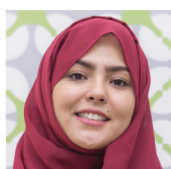
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DATA & ANALYTICS

Preface

The *Madarisna*: Understanding the Potential of School Data 2017 report details an essential way forward in Saudi Arabia to support education sectors, parents and the community to access and contribute to vital information concerning school provision in the Kingdom.

It is our mission for *Madarisna* to become the trusted source of data and knowledge about schools for everyone. The goal being to contribute significantly to raising the transparency and accountability of schools, and providing a necessary service to parents. Increased accountability will in turn enhance the performance of our education system and subsequently improve the outcomes of all learners.

The *Madarisna* App is an evidence-based, innovative and interactive online tool which effectively links school profile information with datasets on student academic performance and parent evaluation of schools. Linking these datasets results in the availability of comprehensive, searchable and comparable information on schools. This will enable educators to analyse the delivery of education as well as the performance of sectors, gender, stages of schooling and regions.

Importantly, the *Madarisna* also supports parents in making the most significant decision regarding their child's future: the choice of school. The availability of this data also provides us with a deeper analysis into the drivers for parents' choice of school.

Through providing a channel for parents to have a voice pertaining to education, we seek to contribute to the achievement of the Vision 2030 goal of more actively engaging parents in the educative process, as well as gathering vital data on parent perspectives and to empower this crucial stakeholder group.

It is our intent to provide you with insights into the state of system and publicly available education data in Saudi Arabia. In this report we explore data-driven decision making in education and the importance of transparency and accountability in steering educational improvement. Additionally, we highlight available national datasets and international trends in this area.

This report identifies critical actions for our education partners to hasten the expansion into rigorous and relevant data collection, usage and availability. Policy options and future augmentation are presented to understand and shape further acceleration of education data integration and utilization.

The *Madarisna* App and this Report was made possible through the contributions of the education community and parents. We are indebted to the school leaders and parents who have provided vital input throughout the development of the datasets and tool, and contributed during the initial phase of delivery.

We also acknowledge the significant work of the Ministry of Education and Qiyas National Centre for Assessment. It is through the existing data collected that an innovation such as *Madarisna* could emerge. We have utilized their publicly available data which already greatly contributes to our understanding and improvement of education.

We trust this platform, collaboration and transparency will greatly benefit our society.

Mounira Jamjoom, PhD.
CEO of Emkan Education

CONTENTS

Globally, data informed decision making has become embedded within almost all facets of life and work, pervading nearly all areas of society at all levels of influence. Through innovative technologies, information is available instantly and guides personal and professional decisions.

Data collection, usage and availability is not just a 21st century efficiency, but significantly, is an essential driver of improvement and innovation. Diligent data collection and analysis can yield valuable insight into performance and direction. It is founded upon a commitment to *improvement, transparency and accountability.*

Barriers to data access are being eroded as apprehension regarding data availability are eroded and the value of public data sources for driving improvement are being embraced by the public and private sectors.

Education systems are built upon utilizing accurate and comprehensive datasets to address need, allocate resources, design policies and initiatives, enhance the quality of teaching, school leadership and schooling provision, and to improve learning outcomes of all learners.

Education leaders are increasingly harnessing the power of data for promoting school improvement. With the increased availability of student assessment data and recent advances in technology, an unprecedented amount of data are or can be available to educators and parents to make informed decisions.

Open data sources "is fast becoming a political objective and commitment for many countries. Its implicit promise to support economic growth and to improve public services, as well as to promote government transparency and accountability make it an attractive policy objective. In addition to accountability, opening up data can also help generate insights into how to improve government performance." [i]

It is becoming an expected societal norm that the public and private sectors provide access to a wider range of datasets to stimulate and sustain knowledge-driven economic growth. Data-driven decision making requires a *cultural shift* in thinking that must be nurtured so all stakeholders are committed to this effort.

Importantly, the community are not solely recipients of information but are also valid and reliable sources of information. Data collection "promotes public participation and collaboration, resulting in innovative, value-added services. Progress is being made towards making specific databases easily accessible, such as through mobile apps, to better inform public choices." [ii]

Many high performing education systems are seeking to raise standards and strengthen education systems by promoting school choice. As is the case in Saudi Arabia, large amounts of data are becoming available and can be used in conjunction with other sources to drive improvement.

Madarisna

Towards these goals, the *Madarisna* App is an innovative, interactive online resource for educators, parents and the community to receive and provide information about schools. It creates the opportunity for stakeholders to learn more about Saudi schools and for Saudi schools to learn more from each other.

Mission

Make data-driven decisions about schools for everyone.

Vision

Reliable source for school information in Saudi Arabia.

The publication of data on *Madarisna* allows educators to share information about school characteristics and achievements with the aim of supporting and driving improvement across the nation. For parents, *Madarisna* provides valuable information to support informed school choice.
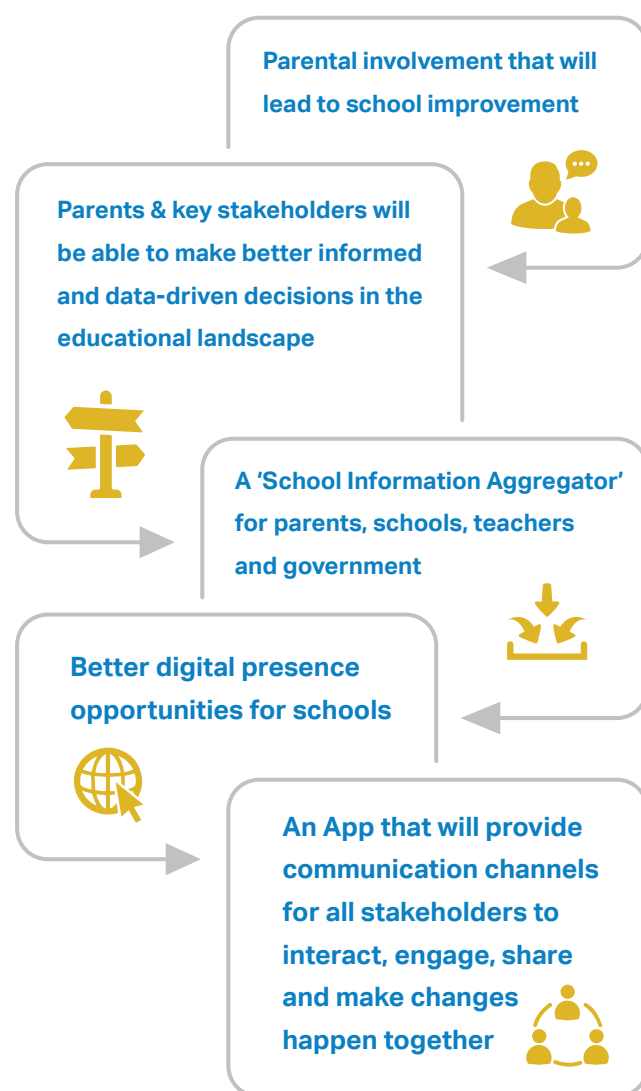
It is an important source of nationally consistent, comparable and reliable information about Saudi schools. The main purpose of *Madarsina* focuses on enhancing transparency and accountability to support improved educational outcomes. It aims to achieve this through providing information that assists parents, school leaders, teachers and governments in understanding the performance of schools. Importantly, it also creates a place where parents can confidently make that single choice that might determine *their child's future: the choice of school.*

The App contains a set of quality data, integrating and generating synergies between datasets pertaining to:

◆ *School profile*

◆ *Student academic achievement – Qodrat and Tahseli test results*

◆ *Parent evaluation of schools.*

In addition to being a source of information, *Madarisna* also provides a platform for parents to share their views on school performance. Engaging and empowering parents in the educative process is a powerful step towards the achievement of this goal laid out in Vision 2030 and the National Transformation Program. [iii]

VALUE PROPOSITION:

Parental involvement that will lead to school improvement

Parents & key stakeholders will be able to make better informed and data-driven decisions in the educational landscape

A 'School Information Aggregator' for parents, schools, teachers and government

Better digital presence opportunities for schools

An App that will provide communication channels for all stakeholders to interact, engage, share and make changes happen together

The trusted source of data, information and knowledge about schools for everyone.

Parental Involvement

Parents can be involved in school improvement by providing reviews. Helps schools and systems to understand parents' views

School Information Aggregator

Every stakeholder can use this App to find and communi-cate about issues related to schools & education in Saudi Arabia

Data-driven Decisions

Stakeholders can access important data points on schools.
Parents can see and compare the reviews of other parents on different schools

Digital Presence Opportunities

Schools will get the tools and services to use and stand out on the digital platforms available

Communication Channel

Stakeholders can communicate, interact, engage and influence change collabora-tively

BENEFITS:

To schools and system; To parents and community; To learners

Open access to school profile and perfor-mance data has significant benefits for all key stakeholders and society more broadly. The importance of this initiative and why it is a topical globally is the "increased demand for effectiveness, equity and quality in education to meet economic and social challenges." [iv]

Saudi Arabia has an extensive and diverse system of schooling. This creates the need to monitor schools progress and targeted reform initiatives. Data-driven decision making facili-tates improvements in school performance and student achievement. [v]

Public data sources particularly "supported by Web 2.0 and social media applications, are creating an architecture for participation that enables users to not only be passive consum-ers of content and services, but also active contributors and designers in their own right. This means that stakeholders are invited more openly into a participative and empowering relationship with the government…" [vi]

Specific benefits of access to data through initiatives such as *Madarisna* include but aren't limited to:

◆ Monitoring and quality assurance of education provision

◆ Improves system identification and responsiveness to need

◆ Allows for targeted policy and program requirements and resource allocation

◆ Enhances transparency and accountability of schools and system

◆ Supports parents' schooling choice

◆ Enhances connections between schools

◆ Increases parent engagement and promotes citizens self-empowerment and social participation

BENEFICIARIES:

Whole of society
Information on education provision and performance is a strategic resource, holding great potential for a number of beneficiaries.

Madarisna is intended to be used by government, system leaders, school leaders, educators, parents, community members, higher education providers, researchers, private providers, and anyone who needs access to aggregated information about their own school or about other schools.

"Saudi Arabia has emerged to be one of the major education markets in the GCC region. The country – which spends approximately 25% of its total fiscal spending and 7.6% of its Gross Domestic Product (GDP) on education – caters to approximately 8.5 million people, across various levels of education." [vii]

The education sector is witnessing increasing investments in the private schooling space. Along with technological initiatives, the Kingdom's collaboration with other countries is expected to attract more private investors. [viii]

For successful and widespread implementation of publicly available school data, effort is required to build consensus among all stakeholders. Understanding the rationale and potential value will increase the likelihood that education partners and stakeholders will welcome the change in access to data.

NATIONAL REFORM SYNERGY:

Madarisna interconnects with significant national education reform agendas. It takes a holistic approach to building a comprehensive database through generating synergies between datasets and aligning the work of levels of government and stakeholders. [ix]

- ■ **Vision 2030** *Madarisna* aims to be a success partner to advance Vision 2030 by contributing to the achievement of the following National Transformation Program initiatives. [x]

  - ● **Develop digitization and Geographic Information System (GIS) of schools**
    - ● *Madarisna:* provides a reliable database of schools in Saudi Arabia
  - ● **Foster the role of the family in the educational process and promote national identity (Irqaa Program)**
    - ● *Madarisna:* offers the opportunity for parents to share their experiences with education through schools ratings and review

- ■ **Building Digital Skills** *Madarisna* supports this nation-wide initiative designed to improve the digital skills of citizens and increase digital engagement and digital literacy of parents, families and schools.

- ■ **Qodrat (General Aptitude Test) & Tahseli (Scholastic Achievement Admission Test)** [xi]

Qiyas National Center for Assessment – Education Evaluation Commission
Madarisna utilizes critical secondary student assessment aggregate data which provides a rich profile of student achievement across sectors, regions and gender.

- ■ **National Assessment Program** [xii]

Qiyas – Education Evaluation Commission
Madarisna has the potential to expand and include National Assessment Program data which may be available in the future. Currently in pilot stages, the National Assessment Program would provide rich student achievement data across all stages of schooling.

IDENTIFIED CHALLENGES:

Anecdotal data from consultation of key stakeholders in Saudi Arabia highlights that an overarching issue identified by stakeholders was a lack of transparency and availability in school information and performance data.
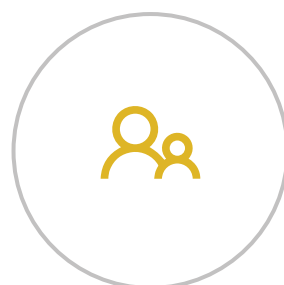
Drivers for mitigating this challenge:

No one-stop shop for all educational and school choice related issues

Growing number of parents opting for private schools

No optimal parental involvement in schools to drive school improvement

More complexity in the decision-making process for parents (e.g. which curriculum type, accreditation of the school, tuition fees etc.)

Lack of accurate and organized data for the different decision-makers in Saudi Arabia

No easy and convenient way for school leaders to reach out to their target groups online and to increase their market-share

The framework which underpins *Madarisna* was designed informed by research into best practices. The following elements of the data management framework were identified, developed or collected.

Data sources: selecting data based upon relevance to supporting school improvement, availability and ability to verify authenticity and accuracy

Data fields: selecting search criteria to meet the needs of system, schools and parents

Data classification: organizing data into categories for its most effective and efficient use. A well-planned data classification system makes essential data easy to find and retrieve.

Data linkage: linking and integrating across different datasets with the intention to acquire as rich a record as possible about each school.

Data collection and verification: verifying and validating based upon the following data qualities:
Completeness   Accuracy
Consistency   Access
Depth

CAPITALIZING ON EXISTING NATIONAL DATASETS:
As noted earlier in this report, there are existing datasets on education provision in Saudi Arabia. For example the Ministry of Education has a listings of schools and Qiyas National Center for Assessment collect and analyze secondary student performance data as well as data on teacher competency gathered at entry to the profession. .

Madarisna capitalizes on a selection of these existing datasets, integrating information into an interactive database and combining with parent evaluation data. It is planned to expand the use of national datasets in the future.

UTILISING CROWDSOURCING:

Madarisna utilises crowdsourcing to collect data on parent evaluation of schools. Governments increasingly recognise the value of crowdsourcing to understand issues and engage the public authentically as strategic partners. "Crowdsourcing has been gaining traction as a public participation tool for governance and planning, as well as a method for building common resources or processing large batches of data to streamline government functions." [xiii]

The United States of America, United Kingdom, Australia and France, as well as a handful of other countries, have been leading the way in utilizing crowdsourcing to inform and contribute to 'policy making, public value creation and social innovation.' [xiv]

A benefit of crowdsourcing is that it combines a blend of traditional top-down decision making with bottom-up user influence." [xv] It results in members of the community changing from passive consumers of information to active producers of data. It has created the opportunity for the public to share and consult more and more with each other, and for governments and agencies to engage large numbers of relevant stakeholders.

Successful crowdsourcing depends on a sufficient scale and representativeness of participation to achieve valuable and reliable results. With a student population in schooling in Saudi Arabia of 7.3 million [xvi], crowdsourcing is a viable source of data for *Madarisna* as issues of scale and representativeness will be able to be overcome. A strong marketing campaign has been designed to reach a critical mass of parent users of the *Madarisna* App
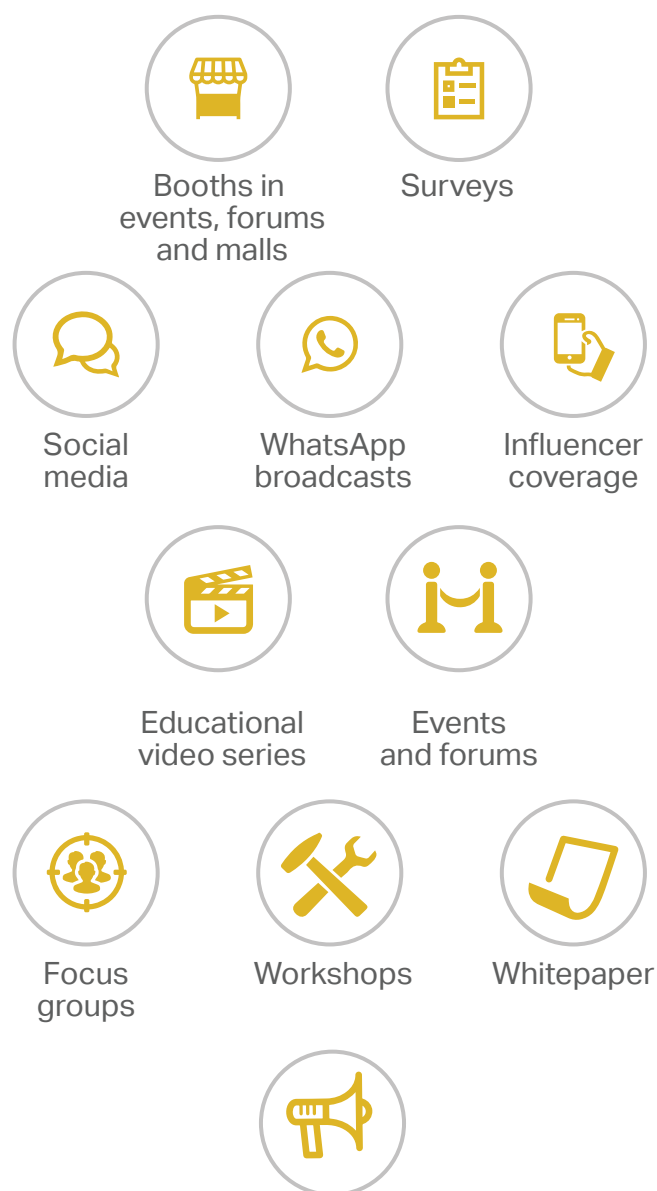
REACHING A CRITICAL MASS:

Marketing and Promulgation

The service that *Madarisna* provides to the education community and society is new and innovative in Saudi Arabia. Open access to accurate sources of data has not previously been common place. It was therefore essential to develop a comprehensive marketing strategy which would not only contribute to the development of *Madarisna* but also inform and garner buy-in from stakeholders to enhance sustained expansion and user penetration.

As noted in the discussion on crowdsourcing, extensive promulgation and marketing are also required to ensure representative parent usage to enhance the validity and reliability of the school evaluation data.

Marketing and user engagement strategies conducted and planned for future enactment include but aren't limited to:

Booths in events, forums and malls

Surveys

Social media

WhatsApp broadcasts

Influencer coverage

Educational video series

Events and forums

Focus groups

Workshops

Whitepaper

Million Voices for *Madarisna* which aims to engage families in K – 12 education. The objectives of the program include:

◆ Empowering families to make better decisions through information about local K – 12 education

◆ Encouraging families to become involved in their children's education

◆ Empowering parents & provide opportunities to exchange experiences with other families.
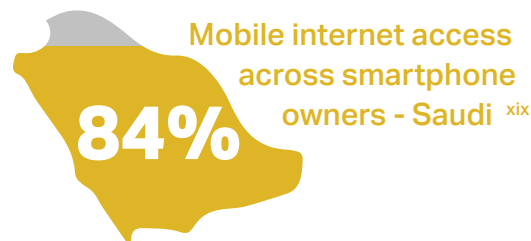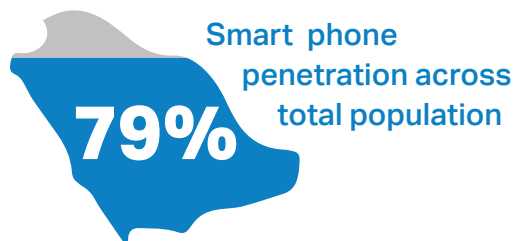
PLATFORM AND TECHNOLOGICAL DESIGN:

Technological advances and an exponential growth of internet and social media usage in Saudi Arabia enable real-time and widespread data and information sharing. Several governments in the region are viewing this as an opportunity contributing to development of more transparent, participatory and inclusive government models." [xvii]

There has been a "shift away from the typical social and entertainment uses of social media towards those that are more political and civic. Through a growing sense of empowerment and their ability to create change, modern trends in social media uses to address societal issues and influence social change and cultural attitudes have continued to strengthen." [xviii]

Saudi Arabia is a leader in the world in smart phone penetration:	Smart phone penetration across total population **79%**	Mobile internet access across smartphone owners - Saudi [xix] **84%**

Influence of social media in Saudi Arabian society is also strengthening:

Empowerment and influence
32% of respondents felt social media played a role in empowering them to influence change in the community and country

Ability to create mind-shift
47% of respondents feel they are more open to tolerating difference in points of view

Connectedness to community
92% feel more connected to community and society through social networking tools

Understanding social issues
85% reported increased understanding of society after interacting with fellow citizens

Contribution
84% felt increased contribution to society. [xx]

0   10   20   30   40   50   60   70   80   90   100

Based on these statistics it was clear that the platform that would lead to the highest penetration and influence of the *Madarisna* database was a mobile App. It was important to ensure the data to interface was engaging and easy to use. *Madarisna* user experience design was focussed on creating searchable function, crowdsource feedback and the opportunity to interactively access and explore one or more datasets.

MADARISNA APP MAIN FEATURES:

School Directory

Detailed information about government, private and international schools in Saudi Arabia, such as:

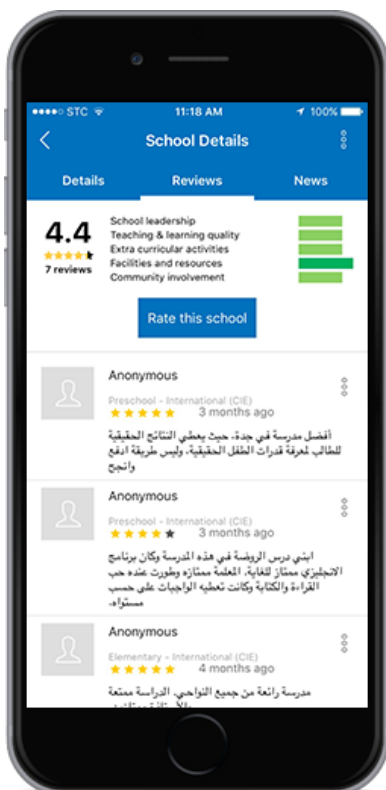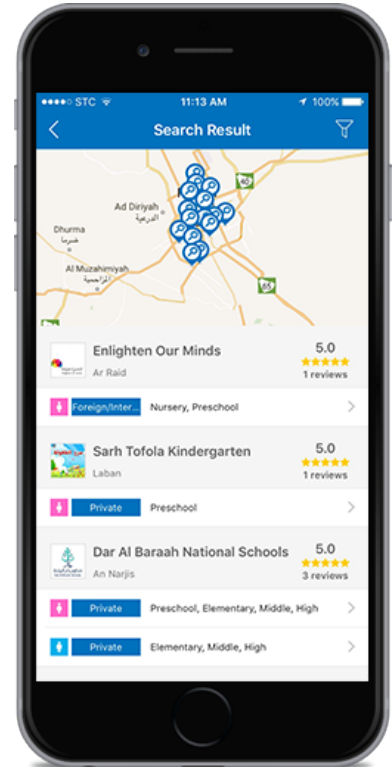**Curriculum types**

School contact & location

Teaching languages

Stages

Tuitions

School Rating

Parent ratings and reviews based on their unique experience with schools, based on the following criteria:

School leadership

Teaching & learning quality

Extracurricular activities

Facilities & recourses

Community involvement

Understanding and analysing school performance, and making a choice about a school depends on a myriad of factors. As such, a range of data points are currently available in Saudi Arabia including *Madarisna,* with plans for future expansion of data fields (expanded upon later in this report).

Datasets available in *Madarisna* are in three categories:

1 School Profile

2 Student Academic **Achievement**

3 Parent Evaluation of Schools

A key characteristic of *Madarisna* is that correlations and cross-tabulations across data fields and datasets is possible. This will provide valuable opportunity for education leaders to undertake detailed and in-depth analysis.

This following section provides analysis of the data collected through the first stage of implementation of the *Madarisna* App. School profile data is currently available for 20,772 schools in the private and public sector. For the period May 2015 to April 2017, approximately 2,336 parents have contributed through the school evaluation page

As the App is in early stages of implementation and penetration, the parent evaluation data is not presented as statistically significant results but as demonstration and illustration of the types of data analysis and reporting that *Madarisna* makes possible.

1. School Profile

There is a range of school information which enables a comprehensive profile for each school. Individual school profile data enables parents to make an informed decision on which school best suits the needs of their child. At a system level, aggregate data is available which allows for in depth analysis and identification of trends and needs.

Data in the following fields is available in the initial implementation of *Madarisna*:

◆ **Location including contact details**

◆ **Digital presence including internet and social media space**

◆ **Stage/s of schooling**

◆ **Facilities**

◆ **Tuition**

◆ **Curriculum**

◆ **System**

◆ **Gender**

◆ **Accreditation**

◆ **High school certificate**

Snapshots of individual data fields allows for national, regional and city profiles of schooling in Saudi Arabia. Additionally, cross-tabulations across data fields (e.g. gender within stages of schooling; tuition across regions, etc) are also available. Examples of analysis potential are provided below.

SCHOOLING SYSTEM:

Enrolment in national schools (69.4%) is over twice the enrolment in foreign / international schools (30.6%). Analysing enrolments in systems allows for the monitoring of trends in parent preference. Identification of trends provides the opportunity for education officials to explore reasons for shifts in order to understand and mitigate any possible issues.

If for example, there was a dramatic increase in foreign / international schools education officials may launch a study into this trend. Exploration into the reasons for this school population move could reveal causes such as dissatisfaction with national schools, lower academic performance in national schools, increased privatization of schools, or decreased tuition fees for foreign / international schools.

Figure 1 *Enrolments in national and foreign / international education systems.*

Foreign/International
National

30.57%

69.43%
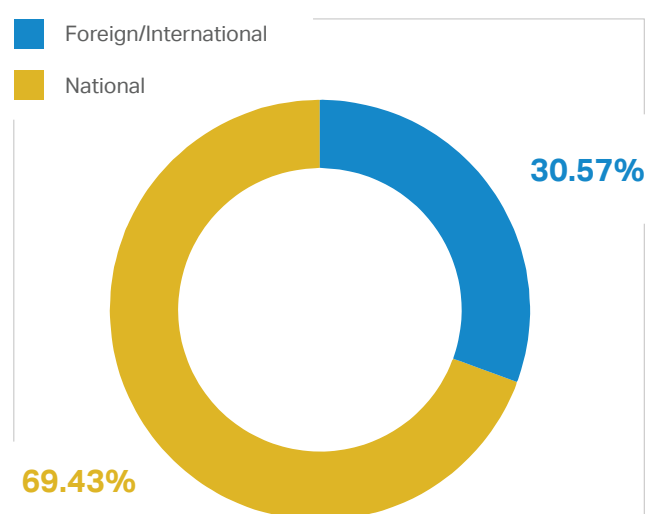
Figure 2 *Enrolments in national education sub-systems*

Sub System

- National
- National(Quran)
- National (Muqararat)
- National (Evening)
- National (Special needs)

Number of Schools
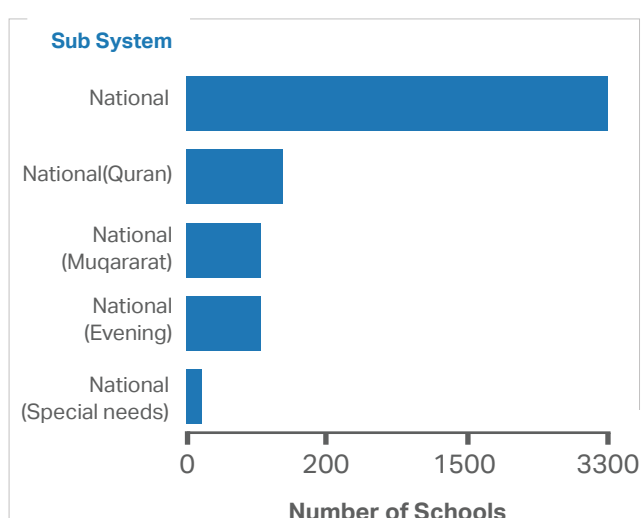
Figure 3 *Enrolments in foreign / international education sub-systems*

Sub System

- Foreign/International
- International (American)
- International (British)
- Foreign (Indian)
- Foreign (Egyptian)
- Foreign (Pakistani)
- Foreign (French)
- Foreign (Filipino)
- Foreign (Turkish)
- International (Montessori)
- Foreign (Bangladeshi)
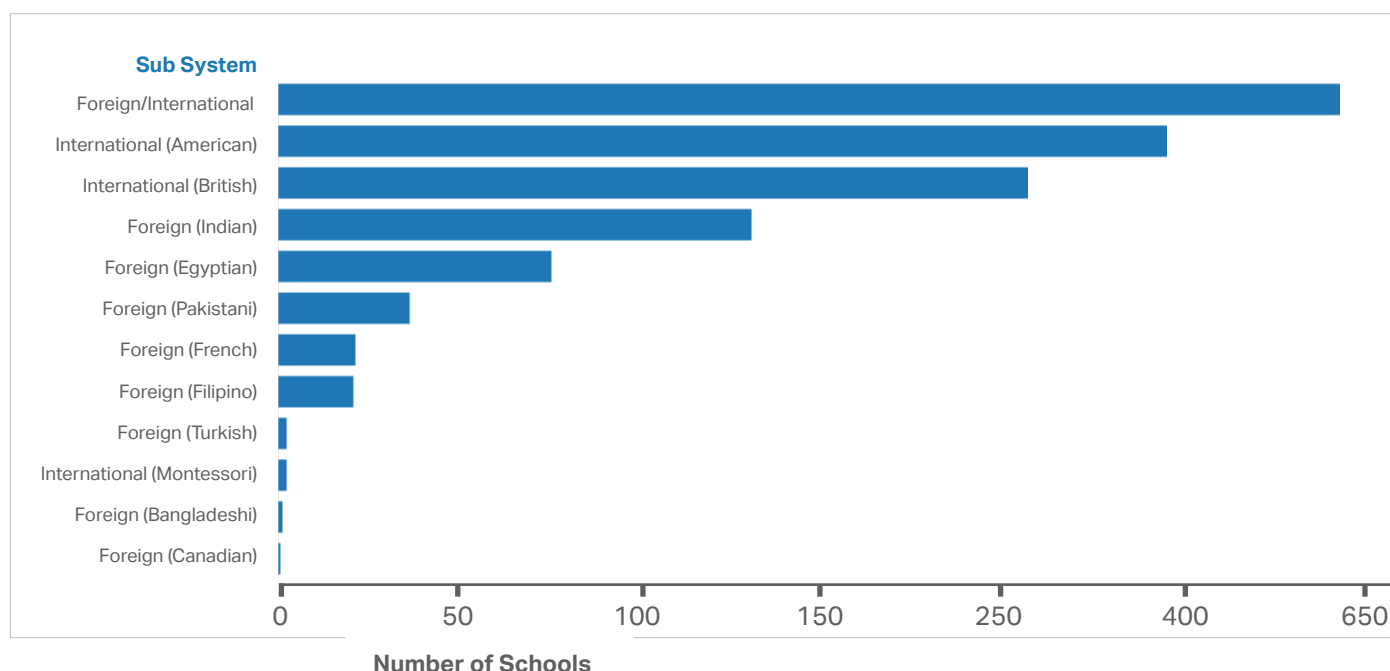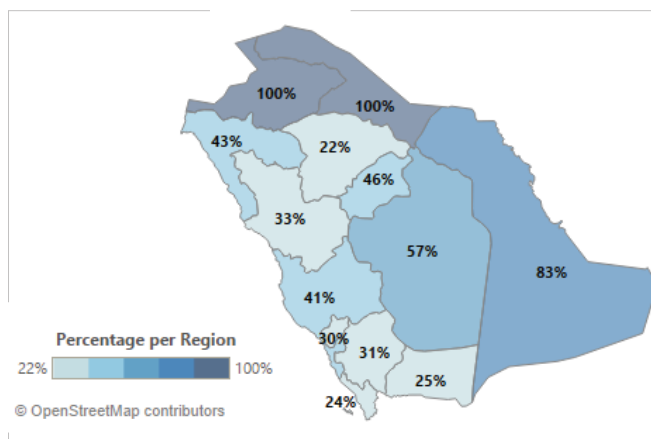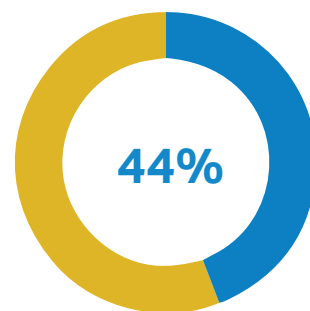- Foreign (Canadian)

Number of Schools

Figure 4

Availability of private / international schooling per region

Have private/
International school

Don't have private
/International school

44%

Among the **147** cities in the Kingdom, only 44% have private and international schools

GENDER PROVISION:

There is a marginally higher per cent of females (39.9%) than males (36.6%) currently receiving general education. Kindergarten and preschool are the only providers of co-ed schooling (23.5%).

Data such as this supports the Ministry and sectors in planning the provision of schools and teacher workforce requirements.

Figure 5

Provision of schooling by gender.

Boys
Coed
Girls

36.62%

39.86%

23.51%
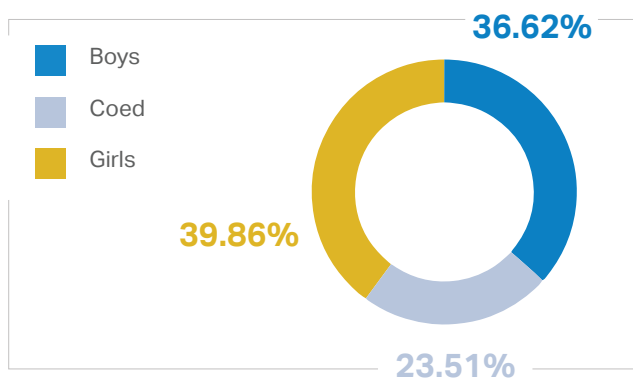
Figure 6

Gender provision across stages of schooling.

Stage	Preschool	Elementary	Middle	High

Preschool: **23.49%**

Elementary: **13.91%**, **0.02%**, **18.50%**

Middle: **12.11%**, **11.98%**

High: **10.61%**, **9.39%**

Boys   Girls   Coed
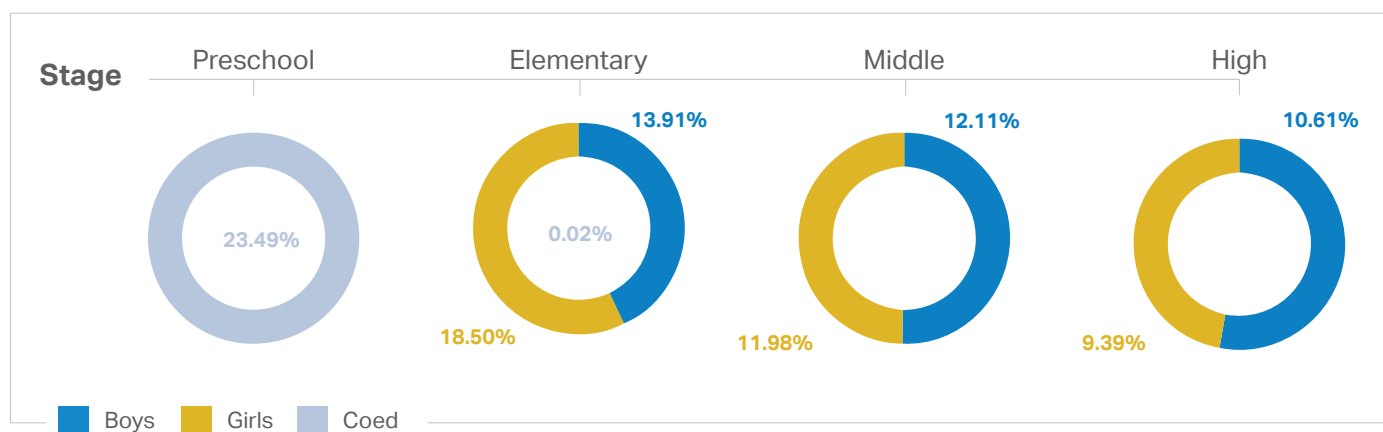
LANGUAGE OF INSTRUCTION:

The language of instruction is a determining factor in parents' choice of school. Observing trends in enrolment in schools with teaching in English allows the system to plan for the provision of this instruction and in the preparation of teachers. Correlating this data with student achievement results will also provide valuable system data.

Only four regions have more than 20% of schools with English as the language of instruction; Riyadh 30%, Makkah 30%, Aseer 25% and Eastern Province 21%. At the other end of the spectrum, both AlBahah and Northern Borders have no private schools where English is the language of instruction.

Language of instruction in private sector schools – English compared with non-English instruction
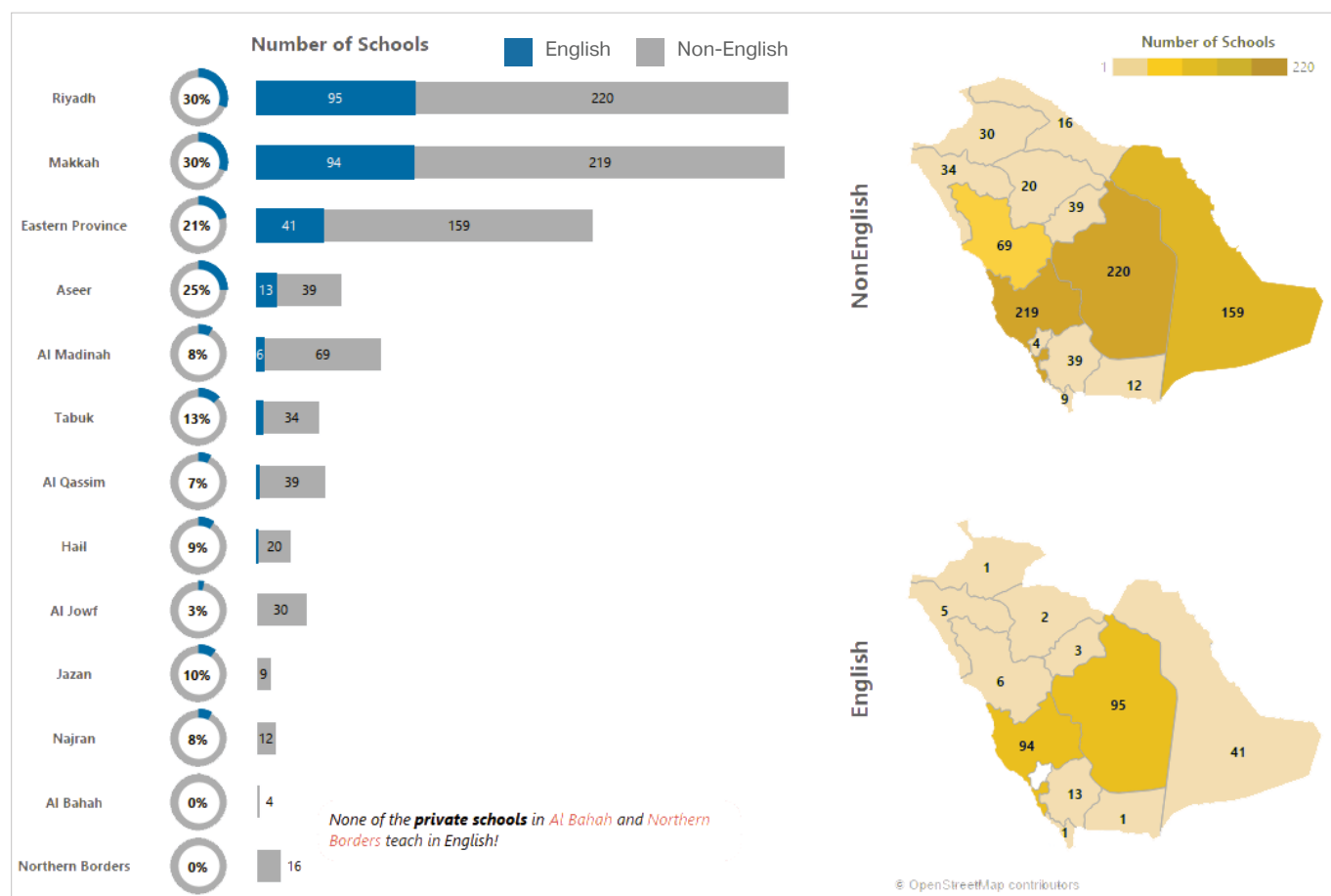
TUITION:

Extremely important information for parents are tuition fees. The school fees will greatly influence parent choice of school. It can also be a factor to consider when choosing where to live.

Tuition data is available for each school and analysis can be undertaken at the neighbourhood, regional and national level as well as across system and sub-system.

Tuition fees for national schools (avg. SAR 12,164) are on average less than foreign / inter national schools (avg. SAR 17,414) which is to be expected. Interestingly the minimum and maximum fees are comparable with national schools range of SAR 1,500 to SAR 81,000 and foreign / international tuition range of SAR 2,000 to SAR 87,900.

Riyadh, Dammam and Jeddah regions have consistently the highest average fees with Dammam region having the highest average tuition for national schools (SAR 14,130) and the Riyadh region for foreign / international schools (SAR 20,021).
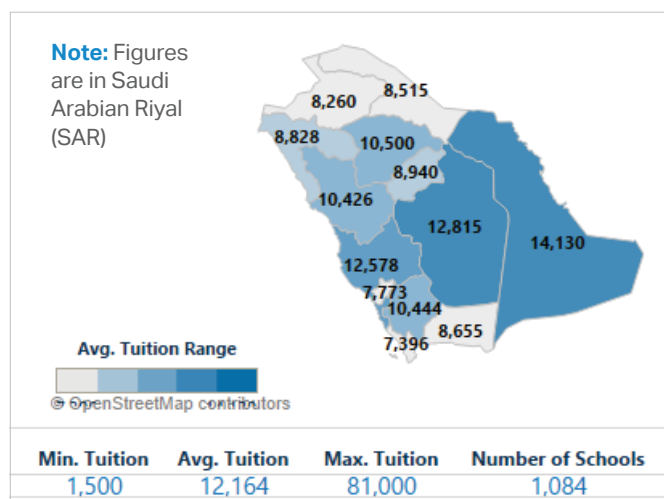
Note: Figures are in Saudi Arabian Riyal (SAR)

8,260 · 8,515 · 8,828 · 10,500 · 8,940 · 10,426 · 12,815 · 14,130 · 12,578 · 7,773 · 10,444 · 7,396 · 8,655

Avg. Tuition Range

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Min. Tuition	Avg. Tuition	Max. Tuition	Number of Schools
1,500	12,164	81,000	1,084

Note: Figures are in Saudi Arabian Riyal (SAR)

11,682 · 7,850 · 7,478 · 10,365 · 10,517 · 15,309 · 20,021 · 19,585 · 17,308 · 9,733 · 8,786 · 4,625 · 11,149

Avg. Tuition Range

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Min. Tuition	Avg. Tuition	Max. Tuition	Number of Schools
2,000	17,414	87,900	367
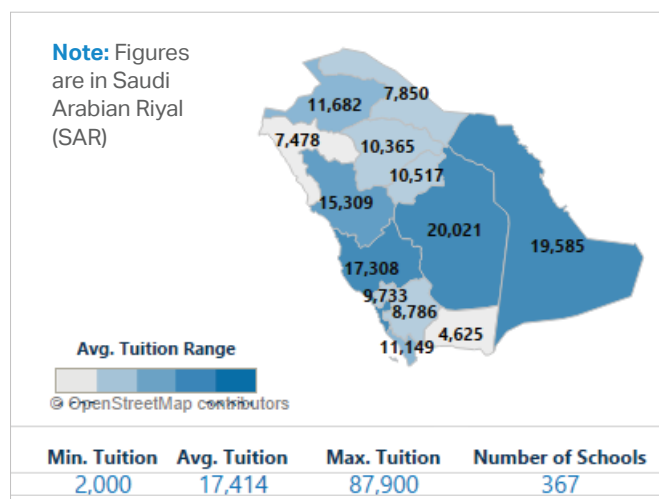
As noted previously, this data can also be presented at a city and neighbourhood level. The availability of this information will support parent choice. Globally parents are increasingly using tuition and school performance data as a factor to consider when choosing where to live.

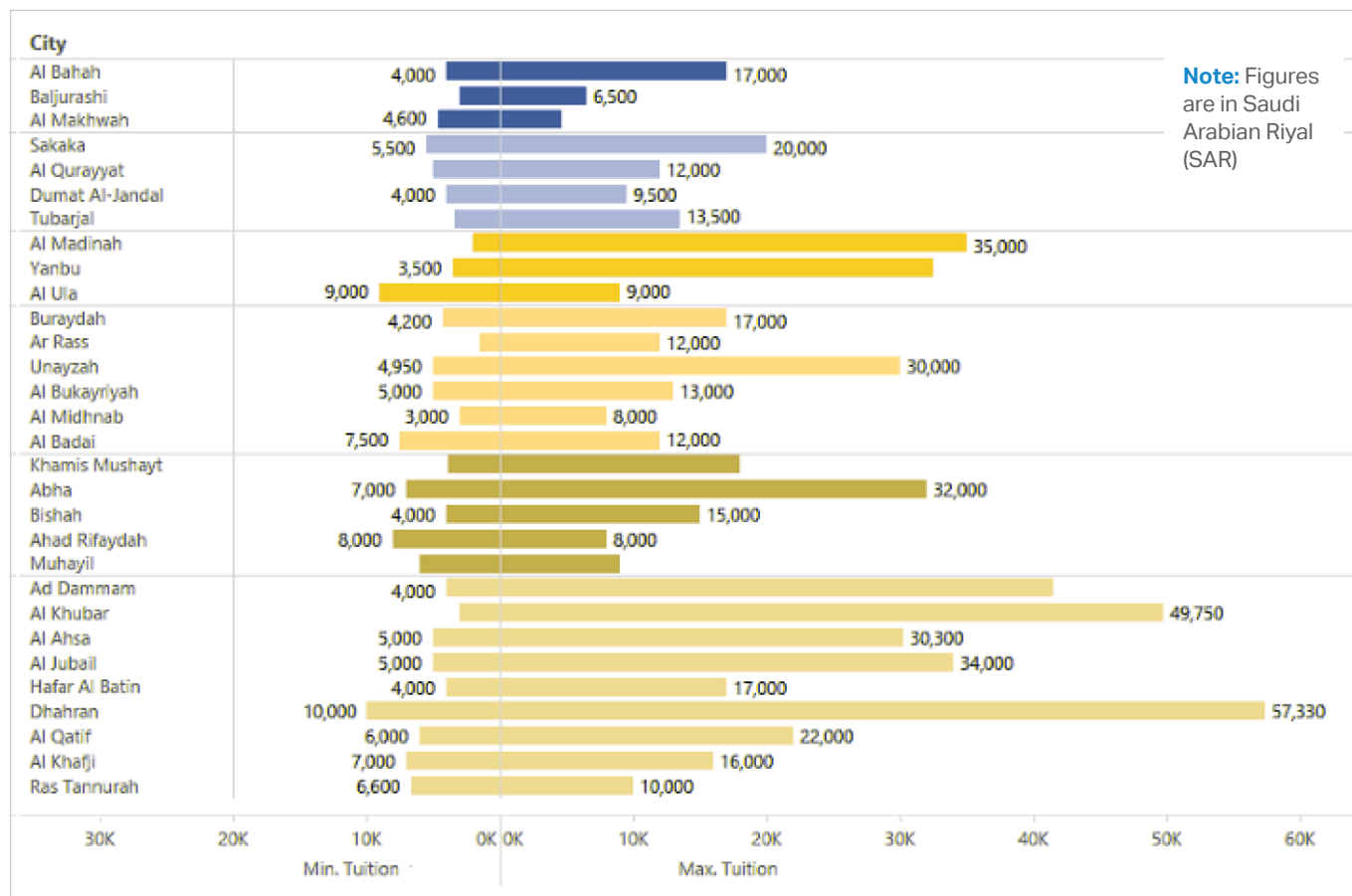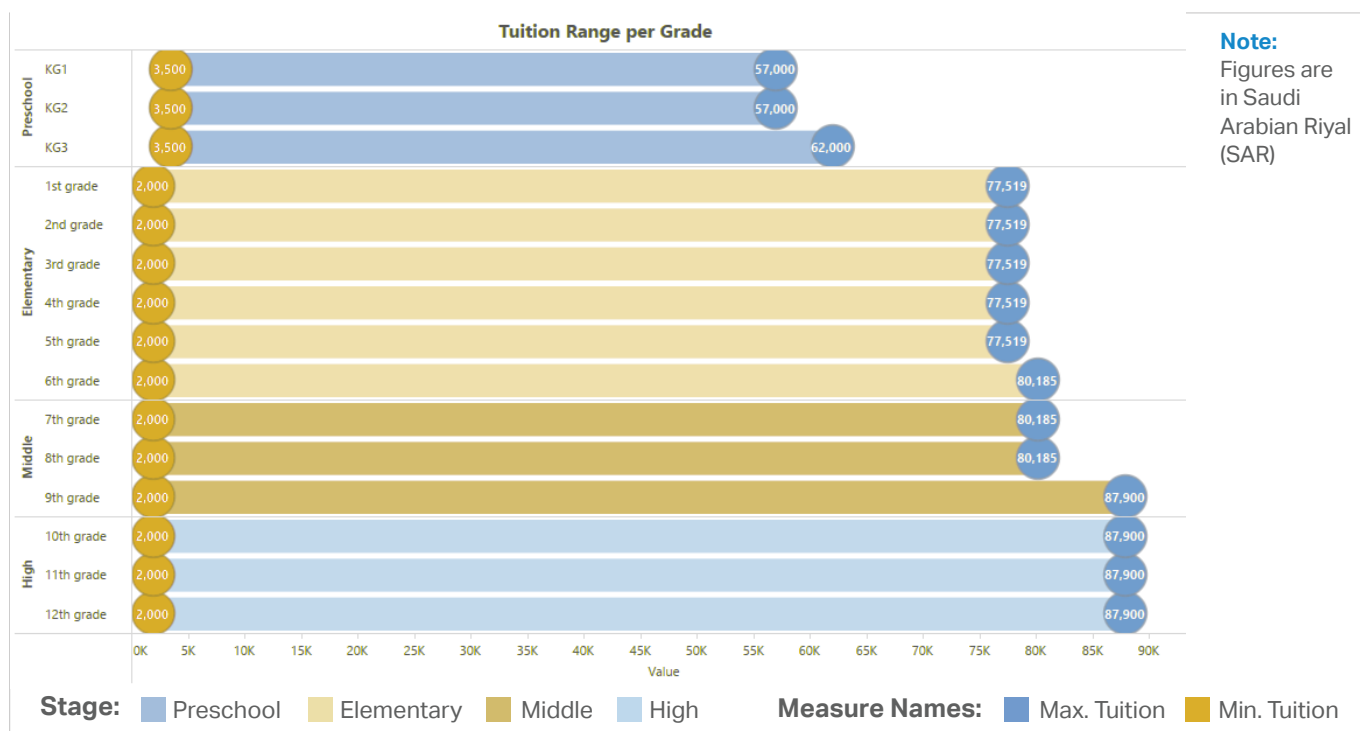**Figure 10** | *Tuition range per city*

Note: Figures are in Saudi Arabian Riyal (SAR)

City	Min. Tuition	Max. Tuition
Al Bahah	4,000	17,000
Baljurashi		6,500
Al Makhwah	4,600	
Sakaka	5,500	20,000
Al Qurayyat		12,000
Dumat Al-Jandal	4,000	9,500
Tubarjal		13,500
Al Madinah		35,000
Yanbu	3,500	
Al Ula	9,000	9,000
Buraydah	4,200	17,000
Ar Rass		12,000
Unayzah	4,950	30,000
Al Bukayriyah	5,000	13,000
Al Midhnab	3,000	8,000
Al Badai	7,500	12,000
Khamis Mushayt		
Abha	7,000	32,000
Bishah	4,000	15,000
Ahad Rifaydah	8,000	8,000
Muhayil		
Ad Dammam	4,000	
Al Khubar		49,750
Al Ahsa	5,000	30,300
Al Jubail	5,000	34,000
Hafar Al Batin	4,000	17,000
Dhahran	10,000	57,330
Al Qatif	6,000	22,000
Al Khafji	7,000	16,000
Ras Tannurah	6,600	10,000

30K 20K 10K 0K | 0K 10K 20K 30K 40K 50K 60K
Min. Tuition | Max. Tuition

Figure 11 *Tuition distribution across stage of schooling*

Tuition Range per Grade

Note: Figures are in Saudi Arabian Riyal (SAR)

| Stage: | Preschool | Elementary | Middle | High | **Measure Names:** | Max. Tuition | Min. Tuition |

DIGITAL PRESENCE:

Data comparing schools digital presence per region and by education system highlights that there is a surprisingly large percentage of schools without a website and/or a social media presence in the majority of regions. Given the information presented earlier in this report that Saudi Arabia is a global leader in smartphone and social media use, the school digital presence data highlights that this is an area requiring attention at the school and system level.

Increasing the digital presence of schools would greatly improve communication channels with students, parents, and other schools, and would likely contribute to strengthening parent engagement in schools.

Figure 12 *Percent of schools without a digital presence per region*

Note: Electronic Presence refers to websites and social media presence
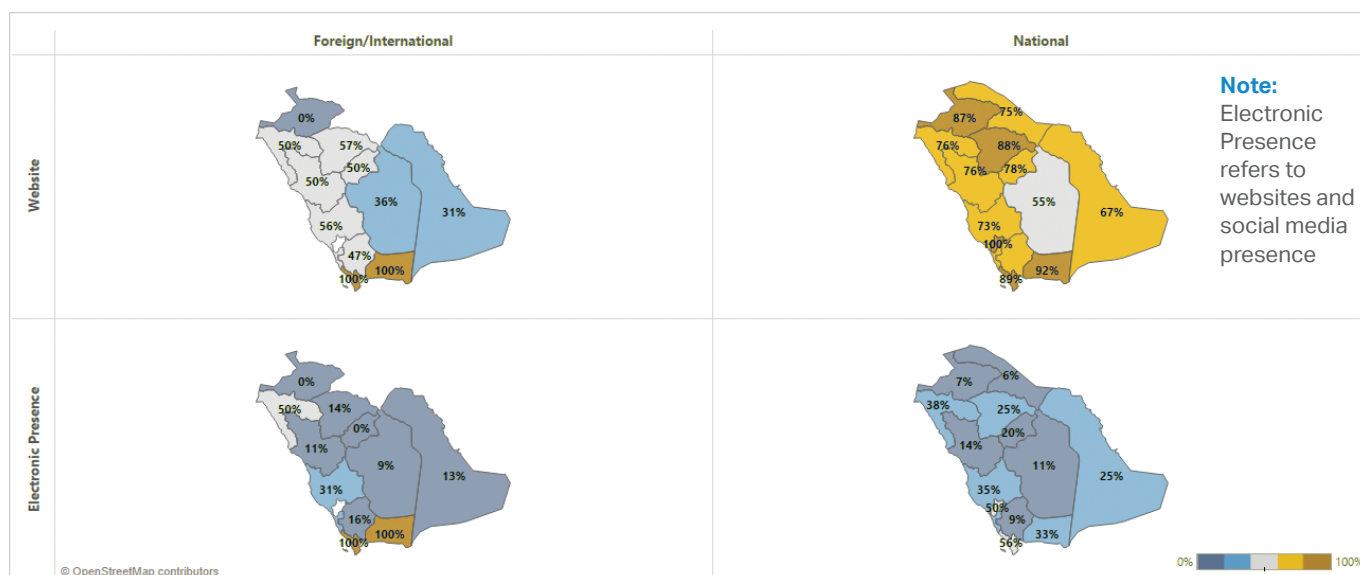
2. Student Academic Achievement

Indisputably, the most important data about schools is student academic achievement. Many international systems publicize student achievement results to increase accountability and support parent choice. Clear accountability for student results "helps create a learning environment that encourages innovation and excellence from school leaders, teachers and students"

Madarisna currently utilizes Qiyas secondary test results but as identified earlier in the report, it is hoped to expand this and include National Assessment data across other stages of schooling as it becomes available in the future. [xxi]

QIYAS:[XXII]

◆ **Qodrat – General Aptitude Test** This test measures a student's analytical and deductive skills. It focuses on testing the student's capacity for learning in general regardless of any specific skill in a certain subject or topic.

◆ **Tahseli – Scholastic Achievement Admission Tests** These tests are available in different strands for males and females. These tests cover the general and key concepts covered in courses of the three grades of General Secondary School. Questions vary in their focus on knowledge levels. Some questions measure comprehension, whilst others measure application and inference.

Following is a sample of the comparative data available. Utilizing student achievement results will drive the improvement of the education system as data-driven decisions will allow for targeted policies and programs addressing the needs of the system.

STUDENT ACHIEVEMENT BY REGION:

Table 1 *Average Qiyas test scores according to school type*

Gender		Private		Foreign		National		Grand Total
		Tahseli	Qodrat	Tahseli	Qodrat	Tahseli	Qodrat	
Girls	Average score	66	69	68	73	66	67	67
	Number of schools	383	395	2	4	1872	1996	2418
Boys	Average score	63	66	0	77	63	64	64
	Number of schools	433	473	0	2	1621	1971	2449
Grand Total	Average score	65	68	68	74	65	66	66
	Number of schools	682	734	2	6	3334	3781	4536

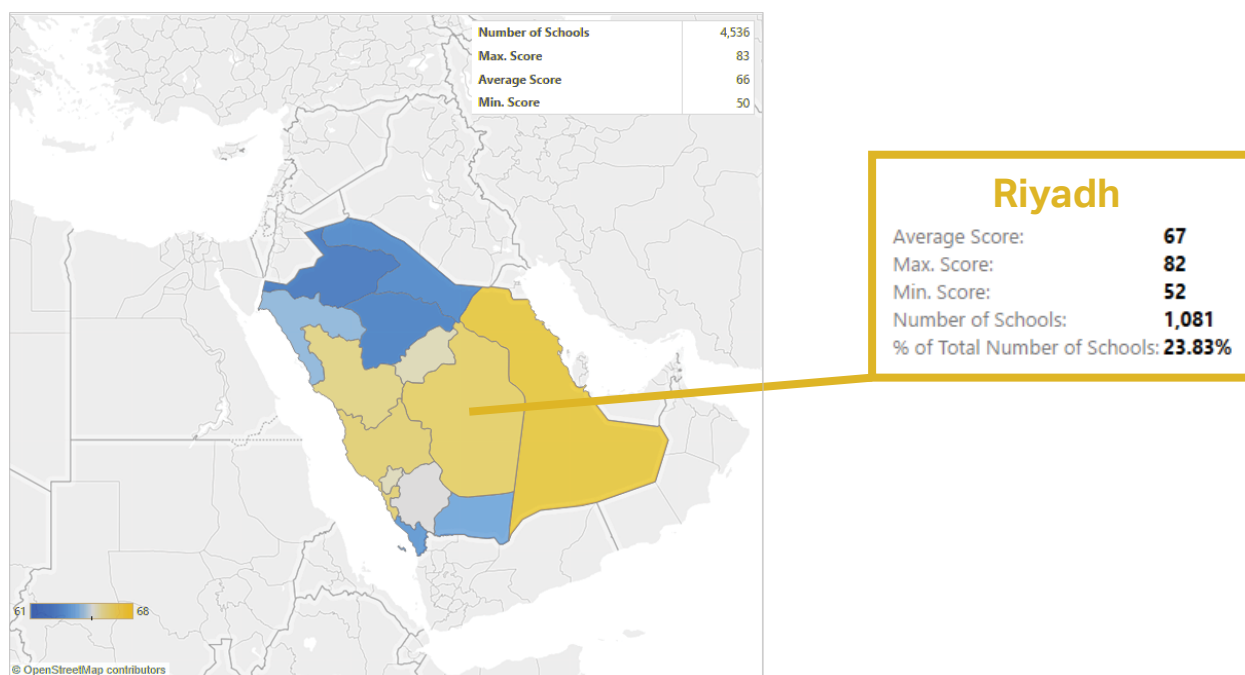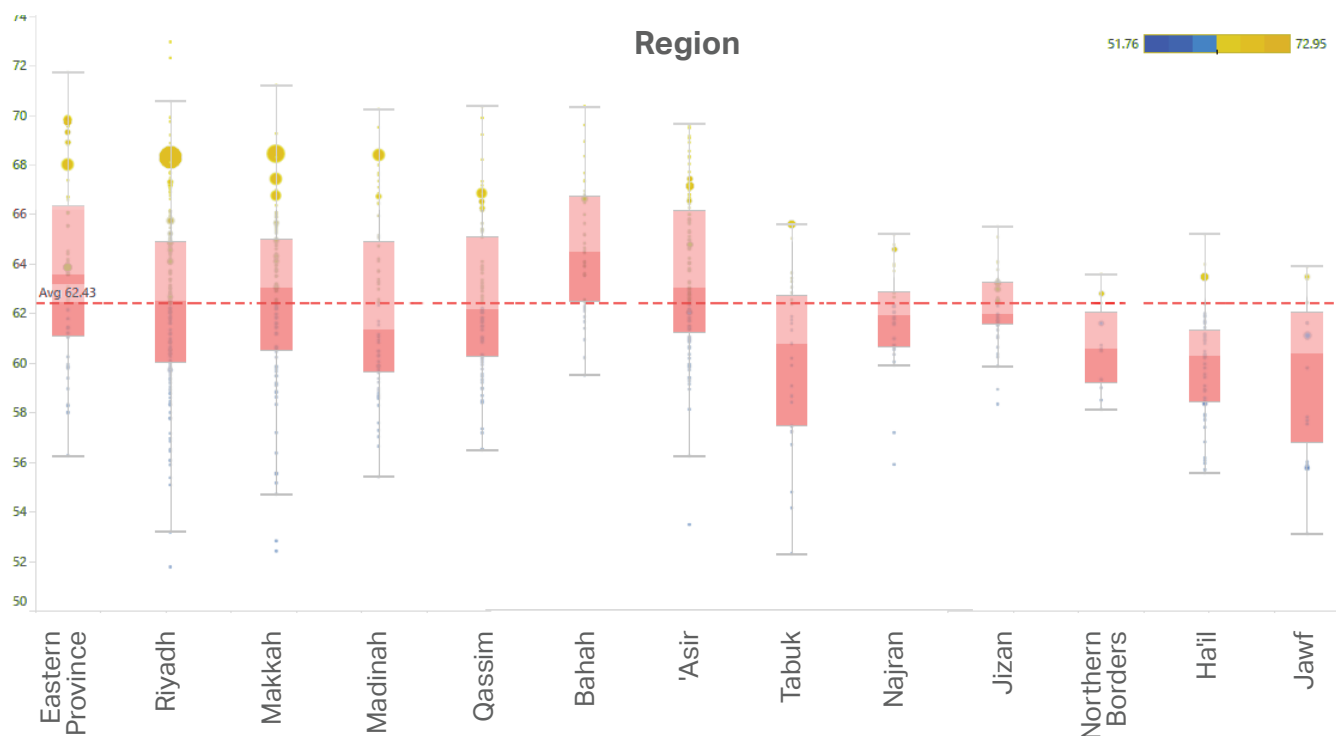**Figure 13** *Qiyas secondary student test scores per region*

Figure 14 *Qiyas secondary student test score ranges per region*
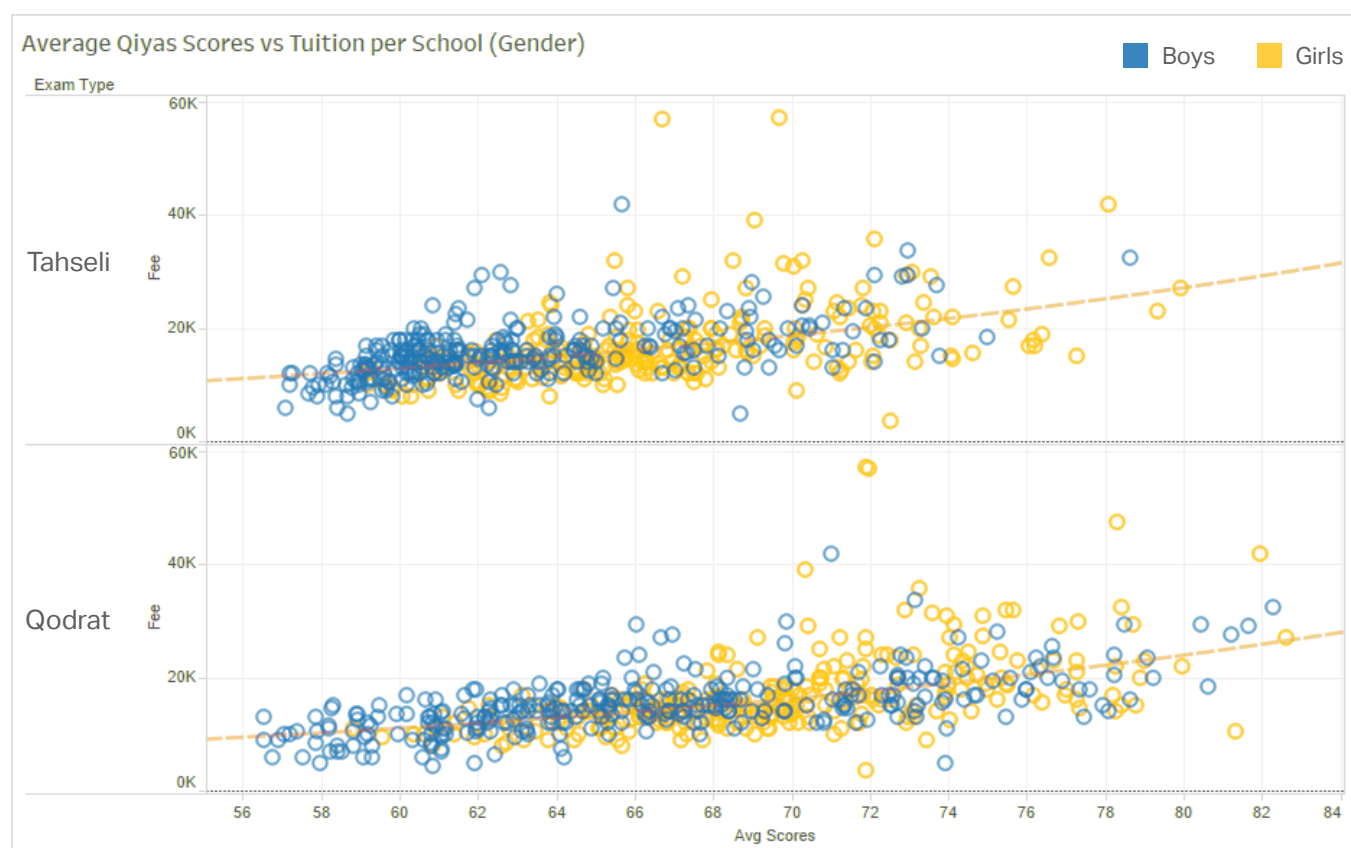

STUDENT ACHIEVEMENT COMPARISON WITH GENDER AND TUITION:

Analysing correlations between a range of fields of the integrated datasets allows for in-depth analysis and possible identification of causal relationships.

In the figure below, the results highlight again the correlation between higher tuition and higher test scores.

Another trend can be observed with females consistently outperforming males in both tests. This gap between male and female scores is stronger Tahseli (Scholastic Achievement Admission Tests) scores.

Females have been increasingly outperforming males in academic achievement in specific areas in a number of international education systems. Policy makers have studied this trend with the goal of designing interventions for male student populations to address this issue. Education officials of Saudi Arabia can utilize this data to also design strategic interventions as ensuring equity in education provision is a key policy driver.

**Figure 15** *Qiyas secondary student test scores comparison with gender and tuition*

STUDENT ACHIEVEMENT COMPARISON WITH TUITION:

For parents, school leaders and education officials it is important to know that there is value for money; that is, that tuition fees are resulting in high quality education and enhanced learning outcomes. The education market is competitive and schools need to be accountable for the fees they charge.

Integrating tuition and Qiyas secondary test datasets provides the opportunity to examine whether there is a relationship between fees and test scores.

As can be seen from analysis of current data, there is a clear correlation between higher tuition and higher test scores (Qodrat General Aptitude Test).

Figure 16 *Average Qiyas (Qodrat General Aptitude test) correlation with tuition per region*

Average Qiyas Scores vs Tuition per Region
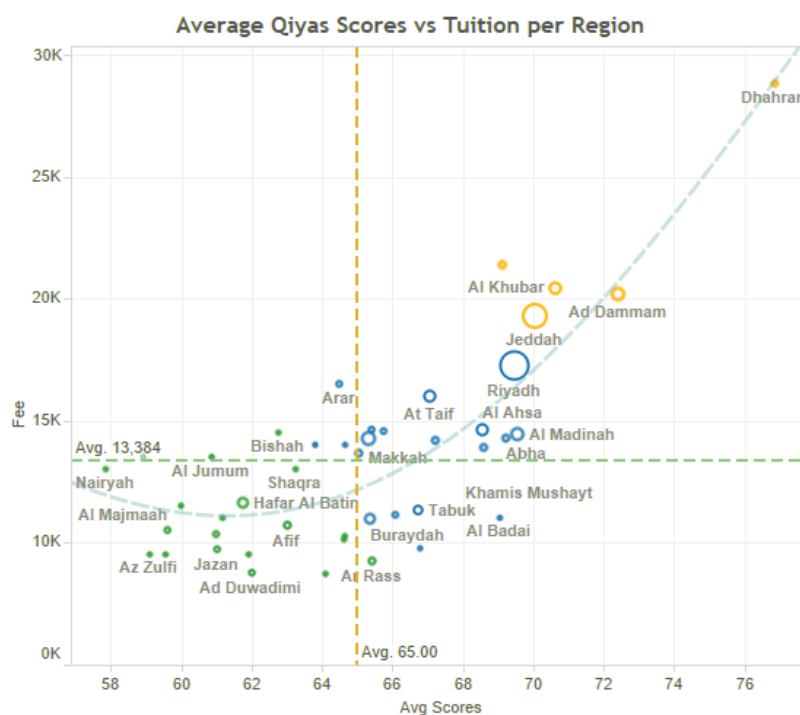
3. Parent Evaluation of Schools

Parent satisfaction is one of the strongest endorsements a school can receive and parents' views about their child's school matters significantly. They can affect levels of family-school engagement and influence school choice decisions. Collecting parent feedback provides valuable information for schools regarding their responsiveness to parents' need.

"As interest in family-school engagement and school choice increases, schools' need to accurately and efficiently measure parent attitudes also grows." [xxiii] There is also a growing body of research that demonstrates that educators and academics can have confidence in parent evaluation data.

The data collected asks parents to rate their child's school on a five point scale in the following five domains. The five point scale was presented to parents as options of one to five stars, with five stars being the highest ranking. These parent evaluation criteria selected for inclusion in *Madarisna* are evidence-based and is an evaluation method based on international standards.

◆ School management
◆ Quality of education and learning
◆ Extra-curricular activities
◆ School buildings and facilities
◆ Involving parents and the community

As noted previously, at this stage of implementation due to number of respondents, parent evaluation feedback is not statistically representative but is provided here as demonstration of the data potential. To date there have been 1,971 participating parents who have provided evaluative ratings for 894 schools.

From the current sample a number of initial impressions are emerging. Overall, parent evaluation is average or above (rating of 3 – 5) across all domains.

Combining data from all domains, on average 88.6% of parents' ranked schools average or above. Parents considered "teaching and learning quality" (91%) marginally the highest area of performance and "parent and community involvement" (85%) as the lowest area of performance.

Ranking of "parent and community involvement" the lowest is not a surprising statistic for Saudi Arabia where challenges have been faced engaging parents and this area is a strong focus for improvement outlined in Vision 2030.

Table 2   *Overall parent evaluation data across the five performance evaluation domains*

|	School Leadership		Teaching & learning quality		Extra curricular activities		Facilities & resources		Parents & community involvement		
	0 - 2	**3_5**	**0 - 2**	**3_5**	**0 - 2**	**3_5**	**0 - 2**	**3_5**	**0 - 2**	**3_5**	**Total grand**
Number of rating	422	3664	351	3735	497	3589	458	3628	612	3474	20430
% of ratings	10%	90%	9%	91%	12%	88%	11%	89%	15%	85%	100%

Data is also available as a heat map (Figure 17) which allows for identification of trends across cities. When a representative sample of parent respondents is reached, performance of schools within specific cities will provide valuable data for the education system.

Noting again the following data is illustrative and not representative, analysing one city allows for more detailed data which will be invaluable for school improvement.

Taking the example of Buraydah, there is a greater range in parent evaluative average rankings: Extra-curricular activities 2.5, School buildings and facilities 3.0, Involving parents and the community 3.0, School leadership 2.0, and Quality of education and learning 3.0. The overall ranking for schools in this illustrative example is 2.6.

This data provides clear direction for schools to put effort into in order to improve parent perception and better meet the needs of parents and students.

Figure 17   *Parent evaluation data per city with participating respondents*
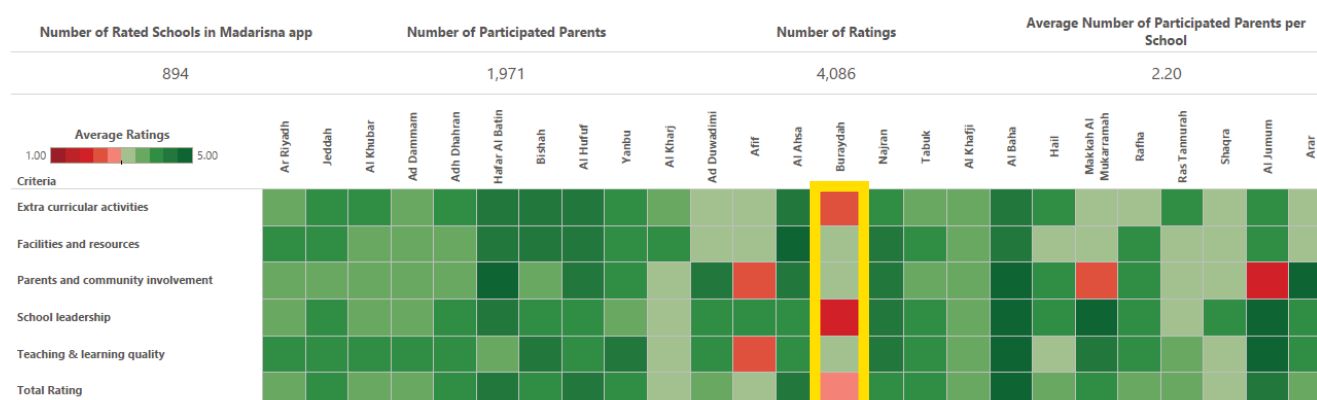
POLICY OUTLOOK:

Madarisna presents the education community with a range of options for policy initiatives to expand and strengthen school evaluation data collection, parent engagement and open access of data. Governments committed to continuing to enhance transparency and accountability in the provision of education seek to explore further policy options which will contribute to the improved performance of the education system through data-driven decision making.

Policy options for consideration in Saudi Arabia include but aren't limited to:

◆ Establishing a national education dataset initiative aimed at improving the:
  ○ Completeness of data
  ○ Accuracy of data
◆ Collecting deeper data with a longitudinal perspective
◆ Opening access to data
◆ Alignment and integration of complementary datasets:
  ○ Classroom – student evaluation data and teacher appraisal
  ○ School – school evaluation data and school leader appraisal
  ○ System – system evaluation, and evaluation and assessment framework
◆ Enhancing parent engagement and feedback on schooling.

ROADMAP FOR A WAY FORWARD:

In order to ensure the contribution of government data to the public service value chain, possible stages of a roadmap for further data generation and use are proposed: [xxiv & xxv]

◆ Formalise the strategic objectives, purpose and value proposition
◆ Evaluate usefulness of current data and determine core data items required to meet national and stakeholder objectives
◆ Evaluate the opportunities that exist to rationalise and enhance data collections
◆ Determine required data fields to respond to issue/need
◆ Establish data standards to support nationally consistent data and definitions
◆ Consider alignment of *Madarisna* data collection to existing collections
◆ Formalise longitudinal requirements.

DATA ENRICHMENT OPTIONS:

The opportunities for expanding and enriching the datasets utilised by *Madarisna* are extensive. There is significant further potential for data-driven decision making to lead to sustained improvement in the provision of education in Saudi Arabia.

Possible augmentations to data fields and functionality include but aren't limited to:

◆ Student evaluation of schools

◆ Student improvement data including comparative scores across years

◆ Enrolment data and student composition

◆ Teacher : Student ratio

◆ School financial data including expenditure and funding sources

◆ National Assessment Program (Qiyas National Center for Assessment – EEC)

◆ Schooling completion rates (for secondary schools)

◆ School leaver destinations (for secondary schools)

◆ Teacher qualifications and Qiyas results

◆ Teacher Licensing performance levels

◆ School population socio-economic status

◆ Establishment date of school

◆ Disability services and percentage of students with disability.

A WAY FORWARD:

Conclusion and Next Steps

The Kingdom's education system, schools and parents are a wealth of valuable data. Data, that when collected, integrated and utilized widely, will propel the higher performance of schooling. Data-driven education decision making, intervention and resourcing will greatly benefit all learners and society.

Madarisna, currently and with its future applications achieved, is another essential step in realizing the potential of school data. It demonstrates data's significant contribution to transparency, accountability and improvement of the education system as a whole. It also highlights the value and contribution of parents in the educative process.

Integrating and making available reliable datasets establishes the foundation for long term strategic planning and supports education decision-makers to be ahead of the state of play. "Valid and reliable data, while providing an understanding of historical and current trends, also lays groundwork for more advanced analytic applications, including modelling and forecasting future states." [xxvi]

Commitment to action from all levels of the education system is a powerful leverage for reform. This Report has set out a shared vision for embedding a data-driven education culture, building comprehensive and reliable integrated datasets, enhancing access to data, and supporting schools and parents to be active participants in the creation of valid data.

The way forward will be achieved through partnership and shared ownership of these commitments. Through expanding and enriching schooling data and *Madarisna*, the education community and parents are also committing to enacting the 2030 Vision.

Endnotes

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xxii Ibid

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